

STATUS OF FEDERAL GROUND FISH ACTIVITIES

Situation: The National Marine Fisheries Service (NMFS) will report on its management and research activities since the April Council meeting. Among those are two whiting management actions: closure of the mothership processor fishery, which opened on May 15, and temporary closure of the California whiting fishery due to achievement of the five percent early season cap. In addition, NMFS may present exempted fishing permit (EFP) applications for Council consideration.

Council Action:

1. Discussion and possible action on EFP applications.

Reference Materials:

1. Preliminary Report 1 – 2000 Pacific Whiting Fishery - End of Mothership Season and California Shore-based Fishery (NMFS Report D.2.a.).

PFMC
06/13/00

TO: DISTRIBUTION

FROM: F/NWR2 - Katherine King

SUBJECT: PRELIMINARY Report #1 -- 2000 Pacific Whiting Fishery -- End of Mothership Season and California Shore-based fishery.

This report consolidates preliminary state, federal, and tribal data for the 2000 Pacific whiting fishery off Washington, Oregon, and California. The catcher/processor and non-tribal mothership fishery started on May 15. As of June 5, 2000, 4 catcher/processors and 6 mothership processors were operating in the at-sea fishery. The mothership fishery is expected to reach its allocation late in the week of June 5. As in previous years, the catcher/processor fishery for whiting continues at a slower pace, due in part to the industry's cooperative agreement to divide the allocation amongst themselves, eliminating the need to compete with more vessels at a faster pace. The shore-based season in most of the Eureka area (between 42°- 40°30' N. lat.) began on April 1, and the fishery south of 40° 30' N. lat. opened April 15. The shore-based whiting fishery south of 42° N. lat. is expected to reach its allocation late in the week of June 5. The shore-based fishery north of 42° N. lat. will start on June 15.

	Allocation		Catch (mt)	Thru [date]	Status	Percent of allocation taken
	Percentages	Metric Tons				
California (south of 42 N lat.)	(5% shore alloc'n; included in WOC shore allocation)	4,190	2,797	5/27	CA season started April 1; 5% alloc'n	66.8%
Oregon	--	NA	27	6/5	start 6/15	
Washington	--	NA	0	6/5	start 6/15	
WOC shoreside	42% commercial OY	83,790	2,824			3.4%
Mothership (n. of 42 N. lat.)	24% commercial OY	47,880	38,599	6/5	started 0001 hrs 5/15/00	80.6%
Catcher/processor (n. of 42 N. lat.)	34% commercial OY	67,830	13,803	6/5	started 0001 hrs 5/15/00	20.3%
Total nontribal	commercial OY (86% OY)	199,500	55,226	--	--	27.7%
Tribal (Makah)	14% OY	32,500	0	6/5		0.0%
Total	OY=optimum yeild	232,000	55,226	--	--	23.8%

* Catch includes discards from at-sea processors; weigh-backs from shore-based catcher vessels; and small amounts landed under the 20,000-pound trip limit between the seasons. The data for at-sea processing (catcher/processors and motherships) are preliminary and are based on reports from NMFS-certified observers. Data for shoreside processors also are preliminary and are provided by each State to NMFS for the purpose of monitoring the fishery. If you have questions on shoreside landings, please contact the appropriate state fishery management agency. Preliminary data for the Makah fishery will be from a NMFS-trained observer. All weights are round weight (the weight of the whole fish before processing) or round-weight equivalents. One metric ton is 2,204.6 pounds.



UNITED STATES DEPARTMENT OF COMMERCE
 National Oceanic and Atmospheric Administration
 NATIONAL MARINE FISHERIES SERVICE
 Sustainable Fisheries Division
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1504-13-WOC-OB-140

MEMORANDUM FOR: DISTRIBUTION

FROM: Katherine King *Kate King*
 Whiting Coordinator

SUBJECT: Temporary Closure of the Shore-based Pacific
 Whiting Fishery south of 42° North Latitude

This document officially notifies you that the primary season for the shore-based fishery for Pacific whiting south of 42° North Latitude (N. lat.) will temporarily end at noon (local time) June 8, 2000, and will resume at 0001 hours, June 15, 2000, concurrent with the primary season for the shore-based whiting fishery north of 42° N. lat.

The regulations at 50 CFR 660.323(a) (62 FR 27519, May 20, 1997) state that no more than 5 percent of the shore-based allocation of whiting may be taken and retained south of 42° N. lat. before the primary season begins north of 42° N. lat. The 5-percent cap is intended to discourage effort shifts to the south early in the year. The shore-based whiting allocation is 83,790 mt in 2000, and the 5-percent cap on early fishing south of 42° N. lat. is 4,190 mt.

The best available information indicates that the 4,190 mt cap will be taken by noon June 8, 2000. Therefore effective noon June 8, 2000 when the 5-percent cap is reached, no more than 20,000-lb (9,072 kg) of whiting may be taken and retained, possessed or landed per trip south of 42° N. lat. as long as the vessel does not fish inside the Eureka 100-fm (183 m) contour. If it does, no more than 10,000-lb (4,536 kg) of whiting may be taken and retained, possessed or landed from that trip, as announced in the annual management measures (65 FR 221, January 4, 2000). This temporary closure is in effect until the start of the northern primary season on June 15, 2000. It is permissible to fish ahead in anticipation of the reopening June 15, 2000, but no fish in excess of the per trip limit may be offloaded until after 0001 hours June 15.



GROUND FISH MANAGEMENT TEAM STATEMENT ON GROUND FISH STRATEGIC PLAN

The GMT believes the draft strategic plan document is a significant step towards resolution of a number of fundamental issues plaguing the west coast seafood industry and the Council's efforts to manage the groundfish fishery. The GMT recognizes how difficult it is to envision better conditions for the groundfish fishery when harvest levels and fishing revenues are declining rapidly. The GMT believes a vision statement must be realistic as well as optimistic, and the current draft generally strikes a reasonable balance. The GMT enthusiastically endorses the committee's efforts and offers the following suggestions to improve the document before it is distributed for public review and comment. Because of the limited time available for review, these comments focus on the content of the executive summary. However, the Team will endeavor to compile a set of comments pertaining to the full document in time for the Committee's August meeting.

1. The Fishery - The GMT recommends rewording the first sentence to read, "...where Pacific groundfish stocks are healthy, ~~resilient~~ well understood, and...", since the resilience of stocks is beyond our control. The GMT interprets the fishery vision statement as meaning the commercial fishing sector will be much smaller than today, and this restructured industry, as opposed to the "environment", will be "diverse, stable, market-driven, profitable and adaptive." The basic operating environment will likely be substantially different: marine protected areas, bycatch restrictions, habitat protection, record-keeping and monitoring will all be basic features of the business. The vision statement currently appears to focus only on the commercial sector, and that should be made clear by inserting the word "commercial" before each reference to the industry or fishery. The vision statement should be expanded to address the recreational sector, perhaps with reference to "quality recreational experience and participant satisfaction." Does the Council envision an end to open access to the recreational fishery? If so, that should be specifically mentioned. Reference to the resolution of allocation disputes should include ensuring that management mechanisms are available to achieve those allocations.

2. The Science - The GMT envisions the quality of scientific information and analysis meeting or exceeding national and international standards. Economic information and analysis should be included in this vision and suggests the following insertion: "Data collection and monitoring programs (will) provide ~~stock assessments,~~ biological, environmental, economic and social assessments and analyses with acceptable levels of uncertainty..."

3. The Council - The GMT believes it is important that the Council must be decisive in its actions and decisions.

With the "Vision" section's focus on describing a future in which major problems have been resolved, it is not always well-suited to identifying the guiding principles that will shape a difficult and extended transformation. The GMT believes the summary would be improved by inserting a statement between the "Vision" and "Implementation" sections of the document encapsulating the principles or priorities that will guide the transition from the current fishery to one that reflects the vision.

In Section II "What will we do to get there?", the GMT offers the following comments.

1. Management Policies Recommendations

(b)3: As noted above, making "the necessary allocation decisions" must include provision for ensuring they can be achieved, or the allocations themselves will be meaningless and will not improve predictability.

(b)4: Revise first sentence: "To reduce federal management complexity..."

2. Harvest Policies - (b)1: the GMT reminds the Council of the distinction between harvest guidelines (closure is optional but not mandatory) and quotas (closure is mandatory). If this recommendation is adopted, OYs will be considered quotas or limits, and this should be clearly stated.

(b)2: The first sentence conveys the impression that the biological information base will decrease over time. The GMT suggests this sentence be clarified by replacing the first sentence with "In cases where stock biology, health, or total fishing mortality are poorly understood, allowable harvests must reflect a greater degree of precaution."

(b)4: The GMT requests clarification about the meaning of "closure of the *fishery*" in the first sentence. Also, the GMT believes the last sentence may reflect a more conservative policy than currently expressed in the FMP. And although possible use of the mixed-stock exception is mentioned earlier in the paragraph, the last sentence implies that it would never be invoked in cases where the weak stock is less than half of Bmsy. If this is the intention, it should be stated clearly.

(b)6: While the intent to conserve the portion of transboundary stocks under the Council's authority, in the absence of international agreements, is laudable, it is not clear how management performance can be meaningfully evaluated in cases where stocks--or our measurements of them--exhibit a high degree of variability in distribution across national boundaries. For example, in the last four triennial trawl surveys, the percentage of estimated yellowtail rockfish biomass attributed to the Canadian portion of the assessment area has alternated between roughly 17% and 40%.

3. Capacity Reduction - (a), (b)1, and b(2): If the goal is to reduce overcapacity as quickly as possible "to a level consistent with the allowable harvest levels for the 2000 fishing year", the option of mandatory permit stacking should be included in the discussion.

(b)1: If permit stacking is pursued for the fixed gear sector, the GMT believes a rockfish endorsement should be considered concurrently. At a minimum, the industry should be alerted to the possibility of a rockfish endorsement so that transfer prices for stacked permits can more accurately reflect their future value. Although this paragraph clearly states a policy with regard to stacking's interaction with the daily-trip-limit fishery, the effect on rockfish limits is not addressed here or in subsequent discussion of stacking for the trawl fleet.

(b)6: Since the groundfish mortality of a "C" permit fleet would result, to a great extent, from vessels participating in fisheries for which the Council does not have management plans, it is not clear how the Council will "manage each sector to stay within its allocation each year."

Intermediate to Long Term

1: As with stacking, there is no mention of ITQ development for fixed-gear with respect to rockfish.

2: As noted previously, it should be stated clearly that an integral part resolving allocation issues between these sectors is the development of mechanisms that facilitate accountability and control of fishing mortality in both of them.

4. Allocation, General Allocation Principles - 1. The GMT is uncertain about implementation of point #1. It is clear that equitable does not necessarily mean equal, but without active inseason management of recreational and incidental non-groundfish fisheries, the directed groundfish fisheries will have to shoulder most of the conservation burden. This appears to conflict with the goal of predictability.

3. As with point 1 above, this seems to conflict with predictability.

5. The GMT believes the Council has expressed a preference that fishing sectors and individuals be accountable for their own bycatch and discard. As more specific bycatch information becomes available, this issue becomes clearer. The GMT has followed this principle in calculating limited entry and open access allocations in recent years by applying a discard factor only to the limited entry catch. The GMT suggests this allocation principle be revised as follows: "Allocations should be based on the acceptable biological catch, and each sector that receives an allocation should be responsible for reducing its bycatch. If there is no observer program to quantify bycatch/discard amounts, each allocation should be reduced to account for assumed discard."

6. The GMT advises the Council that significant capacity reduction will necessarily result in concentration of benefits and costs. The goal should be to avoid **excessive** concentration.

5. Observer Program Recommendations

(b)5: The GMT continues to strongly support the development of a comprehensive observer program. However, consideration of alternative monitoring approaches should not be restricted to only vessels with limited abilities to carry observers, but evaluated generally with respect to cost and reliability of information.

**HABITAT STEERING GROUP COMMENTS
ON STRATEGIC PLAN**

The Habitat Steering Group (HSG) reviewed the draft Groundfish Strategic Plan—particularly the Marine Reserve and Habitat sections—and supports the document to be adopted for public review. Further, the HSG strongly supports the Marine Reserve Recommendations contained in the draft Strategic Plan. More detailed comments on the plan will be provided by the mid-August deadline.

PFMC
06/28/00

STRATEGIC PLAN

Situation: At its May 22-24, 2000 meeting, the Ad-Hoc Groundfish Strategic Plan Development Committee (GSPDC) completed an executive summary and its initial draft strategic plan for Council review (Attachments D.3.a. and D.3.b.). The draft plan offers a vision of a diverse, profitable, and stable groundfish industry; an improved, collaborative, and highly credible science program; and an open, responsive Council process. Specific goals are proposed. The GSPDC indicates a substantial restructuring of the industry will be necessary in this "transition to sustainability," and a much smaller commercial fleet will remain. The document addresses an observer program, marine protected areas, bycatch reduction, allocation, habitat protection, and other important issues that will be resolved in the process of achieving the goals of the strategic plan.

The GSPDC will hold a briefing session on the draft strategic plan at 7 p.m. on Tuesday, June 27, for Council members, standing committees, and interested public. A shorter presentation will be made during the Council's regular session the following morning. The Council is scheduled to adopt the draft plan for public review at this meeting, with final consideration scheduled at the September 2000 meeting. If adopted, the plan will likely be implemented through a series of fishery management plan amendments, regulations, and other processes.

Council Action:

1. Adopt Strategic Plan Document for Public Review.

Reference Materials:

1. Executive Summary to the Strategic Plan (Attachment D.3.a.).
2. Draft Strategic Plan (Attachment D.3.b.).
3. Public Comment D.3.

PFMC
06/13/00

04/08/00

Pacific Fishery Management Council
2130 SW Fifth Ave. Suite 224
Portland, Ore. 97201

APR 10 2000

Attention: Ad-Hoc Groundfish Development Committee
Re: Groundfish Fishery, Open Access

Dear Sirs:

I have had the opportunity to speak to the council at one of the Sacramento, Ca. meetings. I am not sure you heard what I said but you did give me the time to speak and I thank you for that.

I have been asked by the Bodega Bay Marketing Association to represent them at the PCFFA meetings concerning groundfish. As you are aware PCFFA represents the west coast commercial fishing fleet, owner/operators in the small to mid-size vessel fleet, the Family fishermen. I had made the decision not to get involved in the politics of commercial fishing, to keep my mouth shut and go out with a whimper. I agreed to represent my local association and to give one last try at addressing PFMC via this letter.

My wife and I have been commercial fishing since 1980. We fish commercial salmon and rockfish. We have a 25 ft. boat and specialize in one day fish of very high quality. We receive a premium price for our fish and are very proud of our product. Due to the size of our boat we are very restricted on the number of days we can fish due to the north coast weather. Last year we fished 55 days and sold \$30,000 worth of fish. On a good day, weather permitting, fish are biting and we have minimal gear failure, we will catch 1000 lbs. of rockfish. Our by-catch was almost nothing. We fish open access because our type of fishing, hook and line and Portuguese longline were not eligible for a limited entry permit. I refer you back to amendment 6 to the FMP, 50 CFR part 663, Nov. 16, 1992. These regulations continually refer to hook and line and Portuguese longline as "exempted", "non-restricted" gear. According to Amendment 6, "trawl, longline (not Portuguese longline), and fish pot account for the vast majority (over 90 percent) of the overall fleet harvest". Perhaps I have misunderstood the intent of the Magnuson- Stevens Act.

Please believe me when I say that it is questionable that we will survive the 2000 fishing season due to the restrictions implemented by PFMC. We have an air pollution problem in California. If the environmental agencies immediately restrict

100 percent of all mopeds from our highways it may sound good but will do little to help the pollution problem.

I do not envy your job in anyway. I understand the pressure you are under from the fish processors , government representatives, fisherman and etc. Unfortunately you cannot please everyone and you must make some very unpopular decisions. If you make these decision based on what is best to improve the fishery you can walk away knowing you did your best and no one can ask for more than that. I do not begin to believe that I am as informed as the members of PFMF, however I do believe that common sense and hands on knowledge allows me some expertise regarding groundfish.

Trawl fishing, (drag boat fishing) is as obsolete and gill nets and explosives. There was a time and place which has now passed. The by-catch and damage to the habitat is no longer acceptable. As you are aware the drag boat fishery admits to a 20% wasted by-catch. This is more discarded fish in one trip than I catch in an entire season. This is where I become confused. I get started every morning about 4:00 AM. My back yard is about 100 yards from the marina where my boat and many party boats are berthed. Normally this time of year the docks are busy with sport fisherman and commercial fishermen getting ready for a day of fishing. however due to the closure implemented by PFMF for March and April the docks are abandoned . The only thing I see is a black and white drag boat , from another state, going out the jetty. What is wrong with this picture.? Does this mean that all drag boat owners should be discarded without consideration or reimbursement? No.

This means that the owners should be fairly reimbursed for their boat and fishery loss. This means that limited entry permits are not leased, transferred or continued for this type of fishing. Quotas are not extended to any remaining vessels. Limitations on exempted gear should be removed to encourage this method of fishing and open access should remain open to encourage the same.

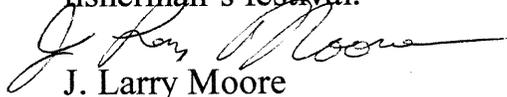
Limitations on species of fish should be based on a smaller geography area. For example, my fishing area is Cordell Bank which has a very large population of yellow tail rock-fish, Lingcod and group red rockfish. Refer to "Ecology of an Underwater Island by Robert W. Schmieder". You have allowed me to take widows and chili rockfish this year however these cannot be taken at Cordell without having, bocaccio, yellowtail and group red as a by-catch. Last year you had a closure on widows and no limit on yellows. Has the sebastes species changed that much in population in one year?

Many of my fellow fisherman with boats the size of mine have discontinued commercial fishing due to no representation and overbearing restrictions. I have been informed that 131 million dollars has been awarded by the disaster declaration

by Secretary Daley for the west coast ground-fish fisheries. I have also been informed that at the February 4th. meeting in Salem, Oregon where Central and southern California were not properly represented, that the trend was to target the funds toward our neighbors to the north with large trawl and longline vessels. As I did not attend the meeting I cannot verify this and I am sure that the funds will be equally divided among all persons participating in the commercial ground-fish fishery.

Members of the PFMC . The time is short. If your intention was to eliminate the small boat ground-fishery, you have done very well and your work is almost over. If your intent is to protect the ground-fish and the habitat perhaps you should revisit the amendments that you have passed and re-target your changes toward the problems that will make a difference.

I will leave you now and thank you in advance for taking your time to read this letter. I apologize for any grammar or format mistakes . I am a commercial fisherman and very proud of it. I will fire up the old moped and go over to the fisherman's festival.



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SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON
STRATEGIC PLAN

Ms. Debra Nudelman briefed the Scientific and Statistical Committee (SSC) on the draft groundfish strategic plan. SSC members also attended the Ad-Hoc Groundfish Strategic Plan Development Committee's public briefing on Tuesday evening.

In the evening session, Ms. Nudelman indicated "the purpose of the strategic plan is to guide the future management of the groundfish fishery, including the development of plan amendments, regulations and other actions as needed." The SSC recommends this critical point appear in both the Executive Summary and the introductory section of the plan. In addition, to highlight the importance of maintaining this explicit linkage between the strategic plan and future groundfish management actions, the SSC recommends an additional bullet be added to the section of the plan entitled "Strategic Plan Goals for Council Process" (page 16 of the Executive Summary and page 66 of the Draft Strategic Plan), as follows:

"To ensure all plan amendments, regulations, and other management actions considered by the Council are routinely evaluated in terms of progress toward achieving the Strategic Plan."

The draft strategic plan is a thoughtful and well-written document. It provides explicit goals and includes a comprehensive range of issues and strategies for groundfish management. In terms of scope and general content, the SSC considers the document to be ready for public review. The Ad-Hoc Groundfish Strategic Plan Development Committee indicated in the evening session it will be soliciting additional input regarding the plan from Council advisory committees, as well as the public, this summer. The SSC intends to provide more detailed comments regarding the plan within that time frame.

PFMC
06/28/00

GROUND FISH ADVISORY SUBPANEL STATEMENT ON
STRATEGIC PLAN

The Groundfish Advisory Subpanel (GAP) spent several hours discussing the draft plan. Our ability to fully comment was hampered by the fact that most GAP members did not have time to review the plan prior to the GAP meeting. The GAP notes the sections of the plan that call for smoother flow of information and hope this applies to the Council's advisory entities.

In general, the GAP agrees a strategic plan is helpful in allowing participants in the fishery to develop their individual plans for the future. The vision statement in the draft plan is generally acceptable, although the GAP suggests one editorial change: on page 7 of the draft plan, in the first paragraph under "1. The Fishery", add at the end of the third sentence -

"and continues to be adjusted to be in balance with other components of the strategic plan."

If the plan is implemented, additional reductions in harvest capacity may be necessary to keep the balance envisioned.

Beyond the vision statement, the GAP has difficulties in providing constructive comments at this time. There are concerns about inconsistencies within the implementation section. For example, the ability to accurately manage on a weak-stock basis requires a major revision of both state and federal laws, regulations, and policies, as well as a considerable infusion of funds. The Council has no control over these matters. How can weak stock management be a priority if there is no way to control its achievement?

Similar problems are found with capacity reduction language. The GAP agrees, as it has many times before, that capacity reduction should be the highest priority. However, in order for capacity reduction to work, some sort of allocation is necessary. The draft plan gives capacity reduction a high priority, but considers allocation to be an intermediate-to-long-term objective.

The GAP also believes insufficient thought has been given to the cumulative effect the various goals will have. It is unclear what kind of priority is given, if any, to the various proposed recommendations; or if any thought has been given to what happens if we do several of these simultaneously.

Many of the recommendations will also require substantial funding. Where is the funding to come from? Should we adopt a "pay-as-you-go" strategy, so recommendations are not carried out if the source of funding is unclear?

One area where we strongly agree is the need to build trust among advisory entities. The GAP and the Groundfish Management Team (GMT) often meet jointly and try to present consensus recommendations to the Council. We would welcome the opportunity to work in a similar cooperative manner with other advisory entities.

We also agree the Council needs to more clearly define the roles and responsibilities of the GAP. The GAP makes a concerted effort to be responsive to the Council and its constituents, but we are hampered by limited meeting times and conflicts between GAP meetings and Council actions that require participation by GAP members. We share a single Council staff member with the GMT, which puts a strain on both bodies and certainly on that staff member. These issues need to be addressed if the GAP is to continue to be effective.

GAP members will provide individual comments on the draft plan as they get a chance to review it more thoroughly. While we will make an attempt to provide more comprehensive comments as a group, it is unlikely we will be able to do so prior to the next strategic planning committee meeting for the simple reason most GAP members have to tend to their fishing and processing operations. Our preference would be for the Council to delay sending the draft plan out for public review until September. In any case, when public review is complete, the GAP believes one or two representatives of the GAP and other advisory entities be involved in analysis of public comments.

**PACIFIC FISHERY MANAGEMENT COUNCIL
DRAFT GROUND FISH FISHERY
STRATEGIC PLAN**

“TRANSITION TO SUSTAINABILITY”

EXECUTIVE SUMMARY



Prepared by
**The Ad-Hoc Pacific Groundfish Fishery
Strategic Plan Development Committee**

For
**Council Family
Review and Comment**

June 2000

**PACIFIC FISHERY MANAGEMENT COUNCIL
DRAFT GROUND FISH FISHERY STRATEGIC PLAN**

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THE PACIFIC FISHERY MANAGEMENT COUNCIL PACIFIC GROUND FISH FISHERY STRATEGIC PLAN

EXECUTIVE SUMMARY

I. THE STRATEGIC PLAN OVERVIEW- “WHERE DO WE WANT TO GO?”

A. NEED FOR GROUND FISH STRATEGIC PLANNING

The economic hardship and uncertainty being experienced by the industry is intensifying competition among fishery sectors for access to the resource. Individual fishers, communities and competing groups have become more polarized and information needs have increased. Protecting groundfish stocks while ensuring that the burden of conservation measures is distributed equitably among sectors of the fishery is becoming increasingly difficult to accomplish. Even if groundfish OYs were to increase significantly (an unlikely scenario), the latent capacity in the fishery will be mobilized at any sign of improved fishing opportunities. The current problems associated with low landings limits; short seasons and complex regulations will not go away unless latent capacity is permanently removed from the fishery.

The Council has responded to these problems by trying to deal with individual issues on an ad-hoc basis. This short-term approach has been increasingly characterized by crisis management.

Participants in the West Coast Groundfish Fishery are aware of the wide range of difficulties in the fisheries and their management. Traditional fishery resources have declined, competition for the limited resources has increased, and information and management needs have grown. Future goals and directions have been questioned and become uncertain. Recent changes to the national standards for fishery management have created new management requirements that must be fulfilled and implemented by the Pacific Fishery Management Council.

For these reasons, the Council decided to initiate a strategic planning process to attempt to look beyond the short term or ad-hoc approach to setting seasons and catch limits. Consequently, the Council appointed an Ad-Hoc Pacific Groundfish Fishery Strategic Plan Development Committee. The task of the Committee has been to guide a strategic plan development process to address future conditions and the associated management requirements.

The Committee expects that, to be effective, this strategic plan will have to address the difficult issues of reducing fishing capacity, more responsible

harvest rates, allocation, science, habitat and the Council management processes. It is recognized that this planning work will also be occurring during a time when fishery restrictions will be implemented in order to rebuild overfished stocks. These conditions provide the clearest evidence of the need for a longer-term vision and road map of specific actions to carry out a strategic transition.

The Committee designed a process and schedule to obtain key information, identify specific problems and develop a range of solutions. The Committee has developed a draft strategic plan document for Council and public review that will:

1. Recommend new management goals and objectives;
2. Lead immediately to new groundfish plan amendments by the November 2000 cycle;
3. Outline additional detailed actions for Council work plans and a schedule of priorities for the next 3-5 years; and
4. Develop specific recommendations for other entities to address that will compliment the Council's needed management changes; such recommendations may propose changes in law, calls for budget support, and expectations for enhancing coordination activities between industry, government and educational institutions.

B. VISION FOR THE FUTURE OF THE GROUND FISH FISHERY

The Strategic Plan's vision for the future of the groundfish fishery assumes that the Plan's recommended actions are fully implemented with passage of sufficient time for the anticipated benefits to have been fully realized. The Plan's drafters recognize that the transition to the future envisioned by the plan will require major changes in the structure and operation of the fishery which will certainly have short-term adverse impacts to current participants. The Plan envisions that fishery management decisions are based on sound scientific data and analysis and an open and fair Council process.

1. The Fishery

We envision a future where Pacific groundfish stocks are healthy, resilient, and substantial progress has been made rebuilding overfished stocks. Harvest policies result in total fishery removals that are consistent with the long-term sustainability of the resource. The fishing industry is substantially reduced in numbers and harvest capacity is reduced to a level that is in balance with the economic value of the available resource. Those remaining in the fishery are able to operate in an environment that is diverse, stable, market-driven, profitable, and adaptive over a range of ocean conditions and stock sizes.

Unlimited or open access to the groundfish fishery will no longer exist as current open access participants are brought into the limited entry program and the number of participants reduced to those who are most dependent and committed to the fishery.

Allocation disputes have been resolved and all harvest sectors believe they were treated fairly, including those non-groundfish fisheries where groundfish is an unavoidable incidental catch. Discarded bycatch by all gear groups is minimal and quantified.

Fishery regulations will be less complex and more easily enforced. Council management may be simplified by removing some species from the Fishery Management Plan through delegation or deferral to State management.

Under future fishery management regimes, essential groundfish habitat is adequately protected and adverse impacts from all groundfish fishing gears are reduced to minimal levels. Marine reserves, or no take zones, provide a baseline level of protection as an insurance policy to reduce the risks of uncertain science and long stock rebuilding periods.

The improved operating conditions and profitability for those remaining in the fishery allows participants to accept responsibility for a portion of the cost of providing effective science and management, including an at-sea observer program, that is commensurate with the level of benefits that exclusive access to the fishery provides.

Finally, the Council has full access to all fishery management tools and uses them to provide protection for and reasonable access to groundfish stocks.

2. The Science

The basis for future management of the groundfish fishery relies to a very large degree on the availability of good science. The scientific basis for management will meet national and international standards, be accepted as credible and is understood by the stakeholders that are affected by Council decisions. Scientific data collection takes place in a collaborative process involving partnerships between federal and State agencies, the fishing industry, and potentially includes contributions from private foundations.

Data collection and monitoring programs provide stock assessments with acceptable levels of uncertainty for use by the Council's scientific, management and advisory committees. Scientific data collected from the fishery will provide the capability to accurately assess the impacts of current and potential

fishery management measures on groundfish stocks and fishery participants. Finally, we envision scientific tools have been developed that provide stock assessments throughout the distribution of the various groundfish stocks geographic range incorporating the variability and effects of ocean regime shifts.

3. The Council

Future Council activities will be characterized as open to all stakeholders, inclusive of all views, credible and interactive. Council actions are documented and easily understood and developed with meaningful involvement by the public including environmental, commercial and recreational representatives. Council decisions are documented with readily available explanation and analysis of the underlying biological and socio-economic considerations. Council advisory entities work together to contribute advice and expertise that results in recommendations that are accepted by stakeholders. The development of regulations is simplified and streamlined. Regulations are generally stable over multi-year periods, but there is flexibility to respond quickly when changes are needed.

II. THE STRATEGIC PLAN “WHAT WILL WE DO TO GET THERE?”

A. GROUND FISH FISHERY MANAGEMENT



1. FISHERY MANAGEMENT POLICIES

(a) Strategic Plan Goal For Management Policies

To adopt understandable, enforceable, and stable regulations that, to the greatest extent possible, meet the FMP’s goals and objectives and the requirements of the Magnuson-Stevens Act.

(b) Management Policies Recommendations

The following recommendations assume that the objective of maintaining year-round harvesting and processing opportunity remains the Council's highest social and economic priority. In that case, it is imperative that Recommendation 1, capacity reduction, be fully implemented as rapidly as possible. If substantial reductions in harvest capacity are not possible or are significantly delayed, the Council should consider several of the alternative strategies for restructuring the fishery that restrict access by some portion of the fishing fleet for major time periods (platooning).

In the event that none of the recommended measures or alternatives are viable or effective, the Council may have little choice but to shorten the annual fishing season. The Strategic Planning Committee cannot emphasize strongly enough the need for some level of observer coverage to evaluate the potential effectiveness of different management strategies.

1. Proceed with the reduction of harvest overcapacity as quickly as possible. Reduced capacity will relieve the need to adopt management policies that are both inefficient and ineffective at achieving the FMP’s goals and objectives. By better matching fleet capacity to resource availability, the regulatory structure will become more stable which will result in regulations that are more enforceable. This recommendation includes both the short and long-term and transitional elements discussed in the overcapacity section of the plan such as license-limitation (for the targeted open access fishery), permit stacking, and IFQs either individually or in combination or in combination with a vessel buy-back program.
2. Continue to explore the use of higher landing limits as an incentive to fish with bycatch friendly fishing gear or to fish in areas where bycatch is reduced.

3. Make the necessary allocation decisions so that fishery participants can plan on a specific share of future OY's. Allocations may be outright percentages or a framework with criteria that specify how the allocation changes as resource availability changes.
4. To reduce management complexity, consider delegating or deferring nearshore rockfish and other groundfish species, such as scorpionfish, greenling and cabezon, to the States.



2. HARVEST POLICIES

(a) Strategic Plan Goal for Harvest Policies

To establish an allowable level of catch that prevents overfishing while achieving optimum yield based on best available science.

(b) Harvest Policies Recommendations

1. In light of the uncertainties in the estimation of ABCs, harvest guidelines (OYs) should be set lower than the ABC, the fishery should be managed to a fixed OY(s), and fisheries should be closed when the OY is reached.
2. Harvest levels must be increasingly precautionary as the biological information base decreases, and particularly if monitoring programs fail to provide reliable estimates of total fishery-related mortality. The Council could consider a hierarchical approach where increased levels of conservatism would be required based on the specific quantity and quality of biological and fisheries information that is available.
3. For unassessed stocks, the Council should set conservative harvest levels based on simple parameters such as a fixed proportion of the mean catch or survey abundance, or as a function of the lowest rate allowed for an assessed stock.
4. To protect weak stocks harvested in multi-species fisheries, the Council should adopt a policy requiring closure of the fishery when the total allowable catch of the weak stock has been taken. In developing the policy, the Council must determine whether the policy should include an exception where benefit/cost considerations might justify overfishing a particular weak stock under the mixed-stock exception contained in the National Standard Guidelines, or whether the policy is to close the fishery when the ABC or OY is taken without exception. Under no circumstances

can the Council knowingly allow harvest rates that drive the stock below the level defined in the FMP as "overfished" or to a condition warranting listing under the ESA."

5. For more precise estimation of stock abundance and responsible management of harvest guidelines, an observer program is essential.
6. Without an international agreement on setting and sharing the total allowable catch for trans-boundary stocks, each nation should conserve that portion of the stock within the geographic range of its authority.
7. Marine reserves can be used to guard against management uncertainty and enhance productivity, but should be considered on their own broader merits rather than solely as a function of the Council's harvest policy.



3. CAPACITY REDUCTION

(a) Strategic Plan Goal for Capacity Reduction

The Council's long-term goal for capacity reduction is to set the harvest capacity in the fishery at a level that is appropriate for a sustainable resource and results in a fishery that is diverse, stable and profitable. In the short term, a realistic goal is to adjust harvest capacity to a level consistent with the allowable harvest levels for the 2000 fishing year under the assumption that stock rebuilding will require reduced harvests for at least the next two decades.

Any capacity reduction program should also attempt to achieve a level of capacity that contributes to management effectiveness and that contributes to controlling total fishing mortality by reducing bycatch. The Council desires to reduce capacity to a level that would continue to support a year-round fishery, but maintaining a year-round fishery is not a short-term priority.

(b) Capacity Reduction Recommendations

Short to Intermediate Term

1. For the limited entry fixed-gear fishery, begin immediately to develop and implement a voluntary permit-stacking program with the intent of transitioning to an IFQ program to provide for a multiple month season. The Permit Stacking allowance should be implemented prior to the 2001 regular sablefish season. Stacked permits should **NOT** allow increased access to the daily sablefish trip limit. Simultaneously, the Council should

begin to develop an IFQ system for fixed-gear sablefish for implementation in 2002. If the Council continues to be precluded by Congress from implementing an IFQ program, it may want to consider making the permit-stacking program mandatory.

2. For the limited entry trawl fleet, begin immediately to develop and implement a voluntary permit-stacking program that links each permit with a cumulative period landing limit. The first, or base permit should be entitled to a full period landing limit, while each stacked permit should entitle the vessel to additional landing limits on a discounted basis as one alternative. Another alternative is to have the full period landing limit the same for all permits.
3. The whiting fishery capacity generally matches current resource availability. In order to prevent overcapacity in the future, the Council should consider developing and implementing a whiting species endorsement that restricts future participation in the whiting fishery to those vessels registered to a permit with a whiting endorsement. Qualification for a whiting endorsement should be based on a permit's whiting landings since 1994 when the current limited entry program began. The Council also may want to consider establishing a threshold quantity of whiting above which a whiting endorsement is required for a landing. Individual landings below the threshold would not require an endorsement.
4. The Council and the trawl industry should continue to pursue a buy-back program. In the event that an IFQ program for the fixed-gear sector is not possible, consideration should be given to including fixed-gear in any buy-back program.
5. Separate the current open access fishery into a sector that directly targets groundfish and a sector that lands groundfish as bycatch in non-groundfish fisheries. Require current open access vessels that directly target groundfish to obtain a federal limited entry permit (B permit) based on historical landings and current participation. Minimum landing requirements for a federal permit should reflect significant dependence on the fishery. For example, the Council should consider 1,000 lbs. of groundfish in any qualifying year as one alternative. Require a federal permit (C permit) to land groundfish taken incidentally in non-groundfish fisheries. There may be no limit on the number of permits.
6. The Council should divide the current open access allocation into separate allocations for the "B" and "C" permit holders and manage each sector to stay within its allocation each year.

Intermediate to Long Term

1. Begin development of a comprehensive IFQ program for the limited entry trawl fishery, or in the alternative, a mandatory permit-stacking program.
2. Resolve allocation issues between recreational and commercial sectors and commercial fixed-gear and trawl sectors.



4. ALLOCATION OF GROUND FISH RESOURCES

(a) Strategic Plan Goal for Allocation

To distribute the harvestable surplus among competing interests in a way that resolves allocation issues on a long-term basis.

(b) Allocation Recommendations

General Allocation Principles

1. All fishing sectors and gear types will contribute to achieving conservation goals (no sector will be held harmless). The fair and equitable standard will be applied to all allocation decisions but is not interpreted to mean exactly proportional impacts or benefits. To provide flexibility in changing allocations as part of a stock rebuilding plan, the "Rebuilding Plan" plan amendment proposes to establish a provision for suspending the allocation shares between the limited entry and open access sectors.
2. Access should be limited in all commercial fisheries through state and/or federal license, or permit programs. Commercial Passenger Fishing Vessel limited access programs should also be considered by the respective states.
3. Non-groundfish fisheries that take groundfish incidentally should receive only the minimal groundfish allocations needed to efficiently harvest their target (non-groundfish) species. In determining the amount of allocation required, the Council will identify the economic values and benefits associated with the non-groundfish species and may eliminate directed fishery harvest of groundfish when needed to maintain the non-groundfish fishery. At the same time, the Council may require gear modification in the non-groundfish fishery to minimize its incidental harvest.

4. Directed rockfish gears will be modified as needed to improve their ability to target healthy groundfish species, and avoid or reduce mortality of weak groundfish species.
5. When an observer program is available and provides reliable information on total removals, discards will be considered in all allocations between sectors and/or gear types. Each sector will then receive adjustments for discard before allocation shares are distributed.
6. Community economic impacts and the benefits and costs of allocation should be fairly distributed coast-wide. Allocations should attempt to avoid concentration and assure reasonable access to nearby resources. The diversity of local and regional fisheries, community dependency on marine resources and in processing capacity, and infrastructure will be considered in Council allocation decisions.
7. Council changes to allocations between sectors and/or gears within sectors should not encourage or result in increased capitalization (investment) and capacity (need or ability to increase harvest).
8. Impacts to habitat and recovery of overfished stocks or endangered species (dependent on impacted habitats) will be considered when allocation changes are made.
9. Council capacity reduction measures will consider and attempt to minimize transfer of effort into other fishery sectors potentially complicating allocation issues for Council managed fisheries, and particularly for state managed fisheries (crab and shrimp).
10. All Council allocations decisions will: (a) consider ability to meet increased administrative or management costs; and (b) be made if reasonably accurate in-season quota monitoring or annual catch accounting has been established or can be assured to be established and be effective.
11. As the tribe(s) expand their participation in groundfish fisheries, the Council may need to specify an allocation of certain groundfish species for tribal use. In such cases, the Council should request the affected parties to U.S. v. Washington to convene and develop an allocation recommendation for review and consideration through the Council process.

Area Management as Related to Allocation

1. Allocations will be structured considering both the north-south geographic *and* nearshore, shelf and slope distributions of species and their accessibility by various sectors and gears.

(a) North-South and Coastwide Distribution Considerations- geographic management areas may be created considering the following factors:

- Species distribution
- Traditional reliance on fishing grounds and species
- State recreational fishery preferences
- Weather and oceanographic conditions
- Port distribution
- Management and enforcement needs, and legal constraints (such as tribal allocations)
- Subdivision of groundfish statistical areas to support area allocation of harvest amounts

(b) Nearshore, Shelf and Slope Considerations

2. The respective coastal states are encouraged to address commercial and recreational allocation issues in a timely manner, particularly when there is a preference for recreational use. In ways similar to the approaches developed through the allocation processes for salmon and halibut, each state is responsible for involving its constituents in a process of option development and review and action by the Council.
3. The following Council framework for commercial/recreational allocation anticipates a state recreational preference to address the principle nearshore species with any excess available for commercial use determined annually. In shelf areas, a recreational preference would occur only on a species-by-species basis set by the Council. In slope areas, the Council preference is for commercial allocation.
4. When insufficient fish are available to allow even minimal allocations to both commercial (incidental and directed) and the recreational sectors the Council may allocate the available resource to recreational use when
 - i. the economic benefits and values of the recreational fishery exceed the loss to the commercial fisheries affected; and
 - ii. bycatch mortality for the species addressed in the allocation is fully accounted for in both fishery sectors.

5. Licenses, endorsements or quotas established through management or capacity reduction measures may be limited to specific areas through exclusive area registrations and port landing requirements.

5. An Observer Program for Quantifying Bycatch, Total Catch, Total Fishery-Related Mortality



(a) Strategic Plan Goal for an Observer Program

To quantify the amount and species of fish caught by the various gears in the groundfish fishery and account for total fishery-related removals.

(b) Observer Program Recommendations

1. Immediately implement a groundfish observer program, with determination of total groundfish catch and mortality as the first priority.
2. Consider the following options in implementing an observer program:
 - a. With federal, state and/or industry funding, implement the Council's pilot observer program, with three to four port coordinators who would coordinate observer placement based on priorities approved by the Council;
 - b. If federal/state or industry funding is not available, make individual vessels responsible for providing some level of observer coverage as a condition of participation in the fishery.
3. Given the likelihood of limited funding, focus the observer program on specific tasks. The Council may need to prioritize coverages, i.e. focus on collecting total mortality data for overfished groundfish stocks as an initial observer program priority.
4. Even with limited funding, both trawl and non-trawl fleets should have some meaningful, but not necessarily the same, level of observer coverage. The Council will need to determine which harvesting sector will receive the initial observers. The criteria for choosing specific vessels for observer coverage will need to be established.
5. For vessels that are unable to carry an observer, the Council should

consider different monitoring approaches.

6. As a secondary priority, an observer program should supplement the collection of data for stock assessments. For example, the North Pacific Council requires its observers to dedicate a small portion of the working day to taking otoliths and length measurements, in order to supplement information on the age and size distribution of particular species.

6. Marine Reserves as a Pacific Groundfish Fishery



Management Tool

(a) Strategic Plan Goal for Marine Reserves

To utilize marine reserves as a fishery management tool that contributes to groundfish conservation and management goals, has measurable effects, and is integrated with other fishery management approaches.

(b) Marine Reserves Recommendations

1. Adopt marine reserves as a fishery management tool for Pacific groundfish and proceed with implementation.
2. Identify the specific objectives that marine reserves are expected to meet.
3. Develop siting and design criteria, including the size of the reserve, which will meet these objectives. Analyze options for establishing reserves that set aside 5%, 10% and 20% of nearshore, shelf and slope habitat.
4. Adopt final siting criteria, including reserve size and location, and proceed with implementation and evaluation as quickly as possible, to minimize this transition in groundfish management.
5. Direct the Scientific and Statistical Committee to recommend new methodologies for continued stock assessments and for establishing harvest levels outside the reserves following the implementation of reserves.



7. Pacific Groundfish Habitat

(a) Strategic Plan Goal for Pacific Groundfish Habitat

To protect, maintain, and/or recover those habitats necessary for healthy fish populations and the productivity of those habitats.

(b) Pacific Groundfish Habitat Recommendations

1. The Council should consider either prohibiting or modifying any fishing gear or fishing practice determined to adversely impact EFH areas of concern such as nearshore and shelf rock-reef habitats.
2. Review and revise where necessary gear performance standards for hook and line, pot, set gillnet, and trawl to decrease ghost fishing by lost gear and to increase gear selectivity.
3. Establish no-take marine reserves to help rebuild stocks with limited recruitment.
4. Promote scientific research on the impacts of fishing gear on various habitat types and the feasibility of habitat restoration.
5. Promote research to modify existing gear and practices to provide practical, economically viable alternatives to destructive fishing gear.

B. SCIENCE, DATA COLLECTION, MONITORING AND ANALYSIS

(a) Strategic Plan Goal for Science, Data Collection, Monitoring and Analysis

To provide comprehensive, objective, reproducible, and credible information in an understandable and timely manner to meet our conservation and management objectives.

(b) Science Recommendations

1. Identify and complete stock assessments for the suspected “weakest stock” in mixed-stock fisheries by gear type.
2. Obtain a dedicated research vessel(s) to perform annual surveys and collect other data needed to manage the coastwide groundfish under Council jurisdiction.

3. Create cooperative partnerships between state, federal, private foundations, and other private entities to collect and analyze the scientific data needed to manage groundfish.
4. Promote improved understanding, communication and mutual credibility between the fishing industry and scientists through increased communication and collaboration including at-sea ride-alongs.
5. Update the Council's Research and Data Needs document to reflect the current priority needs of groundfish management.
6. Develop methods for incorporating fishermen's observations into stock assessment and monitoring programs.
7. Implement the Council's draft West Coast Fisheries Economic Data Plan.
8. Insure that economists are adequately included on Council plan teams and ad hoc committees where appropriate.
9. Hold an annual or bi-annual meeting of U.S./Canada and/or U.S./Mexico stock assessment scientists to plan upcoming (preferably joint) assessments of transboundary stocks. The U.S./Canada portion of this recommendation could be conducted under the umbrella of the existing U.S./Canada Groundfish Technical Subcommittee.
10. The Council should meet annually with National Marine Fisheries Service's Northwest and Southwest Regions and Science Centers and the Pacific States Marine Fisheries Commission to integrate the Council's data and research needs into NOAA's budget process.
11. The states, NMFS, and Council should meet and develop a joint multi-year research and data collection/analysis plan for west coast groundfish.
12. Scientific efforts should be directed to measure the changes in groundfish productivity due to ocean environmental changes.

C. COUNCIL PROCESS AND EFFECTIVE PUBLIC INVOLVEMENT DURING AND BEYOND THE TRANSITION

(a) Strategic Plan Goals for Council Process

1. To establish and maintain a management process that is transparent, participatory, understandable, accessible, consistent, effective, credible, and adaptable;
2. To provide a public forum that can respond in a timely way to the needs of the resource and to the communities and individuals who depend on them; and
3. To establish a long-term view with clear, measurable goals and objectives.

(b) Council Process Recommendations

1. Encourage long term thinking so the Council can suggest creative solutions to Congress and NMFS during the reauthorization process
2. Establish a committee, with a designated staff person, to maintain a list of possible Magnuson-Stevens Act changes to be presented upon request of Congress and NMFS
3. Seek NEPA / Regulatory Flexibility Act exemption during the next Congressional reauthorization
4. The Council should establish a performance evaluation committee to periodically and critically review progress being made towards Council goals and objectives. The committee should also analyze improvements needed in Council procedures to maintain efficiency.
5. Adopt goals and objectives that are: (a) measurable, (b) have minimal conflicts, and (c) clearly prioritized where possible.
6. The Council should continue to routinely update its mailing lists and ensure that they contain commercial and recreational fishing associations, conservation and environmental groups, commercial licensed fishers for groundfish and other fishery species, local port offices, media contacts, and community-based organizations.
7. More effectively utilize newsletters, web page displays, public forums, news releases and public service announcements to improve public participation in Council activities and decisions.
8. Make draft agendas available earlier to the local media from fishing communities, with key issues highlighted.
9. The Council should sponsor workshops to explain the Council process, its role and responsibility relative to fishery management, the roles of its

committees and advisory entities, and the various opportunities for public involvement. Workshops should be held as an annual evening session during a Council meeting and by state agencies in local port communities.

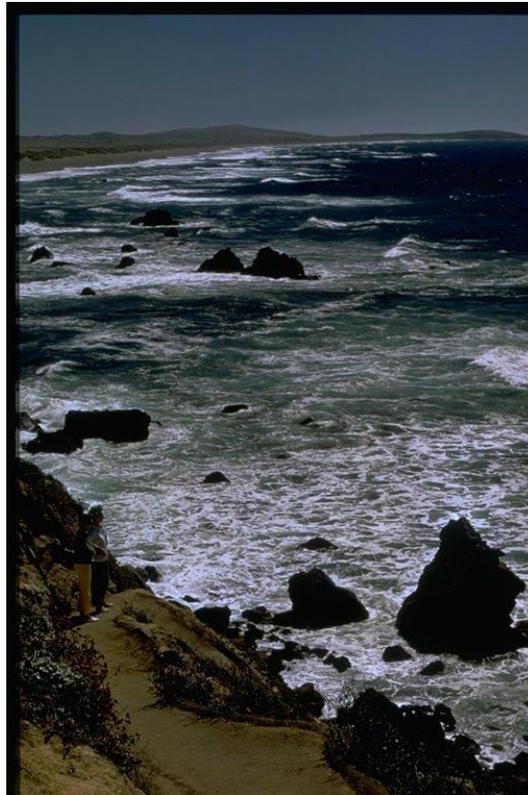
III. “How Will We Measure Success?” Implementing and Updating the Strategic Plan

(a) Updating The Strategic Plan Recommendation

1. The Council should schedule a routine review every five years (Option b3). If a Council member determines a review should occur more frequently, the member could seek to have the review placed on the Council agenda in the same manner that other actions are placed on the agenda. When the review takes place, the Council should follow the standard Council meeting process and take written and oral public comment, and involve the appropriate advisory entities (Option c1).

**PACIFIC FISHERY MANAGEMENT COUNCIL
DRAFT GROUND FISH FISHERY
STRATEGIC PLAN**

“TRANSITION TO SUSTAINABILITY”



Prepared by
**The Ad-Hoc Pacific Groundfish Fishery
Strategic Plan Development Committee**

For
**Council Family
Review and Comment**

June 2000

**PACIFIC FISHERY MANAGEMENT COUNCIL
DRAFT GROUND FISH FISHERY STRATEGIC PLAN**

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IV. Appendices - (*appendices will be included with the final document; see Pacific Fishery Management Council staff for copies of these documents as they were provided at previous Council meetings*)

A. The SSC Economic Subcommittee’s Overcapacity Report- Executive Summary

B. Strategic Plan Timeline and Schedule

C. Council Ad-Hoc Groundfish Strategic Planning Committee Member List

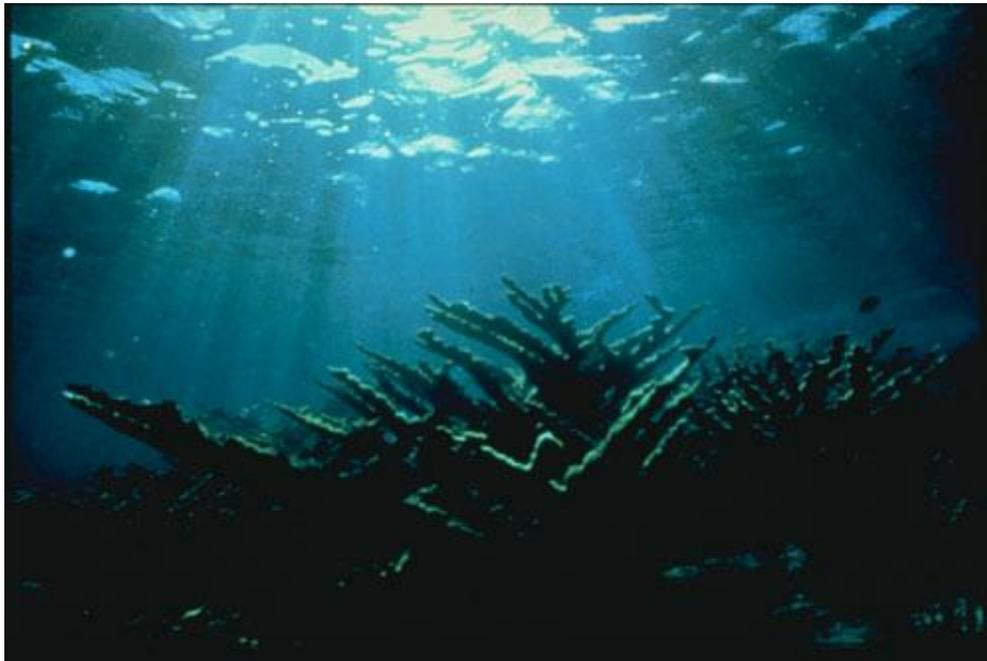
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SECTION I

THE GROUND FISH STRATEGIC PLAN

“WHERE DO WE WANT TO GO?”

THE STRATEGIC PLAN OVERVIEW



**Context And Need For
Groundfish Strategic Planning**

Vision For The Groundfish Fishery

THE PACIFIC FISHERY MANAGEMENT COUNCIL

PACIFIC GROUND FISH FISHERY STRATEGIC PLAN

I. THE STRATEGIC PLAN OVERVIEW- “WHERE DO WE WANT TO GO?”

A. Context and Need for Strategic Planning in the Groundfish Fishery

Pacific coast groundfish stocks are harvested in multi-species complexes and by a diversity of user groups. Commercial groundfish fishing vessels use a variety of gear types and fishing strategies. For instance, pot gear is used to target sablefish, and hook-and-line gear to target sablefish, rockfish and lingcod. Various types of trawl gear are used to target particular species mixes: bottom trawl for deepwater slope species, such as dover sole, thornyheads, sablefish and arrowtooth flounder; roller trawl for bottom rockfishes; mud gear for nearshore mixed flatfishes; and midwater trawl for widow rockfish and Pacific whiting. Non-whiting groundfish harvests are made almost exclusively by catcher boats delivering to shoreside processors. Whiting are harvested by catcher boats (there are separate allocations for those delivering to motherships and those that deliver to shore-based processors) and by catcher-processors. Landings by groundfish vessels are not limited to targeted species, since other types of fish are also taken in the course of targeting particular groundfish stocks. Groundfish are also harvested incidentally in non-groundfish fisheries, most notably the trawl fisheries for pink shrimp, spot/ridgeback prawns, California halibut and sea cucumber.

In addition, groundfish are also harvested by marine sport anglers coast wide and by Indian treaty tribes on the Washington coast. Commercial passenger fishing vessels and private boats take the majority of the recreational harvest, consisting mainly of rockfish and lingcod. Tribal fisheries for sablefish began in the early 1990s; and the whiting tribal fishery began in 1996. Tribes also harvest some lingcod and rockfish, primarily during their sablefish fishery.

1. Trends in the West Coast Commercial Groundfish Fishery

During the late 1970s and early 1980s, West Coast groundfish catches increased rapidly, reaching about 116,000 metric tons (mt) in 1982. For the next few years, landings remained around 90,000 to 100,000 mt annually, supported by large rockfish and flatfish catches. These were the early days following passage of the Magnuson-Stevens Act (then called the Fishery Conservation and Management Act, or FCMA). At that time, the government was encouraging expansion of the U.S. commercial fishing industry through loan guarantees and other programs. An immediate goal was to build a U.S. fishing industry that would move the foreign fleets out of American waters as quickly as possible, and to increase American fish processing capacity to handle all of the fish caught by American boats. During the

late 1970s and early 1980s, recreational fisheries were shifting some of their effort away from dwindling salmon resources towards abundant nearshore rockfish and lingcod resources.

From 1983 to 1999, West Coast commercial shoreside ex-vessel revenues from landings of groundfish decreased by 47% from \$100.2 million to \$52.9 million (in 1999 dollars). This revenue decline occurred in spite of a concurrent 12% increase in aggregate commercial shoreside groundfish landings from 108,500 mt to 121,500 mt. The decline was particularly severe for *Sebastes* rockfish and flatfishes, which annually accounted for 50%-60% of the non-whiting groundfish revenues. Between 1983-1999, *Sebastes* landings fell by 78% and *Sebastes* revenues by 69%; flatfish landings fell by 41% and flatfish revenues by 73%.

2. Reducing Cumulative Landing Limits

The Pacific Fishery Management Council has a long-standing goal to maintain fishing opportunities twelve months a year. To accomplish this, each vessel is limited to landing specified poundages during different time periods called cumulative landing limits. Annual harvest quotas (OY) have declined significantly in recent years due to declining stocks and new Magnuson-Stevens Act requirements to prevent overfishing and to rebuild overfished stocks.

The Council has responded to the need to reduce harvest by progressively reducing cumulative landing limits. Because more vessels fished harder to catch their full landing limit, the individual vessel limits have declined by a proportionately greater amount than the annual harvest limits. For example, for *Sebastes* (rockfish) in the northern area, landing limits in the limited entry fishery have been reduced from 120,000 pounds per month in the mid-1980s to 13,000 pounds per month in 2000. For *Sebastes* in the southern region, vessel limits that were 100,000 pounds in the early 1990s are now 22,000 pounds for 2000.

Limits for the Dover sole, thornyheads and trawl-caught sablefish (DTS) complex have been reduced from 110,000 pounds per month in the early 1990s to 27,000 pounds for 2000. The limited entry fixed gear sablefish season, which was year-round in the early 1980s, has been reduced to 6-9 days in recent years. This fishery (with its regular and mop-up components and its three-tiered structure) has also become more complex to administer.

In the open access fishery, monthly-equivalent *Sebastes* limits have fallen from 35,000-40,000 pounds during 1994-1998 to about 5,000 pounds during 1999-2000. Recreational fishing opportunities have also been reduced throughout the coast, with both season closures and reduced bag limits for important species.

3. Overcapitalization and Its Effects on the Fishery

In response to shrinking profits and declining harvest levels, the Council implemented a limited entry program for the commercial groundfish fishery in 1994.

Most people would argue this program did not go far enough, and too many vessels were granted permits. Of the vessels that initially qualified for a limited entry permit, 245 held fixed gear endorsements and 384 held trawl endorsements. Currently, the limited entry fleet includes 236 fixed gear endorsements, 264 trawl endorsements held by catcher boats, and 10 permits assigned to trawl catcher-processor vessels. No trawl catcher processors qualified for the initial issuance of limited entry permits, so they had to obtain permits from other groundfish vessels in order to participate in the whiting fishery after 1993.

Because each permit has a vessel length endorsement, and catcher processors are much larger than traditional trawl vessels, each catcher processor had to obtain and combine several permits. The reduction in the number of trawl permits due to transfer to catcher-processors has been the only significant change in the groundfish fleet configuration since the 1994 inception of limited entry.

Potential harvest capacity includes both unutilized (i.e., latent) as well as utilized capacity. Although limited entry has likely had the effect of "freezing" potential harvest capacity at its 1994 level, the low eligibility requirements for limited entry assured that even vessels with marginal involvement in the fishery were eligible for a permit. As a result, a significant proportion of the harvest capacity initially admitted into the fishery consisted of latent capacity. Many of these permits were later transferred to vessels that actively participated in the fishery, resulting in overcapitalization, which has been exacerbated by acute harvest restrictions of recent years.

Current capital utilization rates are exceedingly low for all sectors of the commercial groundfish fishery. Analysts estimate that 9% of the limited entry fixed gear vessels could harvest all of their sablefish allocation and 12% of the vessels could harvest the non-sablefish components of the fishery. For the trawl fishery, only about 27%-41% of the current fishing capacity is necessary to catch and deliver the shore side harvest, and 6%-13% of the open access vessels could take that groundfish allocation.

4. Biological and Regulatory Factors Affecting the Fishery

The decline in non-whiting groundfish landings experienced in the early 1990s has accelerated in recent years, as increasingly restrictive management measures have been adopted in response to new scientific information and new statutory requirements. In 1998, the Council adopted a lower harvest rate for *Sebastes* rockfish on the basis of scientific information suggesting those stocks are less

productive than previously believed. In 1999, in order to comply with provisions of the Sustainable Fisheries Act (SFA), the Council adopted a default harvest rate policy that imposed stringent rebuilding requirements on "overfished" stocks.

Formal rebuilding plans were initiated in 2000 for lingcod, bocaccio and Pacific ocean perch, and will be initiated in 2001 for canary rockfish and cowcod; it is anticipated additional species are likely to be declared overfished in the near future.

In 2000, the Council reduced the harvest rates for shortspine thornyhead and for widow rockfish, on the basis of their low abundance. The Council has reviewed new scientific information that indicates productivity of West Coast groundfish is unusually low relative to other groundfish stocks worldwide; this suggests that harvest rates should be further reduced. Adoption of lower harvest rates would result in further landing and revenue declines. However, the declining abundance trends observed for many West Coast groundfish stocks indicate that harvest rates have been too aggressive.

Some of this low productivity, at least in recent years, may be attributed to changing ocean conditions. About 1976, there was a change in the temperature of the Pacific Ocean; scientists refer to this change as a regime shift. The ocean temperatures increased and, on average, have remained warmer since 1976. This temperature shift affected ocean productivity, reducing food supplies and causing some species to migrate to new areas. Tropical and subtropical species, such as marlin, appeared off Washington and Oregon, where they had never been observed before. A series of strong El Niños occurred along the West Coast. Washington and Oregon salmon stocks began a long decline. Plankton abundances changed, sometimes declining to very low levels. However, there is growing evidence the ocean may be shifting back to its previous cooler condition. If this proves true, it is likely reproduction of many important groundfish species could respond favorably and the population declines may be halted. However, due to the depressed status of many groundfish stocks, the

long periods required to rebuild overfished stocks, and the possibility of further OY reductions in the near future, allowable non-whiting harvests are likely to remain restricted for many years to come.

5. Need for Groundfish Strategic Planning

The economic hardship and uncertainty being experienced by the industry is intensifying competition among fishery sectors for access to the resource. Individual fishers, communities and competing groups have become more polarized and information needs have increased. Protecting groundfish stocks while ensuring that the burden of conservation measures is distributed equitably among sectors of the fishery is becoming increasingly difficult to accomplish. Even if groundfish OYs were to increase significantly (an unlikely scenario), the latent capacity in the fishery will be mobilized at any sign of improved fishing opportunities. The current problems associated with low landings limits; short seasons and complex regulations will not go away unless latent capacity is permanently removed from the fishery.

The Council has responded to these problems by trying to deal with individual issues on an ad-hoc basis. This short-term approach has been increasingly characterized by crisis management.

Participants in the West Coast Groundfish Fishery are aware of the wide range of difficulties in the fisheries and their management. Traditional fishery resources have declined, competition for the limited resources has increased, and information and management needs have grown. Future goals and directions have been questioned and become uncertain. Recent changes to the national standards for fishery management have created new management requirements that must be fulfilled and implemented by the Pacific Fishery Management Council.

For these reasons, the Council decided to initiate a strategic planning process to attempt to look beyond the short term or ad-hoc approach to setting seasons and catch limits. Consequently, the Council appointed an Ad-Hoc Pacific Groundfish Fishery Strategic Plan Development Committee. The task of the Committee has been to guide a strategic plan development process to address future conditions and the associated management requirements.

The Committee expects that, to be effective, this strategic plan will have to address the difficult issues of reducing fishing capacity, more responsible harvest rates, allocation, science, habitat and the Council management processes. It is recognized that this planning work will also be occurring during a time when fishery restrictions will be implemented in order to rebuild overfished stocks. These conditions provide the clearest evidence of the need for a longer-term vision and road map of specific actions to carry out a strategic transition.

The Committee designed a process and schedule to obtain key information, identify specific problems and develop a range of solutions. The Committee has developed a draft strategic plan document for Council and public review that will:

- Recommend new management goals and objectives;
- Lead immediately to new groundfish plan amendments by the November 2000 cycle;
- Outline additional detailed actions for Council work plans and a schedule of priorities for the next 3-5 years; and
- Develop specific recommendations for other entities to address that will compliment the Council's needed management changes; such recommendations may propose changes in law, calls for budget support, and expectations for enhancing coordination activities between industry, government and educational institutions.

B. VISION FOR THE FUTURE OF THE GROUND FISH FISHERY

The Strategic Plan's vision for the future of the groundfish fishery assumes that the Plan's recommended actions are fully implemented with passage of sufficient time for the anticipated benefits to have been fully realized. The Plan's drafters recognize that the transition to the future envisioned by the plan will require major changes in the structure and operation of the fishery which will certainly have short-term adverse impacts to current participants. The Plan envisions that fishery management decisions are based on sound scientific data and analysis and an open and fair Council process.

1. The Fishery

We envision a future where Pacific groundfish stocks are healthy, resilient, and substantial progress has been made rebuilding overfished stocks. Harvest policies result in total fishery removals that are consistent with the long-term sustainability of the resource. The fishing industry is substantially reduced in numbers and harvest capacity is reduced to a level that is in balance with the economic value of the available resource. Those remaining in the fishery are able to operate in an environment that is diverse, stable, market-driven, profitable, and adaptive over a range of ocean conditions and stock sizes.

Unlimited or open access to the groundfish fishery will no longer exist as current open access participants are brought into the limited entry program and the number of participants reduced to those who are most dependent and committed to the fishery.

Allocation disputes have been resolved and all harvest sectors believe they were treated fairly, including those non-groundfish fisheries where groundfish is an unavoidable incidental catch. Discarded bycatch by all gear groups is minimal and quantified.

Fishery regulations will be less complex and more easily enforced. Council management may be simplified by removing some species from the Fishery Management Plan through delegation or deferral to State management.

Under future fishery management regimes, essential groundfish habitat is adequately protected and adverse impacts from all groundfish fishing gears are reduced to minimal levels. Marine reserves, or no take zones, provide a baseline level of protection as an insurance policy to reduce the risks of uncertain science and long stock rebuilding periods.

The improved operating conditions and profitability for those remaining in the fishery allows participants to accept responsibility for a portion of the cost of providing effective science and management, including an at-sea observer program, that is commensurate with the level of benefits that exclusive access to the fishery provides.

Finally, the Council has full access to all fishery management tools and uses them to provide protection for and reasonable access to groundfish stocks.

2. The Science

The basis for future management of the groundfish fishery relies to a very large degree on the availability of good science. The scientific basis for management will meet national and international standards, be accepted as credible and is understood by the stakeholders that are affected by Council decisions. Scientific data collection takes place in a collaborative process involving partnerships between federal and State agencies, the fishing industry, and potentially includes contributions from private foundations.

Data collection and monitoring programs provide stock assessments with acceptable levels of uncertainty for use by the Council's scientific, management and advisory committees. Scientific data collected from the fishery will provide the capability to accurately assess the impacts of current and potential fishery management measures on groundfish stocks and fishery participants. Finally, we envision

scientific tools have been developed that provide stock assessments throughout the distribution of the various groundfish stocks geographic range incorporating the variability and effects of ocean regime shifts.

3. The Council

Future Council activities will be characterized as open to all stakeholders, inclusive of all views, credible and interactive. Council actions are documented and easily understood and developed with meaningful involvement by the public including environmental, commercial and recreational representatives. Council decisions are documented with readily available explanation and analysis of the underlying biological and socio-economic considerations. Council advisory entities work together to contribute advice and expertise that results in recommendations that are accepted by stakeholders. The development of regulations is simplified and streamlined. Regulations are generally stable over multi-year periods, but there is flexibility to respond quickly when changes are needed.

SECTION II

THE GROUNDFISH STRATEGIC PLAN

“WHAT WILL WE DO TO GET THERE?”

GROUNDFISH FISHERY MANAGEMENT



Management Policies
Harvest Policies
Capacity Reduction
Allocation
Observer Issues
Marine Reserves
Groundfish Habitat

II. THE STRATEGIC PLAN “WHAT WILL WE DO TO GET THERE?”

A. GROUND FISH FISHERY MANAGEMENT



1. FISHERY MANAGEMENT POLICIES

(a) Problem Statement

For the purpose of groundfish strategic planning, management policies are defined as the specific regulatory structure adopted by the Council that is intended to respond to the Council’s goals and objectives for the groundfish fishery. Although the Groundfish Fishery Management Plan’s (FMP) goals and objectives address many aspects of the fishery and fishing communities, the objectives that appear more than any others to be the basis for the current regulatory structure are to: (1) Prevent overfishing; (2) Reduce or minimize bycatch; and (3) Maintain year round harvesting and processing opportunities.

Multiple factors influence the current groundfish fishery regulatory structure including those factors addressed in the sections of this plan that respond to overcapacity, harvest policy, allocation, essential fish habitat, and observer issues. How each of these issues is addressed either singly or synergistically can have a significant positive or negative effect on the ability of the regulations to achieve the FMP’s goals and objectives. Similarly, they can either significantly contribute to or detract from the goal of having a regulatory structure that is easily understandable, enforceable and relatively stable from year to year.

The goal of maintaining year round harvesting and processing opportunities has had the greatest influence by far on the development of the current regulatory structure in particular for the commercial non-whiting groundfish trawl fishery, and now to some extent, the fixed-gear rockfish fishery, for both limited entry and open access. The same goal of maintaining as much fishing opportunity as possible throughout the year has dominated the regulatory structure for the recreational fisheries as well. Consequently, the Council has chosen to regulate the flow of landings to stretch them throughout the year with trip or cumulative period landing limits. The most common use of these limits in the commercial groundfish fishery is one- or two-month cumulative landing limits. Under these limits vessels may make as many individual fishing trips as they need during a period and are bound only by the species or species complex cumulative landing limit for the entire period.

During the period of time when the amount of harvest capacity being utilized in the fishery was less, allowable harvests were greater, and markets for some stocks less developed, trip and cumulative period landing limit management may have been relatively effective at meeting each of the FMP's principal goals and objectives, although the lack of an observer program makes it impossible to know whether bycatch was minimal. Over the last decade, however, trip- and cumulative landing limit management has become far less effective in meeting the FMP's and the Magnuson-Stevens Act requirements. Allowable harvests have been reduced significantly as a result of declining stocks, a better understanding of stock productivity, and the necessity to meet the Magnuson-Stevens Act requirements to prevent overfishing and rebuild overfished stocks. Due to the lack of adequate data to support stock assessments, uncertainty in those assessments has resulted in the need to be even more precautionary in setting allowable harvest limits.

At the same time, even with the implementation of limited entry in the fishery harvesting capacity has actually increased and new markets have emerged for previously lightly utilized stocks such as nearshore rockfish. The result of the combination of all of these factors has been drastic reductions in cumulative period landing limits. Although unverified due to lack of observers, there is virtual certainty among fish managers and the fishing industry that reduced landing limits have resulted in increased bycatch and has confounded the Council's ability to prevent overfishing due to lack of knowledge of total fishery-related mortality.

Another consequence of declining allowable harvests is for species that are targeted by both recreational and commercial fisheries, such as bocaccio rockfish, the maintenance of recreational fishing opportunity has put further downward pressure on commercial landing limits further exacerbating bycatch. The need to be even more precautionary in setting annual OY's is both a consequence and a contributor to this downward spiral of allowable harvests.

(b) Strategic Plan Goal For Management Policies

To adopt understandable, enforceable, and stable regulations that, to the greatest extent possible, meet the FMP's goals and objectives and the requirements of the Magnuson-Stevens Act.

(c) Issues/Options/Alternatives

1. How Can the Regulatory Structure be Changed to Become More Stable, Understandable and Enforceable, and Better Meet the Fishery Management Plan's Goals and Objective as Well as the Magnuson-Stevens Act Requirements?

Groundfish regulations have become increasingly complex and difficult to

understand and enforce. Managers are trying to provide access to healthy stocks while protecting depressed stocks, and provide fair access for different segments of the industry (gear types, fishing strategies, open access/limited entry, recreational/commercial) that require different types of regulations. Managers also divide areas for management in order to manage more precisely to match the species composition and availability in different areas. All of these competing considerations result in regulations that can be confusing and difficult to enforce, and which reduce flexibility and efficiency in the fleets.

Alternative strategies to prevent overfishing and reduce or minimize bycatch include: (1) abandoning the objective of maintaining a year round harvesting and processing opportunity but maintaining the landing limit structure, and (2) seeking alternative regulatory frameworks that maintain the year around fishing opportunity while simultaneously meeting the Magnuson-Stevens Act requirements to minimize bycatch and prevent overfishing by doing away with the need for restrictive landing limits.

Option #1- Abandoning the Year Round Fishery

(a) The main options to increase landing limits involves shortening the fishing season from the extreme of a wide open derby fishery with no landing limits to a six to eight month fishery which would result in higher landing limits and presumably less bycatch. Although the Groundfish Management Team could project how much higher landing limits might be under this option, without observer data, it is not possible to quantify the benefits in terms of bycatch reduction compared to current limits.

(b) Reduce significantly the capacity in both the limited entry and open access fleets. In the short term, higher limits might be achieved by combining either a voluntary or mandatory permit stacking option with a shortened season to further increase the total landing limit per vessel.

Option #2- Alternative Regulatory Frameworks that Preserve Year Round Fishing Opportunity

(a) Develop and implement an IFQ program. Under an IFQ system, there is no need for annual constraints on fishing time, as each IFQ holder can plan to harvest their IFQ during any time of the year. Overfishing is prevented because the fishery is still managed to an overall OY. Bycatch induced by cumulative landing limits is eliminated (particularly if a vessel is permitted to secure IFQ for catch for which he is without quota), although some bycatch is likely due to high grading by fishers seeking to maximize the value of their IFQ. Requiring full retention with observer requirements might eliminate high grading. Specific IFQ options and recommendations are contained in the overcapacity section of the Groundfish strategic plan.

(b) Divide the fishing year into segments such as thirds, quarters, sixths, etc., and require vessels to choose a limited number of fishing periods during which they would be allowed to make groundfish landings. This would allow a year round flow of product through processing plants, but would allow higher limits per period due to the reduced number of overall landing limits.

(c) Use other means to significantly reduce capacity and increase landing limits such as mandatory permit stacking or a buyback program (see overcapacity discussion).

(d) To the extent that either landing limits or the actual harvest of healthy species is constrained by the need to protect and rebuild depressed stocks that are caught coincidentally, the Council could continue to explore the use of higher landing limits as an incentive to fish with bycatch-friendly fishing gear or to fish in areas where bycatch is reduced. For the 2000 fishery, emergency measures provided higher trawl trip limits for vessels using small footrope gear or mid-water trawl gear.

2. What are Some Strategies that Could Bring More Stability to the Fishery?

The Council could make specific allocation or allocation framework decisions between commercial and recreational and between the various commercial sectors of the fishery. The lack of specific allocations to the various sectors of the fishery means that fishery participants cannot anticipate and plan for the share of the overall harvest they will be able to access. Instead, as the availability of different species declines, access is determined by the results of the annual management process that results in de facto allocation outcomes that may change significantly from year to year. By making the allocation decisions upfront and permanent (at least until changed via regulation), fishery participants could have a longer and more certain planning horizon.

Implement an IFQ program as this would provide the most stable planning platform of all; fishermen would know in advance their annual allowable harvest percentage and could plan to take that harvest in the most cost effective and profitable manner.

3. What are Some Strategies for Increasing Enforcement Effectiveness and Reducing Complexity?

Keep the regulations as simple as possible. Acknowledge that more fine-tuning (micro-management) usually results in more complexity and less flexibility.

Review the scope of the management unit, particularly with respect to nearshore rockfish management. Consider delegating or deferring to the States management of nearshore rockfish species that reside and are harvested primarily within State waters. Increasingly, the Council has been asked to adopt complex regulations designed to respond to the particular needs of specific communities in specific

geographic locations. Most of these requests relate to very small vessels accessing local rockfish stocks and marketing them within the area. The Council is not very well equipped to evaluate these requests and accommodating them increases the complexity of the regulations. In addition, the Council and NMFS are not well suited to assess the biological requirements of many of these local populations, to assess the social and economic issues associated with them, or monitor localized fisheries.

(d) MANAGEMENT POLICIES RECOMMENDATIONS

The following recommendations assume that the objective of maintaining year-round harvesting and processing opportunity remains the Council's highest social and economic priority. In that case, it is imperative that Recommendation 1, capacity reduction, be fully implemented as rapidly as possible. If substantial reductions in harvest capacity are not possible or are significantly delayed, the Council should consider several of the alternative strategies for restructuring the fishery that restrict access by some portion of the fishing fleet for major time periods (platooning).

In the event that none of the recommended measures or alternatives are viable or effective, the Council may have little choice but to shorten the annual fishing season. The Strategic Planning Committee cannot emphasize strongly enough the need for some level of observer coverage to evaluate the potential effectiveness of different management strategies.

1. Proceed with the reduction of harvest overcapacity as quickly as possible. Reduced capacity will relieve the need to adopt management policies that are both inefficient and ineffective at achieving the FMP's goals and objectives. By better matching fleet capacity to resource availability, the regulatory structure will become more stable which will result in regulations that are more enforceable. This recommendation includes both the short and long-term and transitional elements discussed in the overcapacity section of the plan such as license-limitation (for the targeted open access fishery), permit stacking, and IFQs either individually or in combination or in combination with a vessel buy-back program.
2. Continue to explore the use of higher landing limits as an incentive to fish with bycatch friendly fishing gear or to fish in areas where bycatch is reduced.
3. Make the necessary allocation decisions so that fishery participants can plan on a specific share of future OY's. Allocations may be outright percentages or a framework with criteria that specify how the allocation changes as resource availability changes.
4. To reduce management complexity, consider delegating or deferring nearshore

rockfish and other groundfish species, such as scorpionfish, greenling and cabezon, to the States.

2. HARVEST POLICIES



(a) Strategic Plan Goal for Harvest Policies

To establish an allowable level of catch that prevents overfishing while achieving optimum yield based on best available science.

(b) Issues/Options/Alternatives

1. F_{MSY}: What is the Appropriate F_{MSY} Harvest Policy?

While utilizing a maximum sustainable yield (MSY) approach is a reasonable basis for the development of a harvest policy, the Council needs to incorporate considerations for dealing with error as opposed to one that is strictly mathematical. For example, with a set of deterministic data, an analyst can compute, with mathematical certainty, the maximum sustainable yield. However, pragmatism tells us that the data inputs are uncertain, that environmental and other external forces will affect the expected productivity of the analyzed stock, and that even if we have perfect knowledge of the mechanisms controlling productivity, we will measure the controlling variables imprecisely.

Errors in the estimation of allowable harvest can occur in three critical quantities: current biomass, the long-term exploitation rate and total fishery related mortalities. Factors controlling the estimation of an MSY proxy are limited. To estimate these quantities scientists need, at a minimum, 1) a natural mortality rate (M), 2) weight-at-age, 3) fishery selectivity-at-age, 4) proportion mature-at-age, and 5) an assumed fishing mortality rate.

Weight-at-age and maturity-at-age can be estimated with relatively low amounts of error; they usually don't change dramatically from year to year (although they may change over time) and thus are unlikely to be responsible for significant errors in the estimation process. To assure precision, monitoring of the catch on a continual basis is essential.

Natural mortality (M) and fishery selectivity may change annually. Given the existing tools, there is little or no opportunity for scientists to measure the annual change in natural mortality. Proxy MSY calculations are highly sensitive to changes in M. Prudent management should consider the uncertainty in this parameter. Managers must be provided a sensitivity analysis of the resource implications based on the natural mortality assumptions.

Fishery selectivity-at-age can be highly variable, particularly for fast growing, short-lived species. For slower growing species, age selectivity is likely to be more stable. Proxy MSY estimates are highly sensitive to age selectivity because it is used as a direct scalar on total mortality. Lack of age sampling data and changing allocations for each gear type increases the opportunity for errors. Stabilizing allocations and uninterrupted sampling of the age structure from each gear type can reduce risk of error.

Biomass estimates are inherently imprecise. Variance parameters for estimated biomass from age-structured analyses can easily be understated by the imposition stabilizing model assumptions. Minimally, precautionary management should acknowledge the variability in estimated biomass. Profiling the probability of predicted biomass under alternative harvest and recruitment scenarios is advisable to assure a high (80%) probability that stock abundance will not decline below the Council's target levels. Accounting for discard and other unknown fishery induced mortalities mandates that managers adopt conservative harvest guidelines. Typically, the largest single missing catch item is discarded catch. Expected discards should always be deducted from the maximum total allowable catch, as a safeguard against inducing excessive fishing mortality. At a minimum, specific efforts should be taken to more precisely estimate discard rates at routine periodic intervals.

While proxy MSY rates are relatively easily estimated, true MSY is not. Determining true MSY depends on establishing a meaningful spawner-recruit relationship, and on having both a long time series (large sample size) and a range of observations over a wide spectrum of spawning stock size. Even when there are sufficient time series for estimation, the predictive functions can be highly imprecise. Repeated model estimates of the same MSY value would provide some level of confidence that the value can be estimated and is stable. The Council should very cautious when adopting a true MSY estimate.

➤ **Strategy:** Given the uncertainty in the estimation of total allowable catch, the Council may decide to employ reasonable safeguards by setting harvest guidelines below the Allowable Biological Catch (ABC). A management strategy that sets harvest guidelines lower than the acceptable level of biological catch coupled with managing fisheries to a fixed harvest guideline and closing fisheries when the harvest quota is met will give greater assurance of long term sustainable fisheries.

2. Uncertainty/Precautionary: How Do We Establish Harvest Policies in the Absence of Adequate Science?

For stocks with limited demographic information, the Council should consider creating a hierarchical approach to setting harvest levels. Under this approach

harvest rules would require increased levels of conservatism for stocks where little or no information existed from which to base a harvest level. Such a strategy may encourage acquisition of more detailed information if fishers believe significant quantities of harvest was being lost. The burden to generate that information could be shared between the fishing industry and government. Small investments by the fishing industry may provide the critical information required to incrementally increase the allowable catch, thus creating a mechanism to recapture the investment. Government should prioritize data collection efforts to gather demographic information for as many stocks as it can. Ironically, the single greatest bottleneck for improving demographic data is in the area of age determination, an information base that can be gathered shoreside.

An example of a hierarchical approach for setting harvest allowances based on available biological information is one that is currently used by the North Pacific Fishery Management Council (NPFMC). The NPFMC classified demographic data into 6 tiers based on available information: 1) reliable estimates of biomass, B_{MSY} and a probability density function for F_{MSY} (i.e., known spawner-recruit function, and stochastic estimate of MSY); 2) Reliable estimate of biomass, B_{MSY} , F_{MSY} , $F_{35\%}$, and $F_{40\%}$; 3) reliable estimate of biomass, $B_{40\%}$, $F_{35\%}$, and $F_{40\%}$; 4) reliable estimate of biomass, $F_{35\%}$, and $F_{40\%}$; 5) reliable point estimate of biomass and natural mortality; and 6) reliable catch history (for a fixed interval 1978-1995). Harvest allowances are increasingly precautionary as the biological information base decreases.

3. Multi-Species/Mixed Stocks: How Can We Protect Weak Stocks While Harvesting Healthy Stocks?

The only apparent method of protecting weak stocks in a mixed stock fishery is to limit harvest to the quantity produced by the weak stock. This is the so-called weak-stock management principle. If management chooses to fully harvest the more productive stocks, it must acknowledge that weak stocks will likely be overharvested i.e., harvested at a rate exceeding F_{MSY} or its proxy. The maximum exploitation rate which can be allowed to accrue to a weak stock, is the level of fishing mortality which drives the stock to 1) a level above the FMP definition of overfishing, or 2) to a level which would be designated as above a listing threshold as defined by the Endangered Species Act. The former assures that the overfishing restrictions of the Magnuson-Stevens Fishery Conservation and Management Act (M-S Act) will not be violated; the latter, protects against violation of the Endangered Species Act (ESA).

Weak stocks in a mixed stock fishery constrain the allowable level of production available to the fishery. If the potential impact on the weak stock is estimated to drive it below one of the two thresholds listed above, and the catch is unavoidable, the target fishery should be closed. Harvesters should be encouraged to conduct experimental fisheries with alternative gears that selectively harvest the desired productive species while minimizing bycatch of the weak stock. Implementation of an experimental fishery requires observer coverage to validate the catch and bycatch

of the fishery. Similarly, subsequent fisheries using selective fishing practices should continue to be monitored with observers to assure that bycatch of the weak stock remains within estimated levels. The Council cannot protect weak stocks from overharvest without requiring the monitoring of total catch and be willing to close fisheries when incidental catch of the weak stock have been taken.

4. Assessed Stocks/Partially Assessed Stocks: How Do We Reconcile Wide Variability in the Estimates of the Biomass and Lack of Information on Total Mortalities?

The inability to monitor at-sea discards is a major impediment to improving demographic information about stock condition. As a rule, for age-structured model estimates of stock abundance, biomass is proportional to catch. This means that if catch is underestimated (for example when discards are not fully accounted for) biomass will be underestimated and conversely if the discard is overestimated the biomass will be overestimated. Therefore, the underestimate of biomass will result in an underestimate of the allowable catch.

When making adjustments to a trip limit to keep the total catch within the harvest quota, the Council must be aware that such adjustments sometimes cause an increase in the discard rate. In such cases, a precautionary adjustment to discard rates should be made to insure that the harvest quota is not exceeded.

While incorporating improved catch data into age-structured models will result in more accurate estimates of stock abundance, it is not likely to appreciably affect the precision of the biomass estimate. Wide confidence intervals on the estimates of total abundance will continue to be common in stock assessments. Improved precision in the abundance estimates requires substantial increases in the number of age samples drawn from the fishery, and/or improved measures of auxiliary data.

This dilemma is exacerbated because as stocks decline and the need for precise abundance estimates is most acute, the opportunity to collect samples diminishes.

5. Unassessed Stocks: How Do We Set Harvest Policies for Unassessed Stocks?

There are actually few stocks for which there are no demographic data of any kind. Typically, we have some measure of catch, and/or a measure of abundance, although it may be highly imprecise, from fishery independent surveys. Alternatively, the harvest policy could be a function of peak or median catch over some interval. Typical algorithms suggest using an estimate of the natural mortality rate times some scalar (0 to 1) times survey biomass, for example $0.5 M \times \text{Biomass}$. If the natural mortality rate for the species is unknown, it can be inferred from rates associated from similar species.

- **Strategy:** Applying the lowest rate for a known species to an unassessed species would be an appropriate precautionary response. For example the Gulf of Alaska Fisheries Management Plan sets the allowable catch for "other species at 5% of the TAC for all assessed species. If the fishery demonstrates an ability to target a previously unassessed species the Council is obligated to acquire demographic data such that a more meaningful allowable harvest might be set.

6. International/Jurisdiction: How Do We Set Harvest Policies for Transboundary Stocks in the Absence of an International Allocation Agreement?

One alternative the Council has used is to estimate the proportion of the total stock biomass within the EEZ and manage harvest accordingly. The success of this method assumes that the other nation agrees with the estimated distribution of stock biomass and behaves similarly. If the distribution of total biomass is unknown, allocation can be based on the ratio of historic catch. When the sum of the catch from both nations routinely exceeds the total allowable catch for the transboundary stock, one nation can unilaterally assume the entire burden of conservation by anticipating the other nation's removals, and reducing their own allowable catch accordingly. While such behavior is completely consistent with a precautionary approach to management, the typical response of each nation is to

harvest at a level consistent with their political position and the stock is inevitably not harvested at a rate predicted to achieve MSY. The nations can allow their fisheries managers to set transboundary allocations informally, in effect, volunteering to abide by a non-binding agreement without the benefit of formal nation to nation agreements. Since it is always in the interest of the citizens of each nation to agree to conserve a limited resource, negotiated allocations are preferred.

The most effective collaboration with Canada and Mexico in assessing transboundary stocks requires the commitment from the U.S. State Department for implementation and the reality is that groundfish have been accorded little attention in the broader picture when trade negotiations take place with other nations. On the technical level, scientists from respective countries can share data, compare assessments, or conduct joint assessments. Negotiation and implementation of harvest sharing regimes however can only be accomplished through bilateral negotiations from representatives of the respective nations.

7. Marine Reserves: What Is the Role of Marine Reserves in Setting Harvest Policies?

Marine reserves can protect a fraction of the exploitable stock from fishing. From a harvest policy perspective this portion of the exploitable biomass should be removed when calculating an ABC, thereby diminishing the total allowable harvest. The key strategic concept at work here is that the fishery should be constrained to a harvest guideline commensurate with the size of the accessible exploitable stock.

Current management practices do not account for this principle as it applies to natural reserves, such as areas not accessible by trawl gear and they assume a completely mixed population. The degree to which fishes mix between the protected and unprotected areas will determine the level of catch reduction. In a freely mixing stock, i.e., in a stock where the fishes of exploitable size/age have an equal probability of being found either within or without of the marine protected area, and where the rate of exchange (mixing rate) of fishes between the protected and unprotected area is such that all fish spend an equal amount of time within and without of the protected area, then all members of the

population would be vulnerable to fishing, and given sufficient effort, total catch would be unaffected by the protected area.

As the mixing rate declines, such that fish within the protected area have a higher probability of remaining in the area than they do leaving the area, the vulnerability of exploitable age fish will decline, and with that decline there should be a commensurate drop in allowable harvest. At the extreme, none of the fish in the marine reserve will be vulnerable to fishing, and the total allowable catch should be reduced in direct proportion to the fraction of total biomass residing within the reserve. A simulation of the population dynamics would be required to estimate any potential of a net increase in surplus production within the accessible exploitable stock.

8. Overfished Stocks/ Rebuilding Plans: How Do We Rebuild Stocks as Rapidly as Possible While Providing Economic Opportunity to the Industry?

Options for rebuilding rates are statutorily limited under certain conditions; therefore the minimum impact on the fishing industry from the implementation of a rebuilding plan has limited flexibility. The Council should always aggressively attempt to avoid allowing a stock to become overfished. Once a stock is in an overfished condition and a rebuilding plan is developed, the Council must weigh, within the parameters required of rebuilding an overfished stock, the cost of forgone catch against the benefits of recovery. In making such a determination, the Council would need an economic simulation of the results of different rebuilding time frames. It assumes that managers are familiar with the supply and demand functions affecting the value of the catch, and they can accurately predict prices into the future.

(c) Summary of Options and Alternative Strategies for Harvest Policies

Selecting an allowable level of catch for any stock is largely a policy decision. There is no magic scientific formula that tells a manager precisely how many fish to allow in the catch even when the manager possesses perfect knowledge about the fished population. The choice of a harvest level is directly linked to the objectives of the manager. The Council must use a maximum sustainable yield concept as directed by the M-S Act and the National Standard Guidelines in defining its harvest policies. Harvest strategies that result in continued declines of multiple stocks must be reversed. Failure to account for all fishing induced mortality (landed catch + discard) is a fundamentally flawed management practice. Management strategies that encourage regulatory discards with no discard monitoring program is also a fundamentally failed management practice.

The Council should strive to distribute fishing effort proportionately to the distribution of the fished biomass. It should set harvest guidelines to recover the

surplus production of assessed stocks only. Where fishing effort is high and local catch rates excessive, the harvest policy should not allow harvest guideline transfers from other areas to artificially support the excessive harvest. Given a host of uncertainties in biomass estimation, the appropriate choice of exploitation rates, and the imprecision of accurately accounting for fishery related mortalities, the harvest policy should require that harvest guidelines be set lower than the ABC. The Council should consider an engineers approach when choosing harvest rates. Design the harvest policy to withstand 2 or 3 times the maximum stress expected on the resource. Let scientists advise the Council with their best estimates of the appropriate rate of exploitation, then fish at a lower level until you observe a steady increase in stock biomass. Only then should there be an incremental increase in exploitation toward the scientifically advised harvest rate.

(d) HARVEST POLICIES RECOMMENDATIONS

1. In light of the uncertainties in the estimation of ABCs, harvest guidelines (OYs) should be set lower than the ABC, the fishery should be managed to a fixed OY(s), and fisheries should be closed when the OY is reached.
2. Harvest levels must be increasingly precautionary as the biological information base decreases, and particularly if monitoring programs fail to provide reliable estimates of total fishery-related mortality. The Council could consider a hierarchal approach where increased levels of conservatism would be required based on the specific quantity and quality of biological and fisheries information that is available.
3. For unassessed stocks, the Council should set conservative harvest levels based on simple parameters such as a fixed proportion of the mean catch or survey abundance, or as a function of the lowest rate allowed for an assessed stock.
4. To protect weak stocks harvested in multi-species fisheries, the Council should adopt a policy requiring closure of the fishery when the total allowable catch of the weak stock has been taken. In developing the policy, the Council must determine whether the policy should include an exception where benefit/cost considerations might justify overfishing a particular weak stock under the mixed-stock exception contained in the National Standard Guidelines, or whether the policy is to close the fishery when the ABC or OY is taken without exception. Under no circumstances can the Council knowingly allow harvest rates that drive the stock below the level defined in the FMP as "overfished" or to a condition warranting listing under the ESA."
5. For more precise estimation of stock abundance and responsible management of harvest guidelines, an observer program is essential.

6. Without an international agreement on setting and sharing the total allowable catch for trans-boundary stocks, each nation should conserve that portion of the stock within the geographic range of its authority.
7. Marine reserves can be used to guard against management uncertainty and enhance productivity, but should be considered on their own broader merits rather than solely as a function of the Council's harvest policy.

3. CAPACITY REDUCTION



(a) Problem Statement

Overcapacity is the structural problem within the Pacific groundfish fishery most commonly identified by the Council and its advisory bodies. Overcapacity is an underlying contributor to many of the problems plaguing groundfish management. Overcapitalization is significantly affecting the manner in which the fishery is managed and the effectiveness of management. The groundfish fishery has been managed for many years with trip limits and cumulative period landing limits in order to allow the fishery to operate year round. In order to reduce management-induced discards, trip limits have been replaced by cumulative period landings limits with the time periods for the limits increasing over time. As OY's have declined, so have the cumulative landing limits. As a result, discards have been of increased concern. The fixed gear sablefish season has been reduced from months to days, and increasingly elaborate measures have been adopted to prevent the sablefish OY from being exceeded. Small landing limits and short seasons are exacerbating the economic inefficiencies resulting from too many boats chasing too few fish.

According to the Scientific and Statistical Committee (SSC): "The 1994 limited entry program was not sufficiently restrictive to address the overcapitalization that existed at the time of the program's inception. Moreover, the gap between harvest capacity and groundfish OY's that existed in 1994 has widened as stocks continue their downward decline, new scientific information has become available clarifying the extent and gravity of this decline, and OY's have been reduced to unprecedented low levels.

Due to political, economic, and biological complexities of west-coast groundfish management, there has been little progress in reducing harvest capacity. These complexities have stalled efforts to develop an industry-funded buy-back program for the Limited Entry trawl fishery and have suspended indefinitely Council efforts to develop an Individual Fishing Quota (IFQ) program for the Limited Entry fixed-gear fleet.

Overcapacity is a problem within both the Limited Entry and Open Access fisheries. Although it can be argued that the Council did not adequately limit the number of

vessels initially qualifying for Limited Entry Permits, the creation of the open access fishery with a total absence of limits on capacity is equally as serious a management problem. Decreased participation in non-groundfish fisheries such as salmon, improved prices for some groundfish species such as sablefish, and the development of the live rockfish fishery have transformed the open access fishery from a primarily bycatch fishery with a small directed-fishery component, to a much larger fishery with many more participants relying on the fishery for a large part of their annual income.

The Council believes that reducing overcapacity in the fishery is a fundamental prerequisite to reducing overfishing, minimizing bycatch and improving the economic outlook for the west-coast fishing industry. Capacity reduction should not be viewed as just another type of management measure. It is an essential element in rationalizing the fishery to achieve the conservation and economic objectives of the FMP. Capacity reduction must be an essential element of any plan to ensure management effectiveness and economic viability of the west-coast groundfish fishery. Without significant groundfish capacity reduction, the Council will continue to find it difficult, if not impossible, to achieve many of the conservation and economic objectives of the Groundfish FMP.

(b) Strategic Plan Goal for Capacity Reduction

The Council's long-term goal for capacity reduction is to set the harvest capacity in the fishery at a level that is appropriate for a sustainable resource and results in a fishery that is diverse, stable and profitable. In the short term, a realistic goal is to adjust harvest capacity to a level consistent with the allowable harvest levels for the 2000 fishing year under the assumption that stock rebuilding will require reduced harvests for at least the next two decades.

Any capacity reduction program should also attempt to achieve a level of capacity that contributes to management effectiveness and that contributes to controlling total fishing mortality by reducing bycatch. The Council desires to reduce capacity to a level that would continue to support a year-round fishery, but maintaining a year-round fishery is not a short-term priority.

(c) Issues/Options/Alternatives

1. How Much Capacity Reduction is Necessary?

Measuring fleet overcapacity involves comparing potential harvest capacity with the amount of fish actually available for harvest. While potential capacity may not have changed significantly since the inception of the 1994 limited entry program, capital utilization rates have declined in recent years as a result of precipitous declines in

available harvest. The SSC has calculated a measure of overcapacity called the “current capital utilization rate -- the percentage of current fishery participants needed to harvest the 2000 OYs-- for various sectors of the groundfish fishery.

Generally speaking the basis the SSC used for calculating current capital utilization rates was initially to sort the vessels belonging to each sector within each year 1984-1992 in descending order of their groundfish landings, and to sum their cumulative landings in the same order. Counting down from more to less productive vessels, a determination was made of the number of vessels it would have taken in each of those years to fully utilize the groundfish harvest available to each sector in 2000. Within each sector, comparisons were then made across years in order to determine the minimum number of vessels needed to harvest the 2000 OY's. The capital utilization rate (i.e., the proportion of current sector participants needed to harvest the 2000 OY's for that sector) was then estimated by dividing the minimum number of vessels derived from this inter-annual comparison by the total number of vessels that currently belong to that sector. The reason for using 1984-1992 as the baseline period for this comparison is that groundfish harvests were much less restricted in those earlier years than they are now.

The SSC calculated current capital utilization rates for various fishery sectors as follows:

- (a) Limited Entry Fixed Gear
 - Sablefish- 9%
 - Non-Sablefish groundfish - 10%

- (b) Limited Entry Trawl Gear
 - Shoreside whiting - 37 vessels that represent the current number of vessels landing whiting shoreside
 - Non-whiting groundfish - 26% to 40%

- (c) Open Access - 6% to 13%.

The SSC estimates are not meant to be specific recommended fleet reduction targets, but to illustrate the high degree of overcapacity that currently exists. The need to determine an appropriate fleet reduction target is problematic only if regulatory mechanisms such as further license limitations are used to effect the reduction. If the reduction methods rely primarily on market-based consolidation of permits or IFQs, then the optimum balance of capacity to available resource will occur naturally.

It is clear from the figures above that a fleet reduction goal of 50% of the current number of vessels is not unreasonable. Depending on the methods of reduction chosen, it may not be possible to achieve a full 50% reduction. In addition, eliminating 50% of lower producing vessels may not sufficiently reduce the capacity

of the fleet. That should not discourage the Council from moving forward with capacity reduction under the assumption that any reduction is better than none.

2. What Approach Should Be Taken to Adjust Capacity and Regulate Overcapacity?

Although overcapacity can be defined in various ways, the simplest way to regulate overcapacity is by controlling the number of fishing vessels and/or limited entry permits. Strategies for reducing capacity fall into three general categories: (a) market-based programs, (b) regulatory solutions, and (c) vessel or permit buy-back programs. It is likely that the most practical way to proceed towards reducing capacity throughout the fishery is to embark on some combination of the three strategies described more fully below both sequentially and simultaneously. At a sub-fishery level, capacity in certain sectors of the groundfish fishery might be reduced or otherwise redistributed more in line with the distribution of harvestable fish stocks through limiting participation to either specific geographic areas or to certain species through species endorsements.

(a) Market-based programs - Market-based programs rely on the creation of a unit of fishing capacity, a unit of a fishing privilege such as a limited-entry license or an Individual Quota that can be bought and sold on the open market. Fishery participants that desire to increase either their total harvest capacity or the proportion of their existing capacity that they can use are expected to purchase capacity from fishery participants willing to sell. Capacity reduction occurs through consolidation into a smaller number of fishery participants. The most common form of market-based capacity reduction is IFQs. Other forms include the consolidation of fishing permits (permit stacking), or some form of private cooperative.

Three commonly cited benefits of market-based strategies is that the cost of capacity reduction is borne primarily by the fishery participants themselves; that the optimum balance between the harvestable resource and potential harvesting capacity is determined by market forces, not by regulation; and that those leaving the fishery receive fair compensation.

(b) Regulatory Solutions - Regulatory solutions include establishing or redefining qualifying criteria for continued participation in the fishery; restrictions on a vessel's physical ability to harvest such as tonnage, hold capacity, length, horsepower; or restrictions on fishing gear such as net size. Regulatory solutions often involve making difficult decisions, such as imposing minimum landing requirements, which can eliminate current participants from the fishery with little or no compensation. Most regulatory solutions, therefore, are very controversial and the Council is likely to find it difficult to reach a consensus on measures severe enough to accomplish a meaningful reduction in capacity. Care must also be taken to ensure that regulatory solutions do not have unintended effects such as increasing bycatch. Finally, regulatory solutions in the groundfish fishery that do not directly remove participants would increase inefficiencies to the level that some participants

could no longer afford to remain in the fishery.

(c) Vessel or Permit buyback - Buy-back programs are commonly either government funded or industry funded or some combination of both. Buy-back programs can expend a considerable amount of money removing latent effort from a fishery before the buyout results in real capacity reduction. However, as with market-based programs, buy-back programs ensure that those leaving the fishery receive compensation. The difference is in the source of the compensation, and the receipt of the benefit. With a market system, an individual pays for the capacity reduction and receives the benefit (i.e., additional IFQ or harvest amount). With a buyback, the government or industry as a whole pays for the capacity reduction and the benefit accrues to the remaining industry as a whole.

3. What is the Principle Objective and the Range of Options for Capacity Reduction in the Groundfish Fishery?

The principle objective is to reduce capacity further in the Limited Entry sector and initially in the Open Access sector of the groundfish fishery. The Council should employ some or all of the three strategies described above for reducing capacity in the groundfish fishery. There are a range of options that that can be implemented to provide for capacity reduction.

Reduce and combine the current Limited Entry and Open Access sectors into a single Limited Entry Fishery by establishing two categories of Limited Entry Permits. An A permit would include some or all of the current Limited Entry A permits while a B permit would be created for some or all of the current Open Access participants that directly target groundfish.

(a). Options to Reduce Capacity in the Limited Entry Fishery (Current “A” Permit)

(1) Further reduce harvest capacity by redefining qualifying criteria (minimum landing requirements) for continued participation in the limited entry fishery. This would eliminate some current permit holders that do not meet the new landing requirements. Under this option, they would not receive any compensation like they would under an IFQ, buy-back or mandatory permit stacking program. If the Council chooses to further reduce the number of A permits by this method, it must be done either in advance or simultaneously with implementing permit stacking to avoid the potential for industry to pay to stack permits that will soon after be eliminated. The Council might also consider phasing out non-qualifying permits over several years to allow time to either acquire a qualifying permit or exit the fishery.

(2) Immediately develop and implement a permit-stacking program for the limited entry fixed-gear and trawl fisheries.

Permit stacking has been suggested as a way to alleviate the problem of discards associated with low cumulative limits by allowing vessels holding multiple limited entry permits to harvest multiple cumulative limits. Permit stacking also provides an opportunity to reduce harvest capacity in the fishery by serving as an industry-funded buy back without government backing.

Since permit stacking will likely result in the transfer of permits from less active vessels to vessels that are most able to take advantage of an additional cumulative limit, the cumulative limit per permit most likely will have to be reduced to ensure that harvests continue to remain within the OY's. Thus permit holders who do not stack will be placed at a disadvantage relative to their situation under the status quo. Vessels who already hold multiple permits will be able to stack without additional cost (although such cost may have been incurred at an earlier time if the permits had been previously purchased).

Permit stacking can be *voluntary* or *mandatory*. In order for voluntary stacking to be successful at achieving capacity reduction (as well as reducing discards), a significant number of vessels must choose to stack permits. Given the difficulty of predicting the number of vessels that will choose to stack, the success of a voluntary stacking program in achieving a target fleet size will be highly uncertain. Under mandatory stacking, each permit holder will be required to have more than one permit in order to participate in the limited entry fishery, thereby providing much greater certainty of achieving a target fleet size than voluntary stacking. In order to ease the financial burden associated with mandatory stacking, it may be desirable to establish a phase-in period for complying with this requirement.

Permit stacking can be a transitional step to an IFQ program. Not only can permit stacking reduce the universe eligible for initial IFQ, it can serve as a basis for the initial allocation itself. For example, in the fixed-gear sablefish fishery, one option for initial allocation could be based on the current three-tier system.

(3) Develop and Implement an IFQ Program

In the event that the prohibition on IFQs expires or is modified to allow the Council to adopt an IFQ program, the Council should move expeditiously to consider which sector(s) within the groundfish fishery would benefit most from IFQs and should develop a transition plan to IFQ-based fisheries where appropriate.

IFQ programs involve the allocation of shares of the total OY among individual fishery participants. Other capacity reduction approaches (limited entry, buyback and permit stacking) restrict inputs in terms of the number of vessels that can participate in the fishery. IFQ's, on the other hand, regulate access to output by designating the total poundage that each quota holder is eligible to harvest. Because of the relative ease with which IFQ's can be disassociated from fishing

vessels, debates can occur regarding who is eligible to receive an initial allocation of quota. Recipients could include not only harvesters but also other types of fishery participants (e.g., processors, crew members). The initial allocation of IFQ's is typically intense and contentious. However, once allocation is accomplished a sense of "ownership" may serve to enhance the interest of quota holders in the long-term sustainability of groundfish stocks and in the fishery management process. Given the personal financial stake that quota holders have in stock assessment results, IFQ's may also increase public pressure for more precise stock assessments.

Certainty and Autonomy

Because IFQ holders are guaranteed opportunity to harvest a share of the total OY at the beginning of the season, they are in a much better position to set the pace of their own fishing than limited entry permit holders, who are required to stop fishing once OY's become fully harvested. Rather than focusing on maximizing their catch (as derby fishery participants do), IFQ holders instead focus on maximizing the value of their quota share. Strategies to increase value (e.g., careful handling of catch, timing of harvest and on-board processing) may provide economic benefits to the industry in the form of higher ex-vessel prices. The incentive to enhance the value of quota shares may also increase the likelihood of discarding and high grading although present trip limits likely also cause this effect.

IFQ holders can time their groundfish harvests in such a way as to maximize their opportunities in other fisheries. Thus IFQ's are also likely to lead to spillover effects on other fisheries similar to permit buy-back programs. While effects on other fisheries is a legitimate concern, some of this displacement will occur anyway as the long term nature of current groundfish harvest restrictions causes attrition among current fishery participants.

IFQ's typically require a more detailed and different type of monitoring and enforcement than other types of capacity reduction approaches. The amount of quota held by each individual, as well as transfers of quota among individuals, must be carefully monitored. If, for instance, the IFQ program allows quota holders to carry overages or underages into the following year, this must be monitored as well. Monitoring becomes significantly more complicated when IFQ's are used in multi-species fisheries in which separate quotas are designated for separate species. In such cases, species composition must be ascertained on a landing-by-landing basis in order to ensure that each individual IFQ holder is not exceeding his individual species quotas. For such reasons, IFQ's may be better suited to single species (e.g., whiting, sablefish) than multi-species groundfish activities.

Transferability

To the extent that IFQ's are transferable, they tend to facilitate industry adaptation to changing fishery circumstances better than other types of capacity reduction. For

instance, as OY's decline in an IFQ fishery, the poundage accruing to each individual quota holder automatically decreases commensurately. This creates an incentive for transfers of quota share from less to more productive IFQ holders until shares become sufficiently concentrated to provide economic viability for the smaller number of IFQ holders that remain in the fishery. Conversely, as OY's increase and the poundage accruing to each quota holder increases accordingly, transfers of quota share allow participation in the fishery to expand to include a larger number of IFQ holders.

It is not uncommon for IFQ programs to include restrictions regarding the maximum amount of quota share that can be held by individual IFQ holders, or to ensure a particular allocation of quota among different sectors of the fishery by prohibiting transfers of quota across sectors. However, to the extent that the Council is willing to allow quota transfers across gear types and geographic areas, the Council would have fewer allocation issues to contend with over the long term, since adjustments in allocation will instead be accomplished by transfers of quota in the market.

Consistency with Other Strategies

Capacity reduction programs such as permit stacking and buybacks are not inconsistent with IFQ's. Should the IFQ moratorium be lifted, particularly in severely overcapitalized fisheries like West Coast groundfish, removal of latent capacity may be a desirable precursor to IFQ's, to help ensure that the initial IFQ allocations go to active fishery participants and to enhance the "efficiency of quota transfers once the initial allocations are made by reducing the number of small quota transactions that would occur as marginal participants cash out of the fishery.

It is also important to note, however, that justifying a "lenient permit stacking or buyback program on the basis that it is merely an intermediate step toward IFQ's (rather than as an ultimate end in itself) poses the risk of ending up with an inadequate permit stacking/buyback program if IFQ's are not actually implemented.

(4) Consider limiting participation by registering Limited Entry A permits exclusively to specific geographic areas.

Options include: (a) determining the optimum number of vessels desired in a particular area, based perhaps on landing history in that area, and issuing limited entry permits exclusively for each area; or (b) an exclusive area registration concept which would require a vessel operator to choose its area of operation preseason. It is not clear that exclusive registration would contribute to capacity reduction.

(5) Consider limiting participation in different fishing strategy sectors of the groundfish fishery through issuing specific species or strategy endorsements based on qualifying criteria.

Species endorsements would be issued based on historical landings with a

requirement for recent participation. Some potential endorsements include:

- (a) Limited entry rockfish including former open access vessels that qualify for new B endorsements;
- (b) Whiting endorsements with possible subdivision between shoreside and at-sea sectors;
- (c) Nearshore flatfish;
- (d) Deep-water complex;
- (e) Pelagic or mid-water trawl; or
- (f) Nearshore rockfish (versus shelf or slope).

In the event the Council adopts additional endorsements, consideration should be given whether to allow the transfer of endorsements separately from permits.

(b). What are Some Options to Reduce Capacity in the Open Access Fishery Directly Targeting Groundfish?

- (1) Reduce the number of participants in the Open Access sector by requiring a federal limited entry permit for the directed take and commercial landing of groundfish from what is currently the Open Access fishery.*

Eligibility for a permit would depend upon meeting minimum landing requirements based on historical catches and recent participation in the directed harvest of groundfish. This option would create a separate permit (“B” Permit) within the current limited entry system for former open access vessels that historically targeted groundfish. As a general objective, the Council may want to reduce capacity in the Open Access fishery to a level that reflects the Council’s original intent of accommodating bycatch in non-groundfish fisheries as well as very limited direct groundfish harvests.

The objective in selecting a particular quantity or frequency of landings for a minimum landing requirement should be to try and identify those fishery participants who are economically most dependent on and committed to a particular fishery. Theoretically, those who are less dependent and committed should fall below the minimum-landing requirement. The Council may consider a number of different options for a minimum-landing requirement. For example, one option for consideration could be the landing of 1,000 lbs. or more of groundfish in a directed fishery in any qualifying year.

- (2) Continue to provide for groundfish bycatch in non-groundfish fisheries by creating a third permit classification called a C permit.*

The C permit would be required for landing groundfish as bycatch from non-groundfish fisheries such as pink shrimp, salmon, sea cucumber, California halibut and spot prawn fisheries. The number of permits would not be limited,

but NMFS would charge a fee for each permit to cover costs of administering the program.

(3) Divide the current Open Access allocation into B and C permit allocations.

The Council may wish to impose landing limits to stay within the C permit allocation and limit groundfish landed to less than 50% of the total landing (value or weight?) to assure that groundfish landings are incidental.

(4) Reduce participation in the rockfish fishery by B permit holders through establishing rockfish species endorsements to be issued based on historical landings of rockfish with a requirement for recent participation.

(5) Consider limiting participation by registering B permits exclusively to specific geographic areas.

For requalifying A permit holders and for initially qualifying B permit holders, the Committee recommends the Council consider, as the preferred alternative, historical landings only from 1994-1999 and recent participation from either 1998 or 1999.

4. What are Some Options for Pursuing Development and Implementation of a Limited Entry Vessel and/or Permit Buy-Back Program with Disaster Assistance Funding or Other Funding Sources?

Buy-back programs may be government funded or industry funded, and may apply to permits alone or to both vessels and permits. Because vessel owners generally require less compensation to be bought out of a single fishery than to forgo fishing altogether, a given sum of money can achieve a larger reduction in fleet size if buy-back is limited to a single fishery such as the groundfish fishery. Thus industry funded programs tend to be fishery-specific, in order to achieve the maximum reduction in capacity for the individuals who are financing the buy back. Government funded programs may have some potential for buying back vessels as well as permits, thereby allaying concerns regarding spillover effects on other fisheries. However, vessel buy back requires a substantial amount of funding and resolution of many complex issues in order to be successful.

One potential source of funding for a government funded buy back is disaster relief. However, it is not known whether such funding will be made available for West coast groundfish. Disaster relief requires Congressional appropriation, with 25% matching funds to be provided by States or other non-Federal entities. About a half dozen requests for such relief have been made for fisheries across the U.S., and there is no guarantee that West coast groundfish will be a priority.

The business plan for the trawl buy-back proposal is now outdated. Given the recent precipitous decline in groundfish OY's, the original target of a 30% reduction in fleet size may no longer be adequate to ensure an economically viable trawl fishery.

Moreover, given the long-term nature of OY reductions, it is not likely that the industry can afford to underwrite a buy-back program unless it is clear that permit prices have dropped to reflect the lower OYs. Similarly, the willingness of government to guarantee a buy-back program will likely have to await more definitive information regarding permit prices.

(d) CAPACITY REDUCTION RECOMMENDATIONS

Short to Intermediate Term

1. For the limited entry fixed-gear fishery, begin immediately to develop and implement a voluntary permit-stacking program with the intent of transitioning to an IFQ program to provide for a multiple month season. The Permit Stacking allowance should be implemented prior to the 2001 regular sablefish season. Stacked permits should **NOT** allow increased access to the daily sablefish trip limit. Simultaneously, the Council should begin to develop an IFQ system for fixed-gear sablefish for implementation in 2002. If the Council continues to be precluded by Congress from implementing an IFQ program, it may want to consider making the permit-stacking program mandatory.
2. For the limited entry trawl fleet, begin immediately to develop and implement a voluntary permit-stacking program that links each permit with a cumulative period landing limit. The first, or base permit should be entitled to a full period landing limit, while each stacked permit should entitle the vessel to additional landing limits on a discounted basis as one alternative. Another alternative is to have the full period landing limit the same for all permits.
3. The whiting fishery capacity generally matches current resource availability. In order to prevent overcapacity in the future, the Council should consider developing and implementing a whiting species endorsement that restricts future participation in the whiting fishery to those vessels registered to a permit with a whiting endorsement. Qualification for a whiting endorsement should be based on a permit's whiting landings since 1994 when the current limited entry program began. The Council also may want to consider establishing a threshold quantity of whiting above which a whiting endorsement is required for a landing. Individual landings below the threshold would not require an endorsement.
4. The Council and the trawl industry should continue to pursue a buy-back program. In the event that an IFQ program for the fixed-gear sector is not possible, consideration should be given to including fixed-gear in any buy-back program.

5. Separate the current open access fishery into a sector that directly targets groundfish and a sector that lands groundfish as bycatch in non-groundfish fisheries. Require current open access vessels that directly target groundfish to obtain a federal limited entry permit (B permit) based on historical landings and current participation. Minimum landing requirements for a federal permit should reflect significant dependence on the fishery. For example, the Council should consider 1,000 lbs. of groundfish in any qualifying year as one alternative. Require a federal permit (C permit) to land groundfish taken incidentally in non-groundfish fisheries. There may be no limit on the number of permits.
6. The Council should divide the current open access allocation into separate allocations for the "B" and "C" permit holders and manage each sector to stay within its allocation each year.

Intermediate to Long Term

7. Begin development of a comprehensive IFQ program for the limited entry trawl fishery, or in the alternative, a mandatory permit-stacking program.
8. Resolve allocation issues between recreational and commercial sectors and commercial fixed-gear and trawl sectors.

4. ALLOCATION OF GROUND FISH RESOURCES



(a) Problem Statement

Prior to and during early implementation of the Council's Groundfish Fishery Management Plan (FMP), first adopted in 1982, allocation of harvest shares to various fisheries and/or gears was not practiced. Expected harvest amounts were set and the various fisheries regulated to stay within a guideline. This was possible to do, in part, because fish stock abundance was at first (and later) thought to be sufficient to keep inter-fishery and/or gear conflicts at a low level. The 1990 Groundfish Plan Amendment 4 (at S.6.1.9 Allocation) states that "Most fishery management measures allocate fishery resources to some degree because they invariably affect access to the resource by different fishery sectors by different amounts. These allocative impacts, if not the intentional purpose of the management measure, are considered to be indirect, or unintentional, allocations. Direct allocation occurs when numerical quotas, harvest guidelines, or other management measures are established with the specific intent of affecting a particular group's access to the fishery resource" (p. 6-4).

Since 1990, as harvest capacity increased and fish abundance decreased, more conflict and demands for allocation of resource shares developed. With allocation an

accurate system of catch accounting also became necessary. The following table shows the major fishery sectors (Limited Entry, Open Access and Recreational) presently addressed by the Council and the wide variety of fisheries and gears involved.¹

MAJOR FISHERY SECTORS AND GEAR TYPES

	TRAWL & OTHER NET	FIXED GEAR & HOOK AND LINE
COMMERCIAL LIMITED ENTRY	Directed <ul style="list-style-type: none"> • Bottom • Mid-water • Whiting • Nearshore Flatfish 	Directed <ul style="list-style-type: none"> • Pot • Longline
COMMERCIAL OPEN ACCESS	Directed <ul style="list-style-type: none"> • Set Gillnet Incidental <ul style="list-style-type: none"> • Trammel Net • Set Gillnet • Trawl <ul style="list-style-type: none"> • Shrimp • California Halibut • Cucumber • Prawn 	Directed <ul style="list-style-type: none"> • Pot or Trap* • Longline <ul style="list-style-type: none"> • Vertical • Bottom • Drifted (fly gear) • Hook and Line* • Stick* • Dingle Bar Incidental <ul style="list-style-type: none"> • Prawn/Pot or Trap • Salmon Troll *Live Fish Fishery
RECREATIONAL		Shore Based Private Boat Commercial Vessel Fishing Vessel

(b) Strategic Plan Goal for Allocation

To distribute the harvestable surplus among competing interests in a way that resolves allocation issues on a long-term basis.

(c) Issues/Options/Alternatives

1. What is the process and standards for determining resource allocation?

¹ In this table, “directed” gears means the target species are Council-managed groundfish and “incidental” means the gear may capture groundfish, but has non-groundfish species as a target. No distinction is made for the recreational fishery.

The Groundfish Fishery Management Plan allows for direct allocation of the resource. A regulatory amendment is necessary for allocation of the resource, generally involving a three meeting process. At the first meeting, the Council may develop proposed management measures and their alternatives, and at the second and third meetings, the Council considers findings and adopts a final recommendation sent to the Secretary of the U.S. Department of Commerce.

An allocation amendment contain the proposed management measure, a description of other viable alternatives, and an analysis that addresses:

- (a) How the action is expected to promote achievement of the goals and objectives of the Groundfish FMP;
- (b) Likely impacts on other management measures and other fisheries;
- (c) Biological impacts;
- (d) Economic impacts, particularly costs to the fishing industry; and
- (e) How the action addresses a wide variety of criteria including any consensus harvest-sharing agreement or negotiated settlement between the affected participants in the fishery; and consistency with the Magnuson-Stevens national standards.

2. What Have Been the Major Council Allocation Decisions from 1982- 1996?

Allocation issues are often the most contentious subjects addressed by the Council because the outcomes produce winners and losers in the affected fisheries. These outcomes inevitably force change on the negatively affected participants and are threats to their economic viability. The following are the major allocation issues that have been addressed by the Council.

Recreational Allocation Strategies

Bag limits for various species and season lengths have traditionally been designed for the recreational fishery to spread available catch over a large number of anglers in diverse areas to meet community needs and avoid waste. As a general matter, the expected recreational harvest share under liberal bag limits and season lengths was simply projected based on prior year harvests and subtracted first from the coast wide Allowable Biological Catches (ABC). During periods of higher abundance for most recreationally important stocks, this off-the-top accounting did not significantly affect commercial harvest levels.

Each of the states conducts recreational fishery monitoring or survey programs under RecFin or on their own yet the databases are not comparable and little to no information exists for bycatch or discard. Under current stock conditions both commercial and recreational demands set up potentially serious stock allocation conditions.

1990 Commercial Sablefish Allocation Strategy

One of the Council's most contentious allocation decisions and debates involved sablefish sharing between the commercial trawl and fixed gear sectors. Here, the Council considered historical harvest levels and dependence on the fishery by the two gear sectors as well as the value of co-occurring species in the trawl fishery and bycatch reduction. In the end, the Council adopted a 58% trawl and 42% fixed gear allocation for sablefish, in part to assure continued access by the trawl sector to Dover sole and Thornyhead species.

1988-1992-1994 Commercial Limited Entry and Open Access Strategy

At the urging of industry, the Council began a process to address capacity reduction in the commercial fleet. This process was so contentious and complicated that it took 4 years (1988-1992) to develop and adopt a program and 2 additional years (1994) to fully implement the program. The Council program created the Limited Entry "Trawl" and "Fixed Gear" sectors where participation was limited and an Open Access commercial fishery sector where entry is not controlled.

The Limited Entry program included allocation of groundfish harvest shares between the limited entry and open access commercial fisheries, and is contained in the groundfish plan. The limited entry fishery dominates the allocation of most groundfish species based on historical harvest shares. The open access fishery has minor (2 to 10%) shares of most species and only a modest (20%) share of lingcod. Within the open access fishery, the catch of selected species is shifting from those whom established the history to newer entrants. For example, the catch of a variety of rockfish by shrimp trawl gear, for the most part, established the open access share of the northern *Sebastes* complex of rockfish (north of Cape Mendocino or Fort Bragg, California). Similarly, the set gillnet fishery in central and southern California significantly influenced the share of the southern *Sebastes* complex. Today with declining stocks and more hook and line entrants, retention of incidental rockfish catch by the shrimp trawl is reduced more than otherwise might be the case. The set net fishery today is only a remnant of what it had been during the qualifying period. These changes are regarded by participants to be *de facto* allocations.

1993 Whiting Onshore/Offshore Allocation Strategy

In 1991, the Council addressed the emerging domestic whiting fishery with initial, but unsatisfactory, allocations to the onshore and offshore processing commercial fishery sectors. With limited entry established, the offshore sector purchased limited entry trawl vessel permits establishing a significant demand on resource harvest.

By 1993, the Council had to address allocation of the resource between the offshore and onshore fishing and processing sectors. The Council encouraged and finally

adopted an industry-negotiated allocation settlement between the non-treaty offshore and onshore fishing and processing sectors. Still in dispute are US/Canada and treaty tribal shares to the whiting resource. The rockfish bycatch in the whiting fishery has been high enough to curtail, in season, the non-whiting trawl sector. Thus, rockfish bycatch in the whiting fishery can also be said to have an allocative effect.

1996 Sablefish Fixed Gear 3-Tier Endorsement Strategy

Between 1991 and 1993 the Council and industry unsuccessfully attempted to develop an IFQ regime for fixed gear sablefish. By 1996, the Council, again had to address the growing derby conditions in the fishery and the growing inequities and safety issues the derby involved. The Council did so by adopting a 3-Tier allocation endorsement system that leveled differences between higher and lower end producers based on harvest history of the Limited Entry gears' participation in the fishery. The open access share of the fishery was maintained but increased effort and declining optimum yield levels for sablefish have continued to reduce time period and landing limits in this and the limited entry fishery pressuring economic viability of the open access fishery vessels participating.

3. What are the Current and Emerging Allocation Decisions Related to Declining Stocks, Rebuilding Plans, and Assemblage Management?

In 1997, new stock assessments of several important groundfish species indicated a need for immediate and substantial harvest reductions. For 1998, the Council adopted harvest levels for six species that were the lowest on record, clearly signaling that the West Coast groundfish fishery would face serious disruption and economic pressure. Lingcod and bocaccio rockfish were among the declining stocks and are key species widely utilized by both the commercial and recreational sectors. Their overfished status created immediate allocation issues made more urgent by the requirement to establish rebuilding plans.

Concurrently, the trawl industry had begun development of a permit buyback program to reduce capacity. The program was to rely on a self-funded surcharge to pay back a federal loan that would have initially financed the program. Allocation of catch shares between the commercial limited entry trawl and fixed gear sectors was requested to establish a collateral base for the trawl sector to meet loan payments.

The Council responded by establishing an *ad hoc* allocation committee charged with developing options for allocating lingcod, bocaccio and other rockfish between the commercial and recreational sectors and between gear groups within the commercial sector.

The Committee's work to suggest allocation strategies was, in part, shaped around

the Magnuson Act standard for rebuilding plans. The Act requires that the burden of conservation measures be distributed fairly and equitably among all sectors of a fishery. With resource declines expected for additional stocks and with the expectation of additional species being declared overfished, the committee also recommended the following species for early allocation consideration, even though the trawl buyback program no longer appeared viable.

Species	Priority Allocation		Distribution
	Rec-Comm	FG- Trawl	
Lingcod	A	A/B	NS/SH
Bocaccio	A	A/B	NS/SH
Thornyheads	C	B	SH/SL
Yellowtail	B	B	NS/SH
Canary	B	B	NS/SH
Shortraker	C	B	SH/SL
Rougheye	C	B	SH/SL
Yelloweye	B	B	NS/SH
Black Rockfish	A	B	NS
Blue Rockfish	A	B	NS
Kelp Greenling	A	B	NS
China Rockfish	A	B	NS
Copper Rockfish	A	B	NS
Vermilion	A	B	NS
Quillback	A	B	NS
Chilipepper	A	B	NS
Other Rockfish Group ²	B	B	NS/SH/SL

Priority Levels

A = deviation from status quo may be considered

B = status quo allocation, with status quo defined as 1995-1997 average catch distribution
between sectors

C = no allocation at this time

Distribution

NS = Nearshore (< 50 fathoms)

SH = Shelf

SL = Slope

² Other Rockfish include all other rockfish managed in the Pacific Coast Groundfish Fishery Management Plan (FMP): Aurora, Bank, Black and Yellow, Blackgill, Bronze spotted, Brown, Calico, California Scorpionfish, Cowcod, Darkblotched, Dusky, Flag, Gopher, Grass, Greenblotched, Greenspotted, Greenstriped, Harlequin, Honeycomb, Kelp, Mexican, Olive, Pink, Redbanded, Redstripe, Rosethorn, Rosy, Sharpchin, Shortbelly, Silvergray, Speckled, Splitnose, Squarespot, Starry, Stripetail, Tiger, Treefish, Widow, and Yellowmouth. The committee recommends that all these species be allocated as a group. When one particular species becomes a concern, it may be broken out of the group and allocated separately.

For 2000, the Council adopted a new rockfish strategy which separates the major rockfish stocks from the *Sebastes* complex and divides the remaining species into assemblages associated with nearshore waters, the continental shelf and deepwater slope areas. The respective allowable catches were also subdivided by geographic area.

These strategies, accompanied by trawl gear restrictions, are designed to reduce catch of depleted species while maintaining harvest opportunities for abundant stocks. However, the strategy also has some *de facto* allocation consequences and sets up additional allocation conflicts.

Some trawl sector vessels that specialized primarily in shelf fisheries have essentially lost those opportunities. In other cases, particularly the open access fisheries in nearshore areas, harvest amounts are drastically reduced because harvest levels are no longer spread across an aggregate catch level for the entire *Sebastes* complex.

Treaty Indian fishers increased their participation in the west coast groundfish fishery in the early 1990's. Specifically, the tribes longline fleet increased their harvest of sablefish resulting in the Council establishing a tribal set-aside of 10% of the sablefish harvest guideline. In addition, the Council has established harvest limits for tribal fishers targeting certain rockfish species. The Makah Tribe entered the Pacific Whiting fishery in 1996. The tribal whiting fishery is allocated a specific proportion of the U.S. harvest guideline. The Council needs to be prepared to address additional future tribal interest in existing or new groundfish fisheries.

4. What are the Future Allocation Pressures Facing the Council?

The Council acknowledges that many of the recent changes are likely to be permanent in nature until rebuilding of overfished stocks occurs. In addition, emerging policy revision of the precautionary harvest rates for “unassessed” rockfish species will likely further reduce resource availability by 15-25% affecting various fishery sectors in possibly dramatic ways, depending on the geographic distribution of these species and how they have been represented in historical landings. Still over the horizon, and therefore difficult to judge are the possible allocative influences that may result if marine reserves or no-take zones are created and reduce fishery opportunities.

Because of all of the above changes to fisheries in such a short period of time, the Council may conclude that emerging conditions require reconsideration of its past approaches to resource allocation. In addition, the Council may find that without overall capacity reduction, *status quo* allocations would likely result in a broad-based fishery failure.

Finally, even with capacity reduction, allocation will likely be necessary to support capacity management mechanisms such as permit stacking, individual quotas or fishing cooperatives simply because only an allocation of resources and shares to fisheries and/or gears will attach expected future economic value which can be gauged by market mechanisms, thus allowing the exchange of fishing privileges.

(d) ALLOCATION RECOMMENDATIONS

General Allocation Principles

1. All fishing sectors and gear types will contribute to achieving conservation goals (no sector will be held harmless). The fair and equitable standard will be applied to all allocation decisions but is not interpreted to mean exactly proportional impacts or benefits. To provide flexibility in changing allocations as part of a stock rebuilding plan, the "Rebuilding Plan" plan amendment proposes to establish a provision for suspending the allocation shares between the limited entry and open access sectors.
2. Access should be limited in all commercial fisheries through state and/or federal license, or permit programs. Commercial Passenger Fishing Vessel limited access programs should also be considered by the respective states.
3. Non-groundfish fisheries that take groundfish incidentally should receive only the minimal groundfish allocations needed to efficiently harvest their target (non-groundfish) species. In determining the amount of allocation required, the Council will identify the economic values and benefits associated with the non-

groundfish species and may eliminate directed fishery harvest of groundfish when needed to maintain the non-groundfish fishery. At the same time, the Council may require gear modification in the non-groundfish fishery to minimize its incidental harvest.

4. Directed rockfish gears will be modified as needed to improve their ability to target healthy groundfish species, and avoid or reduce mortality of weak groundfish species.
5. When an observer program is available and provides reliable information on total removals, discards will be considered in all allocations between sectors and/or gear types. Each sector will then receive adjustments for discard before allocation shares are distributed.
6. Community economic impacts and the benefits and costs of allocation should be fairly distributed coast-wide. Allocations should attempt to avoid concentration and assure reasonable access to nearby resources. The diversity of local and regional fisheries, community dependency on marine

7. resources and in processing capacity, and infrastructure will be considered in Council allocation decisions.
8. Council changes to allocations between sectors and/or gears within sectors should not encourage or result in increased capitalization (investment) and capacity (need or ability to increase harvest).
9. Impacts to habitat and recovery of overfished stocks or endangered species (dependent on impacted habitats) will be considered when allocation changes are made.
10. Council capacity reduction measures will consider and attempt to minimize transfer of effort into other fishery sectors potentially complicating allocation issues for Council managed fisheries, and particularly for state managed fisheries (crab and shrimp).
11. All Council allocations decisions will: (a) consider ability to meet increased administrative or management costs; and (b) be made if reasonably accurate in-season quota monitoring or annual catch accounting has been established or can be assured to be established and be effective.
12. As the tribe(s) expand their participation in groundfish fisheries, the Council may need to specify an allocation of certain groundfish species for tribal use. In such cases, the Council should request the affected parties to U.S. v. Washington to convene and develop an allocation recommendation for review and consideration through the Council process.

Area Management as Related to Allocation

12. Allocations will be structured considering both the north-south geographic *and* nearshore, shelf and slope distributions of species and their accessibility by various sectors and gears.
 - (a) North-South and Coastwide Distribution Considerations- geographic management areas may be created considering the following factors:
 - Species distribution
 - Traditional reliance on fishing grounds and species
 - State recreational fishery preferences
 - Weather and oceanographic conditions
 - Port distribution
 - Management and enforcement needs, and legal constraints (such as tribal allocations)

- Subdivision of groundfish statistical areas to support area allocation of harvest amounts

(b) Nearshore, Shelf and Slope Considerations

- i. The respective coastal states are encouraged to address commercial and recreational allocation issues in a timely manner, particularly when there is a preference for recreational use. In ways similar to the approaches developed through the allocation processes for salmon and halibut, each state is responsible for involving its constituents in a process of option development and review and action by the Council.
 - ii. The following Council framework for commercial/recreational allocation anticipates a state recreational preference to address the principle nearshore species with any excess available for commercial use determined annually. In shelf areas, a recreational preference would occur only on a species-by-species basis set by the Council. In slope areas, the Council preference is for commercial allocation.
 - iii. When insufficient fish are available to allow even minimal allocations to both commercial (incidental and directed) and the recreational sectors the Council may allocate the available resource to recreational use when
 - a) the economic benefits and values of the recreational fishery exceed the loss to the commercial fisheries affected; and
 - b) bycatch mortality for the species addressed in the allocation is fully accounted for in both fishery sectors.
13. Licenses, endorsements or quotas established through management or capacity reduction measures may be limited to specific areas through exclusive area registrations and port landing requirements.

5. An Observer Program for Quantifying Bycatch, Total Catch, Total Fishery-Related Mortality



(a) Problem Statement

An essential component of effective, science-based fishery management is the documentation and quantification of bycatch, total catch and total fishery-related

mortality. The Magnuson-Stevens Act requires councils to quantify bycatch and to take steps to minimize bycatch. At-sea observations are necessary to quantify bycatch and to fully account for total catch, which includes landings plus discards. Fish that are caught at-sea and result in fishery-related mortality but are not retained in the catch cannot be observed by shoreside sampling programs. This is especially important in multi-species fisheries where: (1) fishery management measures are typically designed to protect weak stocks and may preclude retention of a particular species, (2) management approaches such as trip limits are used to maintain year-round fishing opportunities, or (3) market restrictions result in some species having little or no value.

Total catch is an important component in groundfish stock assessments, and an inability to account for discarded catch and mortality can significantly affect the accuracy, precision and variability of biomass estimates. When information on total removals is absent, it increases uncertainty and results in a more conservative approach to setting harvest levels. In addition, fishery parameters such as selectivity and mortality may change, but without a method for accounting for total catch, it is difficult to make appropriate adjustments.

The lack of an observer program has long been identified as a critical missing piece in the management of the Pacific groundfish fishery. It has contributed to uncertainty in stock assessments and rebuilding plans and has undermined the credibility of management decisions. Perceptions about different bycatch and discards rates among various sectors and gears have contributed to conflict and contentious allocation issues. Because existing information is lacking, assumed discard rates have been applied to all sectors. In addition, incentives for selective fishing gear that minimizes bycatch and discards are difficult to implement because they cannot be effectively evaluated.

The Council has expressed the need for a comprehensive observer program for many years. It has consistently voted to pursue an at-sea observer program, as it recognized the importance of documenting total removals from the groundfish resources. Limited research and a voluntary program implemented by the Oregon Trawl Commission have demonstrated that the amount of bycatch and subsequent economic and regulatory discards are likely substantially underestimated for some species. The lack of a funding source has been a primary obstacle to the Council's efforts to implement a comprehensive observer plan.

(b) Strategic Plan Goal for an Observer Program

To quantify the amount and species of fish caught by the various gears in the groundfish fishery and account for total fishery-related removals.

(c) Issues/Options/Alternatives

1. What Constitutes an Adequate Observer Program?

The limited at-sea data that is available does not provide sufficient information to fully design an observer program. Several factors will affect both the design and the implementation of an observer program. The trawl fleet harvests the vast majority of groundfish. Changing trip limits during the calendar year will require a much higher level of observations to reliably estimate removals. Fishing behavior may change when an observer is on board, which would require more or longer periods of observation. Small vessel size and limited crew space will not allow an observer to be carried by a substantial number of vessels, particularly in the fixed gear limited entry fleet, the open access and recreational fishery. The Council will only gain the data needed to fully design an adequate observer program by implementing a pilot program, and modifying it as more questions are answered.

Observer programs have two major components: (1) data collection and (2) program management. The latter includes observer training, data management, and data reporting as well as administration. The Council has previously developed a pilot observer program that envisioned three to four port coordinators along the West Coast who would supervise and place observers on vessels. Observers would be placed in selected ports and directed to specific segments of the fleet. Limited funding would likely necessitate that the program concentrate on a specific gear type or geographical area, to collect data sufficient for management purposes. This type of platoon system would allow the Council to collect reliable data, but would require many years to cover all of the various segments of the groundfish fishery.

2. How Can an Observer Program be Adequately Funded?

Numerous participants in the Council process tried unsuccessfully to secure federal funding in the Fiscal Year 2000 appropriations. Competing interests for limited federal dollars for West Coast fisheries that are already inadequately funded will continue to make it difficult to secure adequate federal appropriations.

The Council does not have the legal authority to tax the fishing industry to fund an observer program. Although the Council has voted to pursue this authority during the last two reauthorizations of the Magnuson-Stevens Act, Congress has not responded positively to these requests. The reduced availability of groundfish will not provide sufficient funding, even through a 2% vessel tax to fund an adequate program. The fishing industry may also not support the effort to gain the required authority, making Congressional action unlikely.

The Council could prepare a plan that would make it mandatory for vessels to carry an observer for some percentage of their fishing operations, thereby requiring individual vessel owners to pay the entire cost of the observer on their vessel. This would likely cause a severe reduction in the number of vessels that could afford to fish. The \$300 to \$400 per day cost for observers would make a large number of fishing operations uneconomical, causing disruption to the economies of coastal communities. Thus, it is likely that a combination of federal and private funding will be required to implement an adequate observer program.

(d) OBSERVER PROGRAM RECOMMENDATIONS

1. Immediately implement a groundfish observer program, with determination of total groundfish catch and mortality as the first priority.
2. Consider the following options in implementing an observer program:
 - a) With federal, state and/or industry funding, implement the Council's pilot observer program, with three to four port coordinators who would coordinate observer placement based on priorities approved by the Council;
 - b) If federal/state or industry funding is not available, make individual vessels responsible for providing some level of observer coverage as a condition of participation in the fishery.
3. Given the likelihood of limited funding, focus the observer program on specific tasks. The Council may need to prioritize coverages, i.e. focus on collecting total mortality data for overfished groundfish stocks as an initial observer program priority.
4. Even with limited funding, both trawl and non-trawl fleets should have some meaningful, but not necessarily the same, level of observer coverage. The Council will need to determine which harvesting sector will receive the initial

observers. The criteria for choosing specific vessels for observer coverage will need to be established.

5. For vessels that are unable to carry an observer, the Council should consider different monitoring approaches.
6. As a secondary priority, an observer program should supplement the collection of data for stock assessments. For example, the North Pacific Council requires its observers to dedicate a small portion of the working day to taking otoliths and length measurements, in order to supplement information on the age and size distribution of particular species.

6. Marine Reserves as a Pacific Groundfish Fishery Management Tool



(a) Problem Statement

Traditional fishery management approaches alone have not been successful in protecting and sustaining many Pacific groundfish species. Current groundfish management faces numerous challenges, including several overfished stocks, a high level of uncertainty about the status of most of the remaining groundfish stocks, several species that co-occur in complex assemblages, and the apparent low productivity of many groundfish species in general. Rebuilding overfished stocks and adequately assessing other groundfish stocks will certainly take many years, and possibly decades, to accomplish.

Marine reserves are being promoted in state, federal and international fishery management arenas as a management tool that has the potential to enhance fish populations and help sustain fisheries. Marine reserves may be particularly beneficial for species that have been overfished, or species that reach great ages or sizes or are generally sedentary, all of which apply to many Pacific groundfish species. Reserves may also be considered as insurance against uncertainty in fisheries management and natural variability in the marine environment.

The Council has specified a two-stage process to consider marine reserves as part of an integrated approach to sustain healthy marine ecosystems and more effectively manage the Pacific groundfish fishery. The first phase is a conceptual evaluation of reserves that will conclude with the Council's decision on whether marine reserves have a role in groundfish management. If the Council chooses to use marine reserves, options for the siting and design of specific marine reserves will be developed in the second phase.

The implementation of marine reserves would undoubtedly affect many other

management measures addressed in this strategic plan, including capacity reduction, allocation issues, and harvest policies. It will be essential to proceed with implementing marine reserves in conjunction with these other management measures, to maximize their benefits and minimize the impacts of their implementation.

(b) Strategic Plan Goal for Marine Reserves

To utilize marine reserves as a fishery management tool that contributes to groundfish conservation and management goals, has measurable effects, and is integrated with other fishery management approaches.

(c) Issues/Options/Alternatives

1. What Role Might Marine Reserves Play in Achieving Our Management Goals?

Marine reserves can enhance fish populations by increasing fish abundance, size, and age composition; protecting spawning stocks and habitats; providing multi-species protection; preserving and maintaining the natural diversity of unique habitats; and providing undisturbed reference sites for the evaluation of the effects of fishing and other human activities, as well as natural environmental changes, on marine ecosystems. Marine reserves may also be useful to guard against scientific uncertainty in fishery management, provide increased protection to certain depleted species, and accelerate the rebuilding process. Sedentary, long lived species such as lingcod and Pacific ocean perch would likely receive the greatest benefits from marine reserves, although several criteria, including the size of the reserve, are also significant in determining which species will benefit from reserves.

Several species of groundfish (including lingcod, cowcod, Pacific ocean perch, bocaccio, and canary rockfish) have been designated as overfished, and other species that have not been assessed may be overfished as well. The most relevant evidence of marine reserves serving to rebuild groundfish populations is that of the large area closures off New England, which were accompanied by overall harvest reductions. Examples of smaller reserves (not more than 4 square kilometers) include a 6-year closure in the San Juan Islands that resulted in a tripling of large lingcod abundance compared with fished areas, and a 30-year closure in Puget Sound that increased rockfish density by a factor of about 30 and egg production by factors of 20 (lingcod) and 55 (rockfish).

In Howe Sound, British Columbia, 5-year closures resulted in a tripling of lingcod abundance and a doubling of egg production, and in Monterey Bay in California, a 13-year closure resulted in about a doubling of fish abundance and an approximate 7-fold increase in rockfish egg production. The portion of a population that is

protected from fishery selection will live longer, grow larger, and produce more young over their lifetimes. For rebuilding purposes, the effects on biomass outside the reserve will depend on the biology and behavior of the species, the size of the area set aside in reserves, and the harvest management outside the reserve.

The size of marine reserves designed to rebuild groundfish populations depends on the species and its degree of mobility. More mobile species may require a larger closed area than less mobile slope rockfish. Whether a network of marine reserves, or a single marine reserve, the closed area should be large enough to reduce the edge effects from fishing activity outside of the reserve.

Recent information about Pacific groundfish status and productivity has increased uncertainty in groundfish management. Marine reserves can provide a buffer of biomass as insurance against uncertainties associated with stock assessments, harvest strategies and limited information. However, reserves are subject to uncertainties of their own regarding the nature, magnitude and timing of stock benefits and the potential for stock benefits within the reserve to translate into fishery benefits outside the reserve.

Marine reserves can prevent the physical alteration of the ocean bottom that may result from fishing activities, help guard against unknown adverse impacts of fishing on habitat, and serve as control areas for scientific studies of those impacts.

The NMFS triennial trawl data series may be affected by marine reserves. If reserves are included in the assessment areas, an adjustment in the biomass available for harvest may be appropriate. Normal assessment sampling in a reserve area may have effects on the time series and stock assessment results. Adjustments may be necessary to account for reserve effects.

Although some of the positive effects of reserves are likely to be realized, reserve concepts remain largely untested. In particular, their effectiveness in fisheries management and enhancement of fishery yields outside reserve boundaries is poorly evaluated and understood. This is primarily because there are no long-term marine reserves of adequate size that have been designed and evaluated to test these potential benefits and their contribution to enhancement of fish populations and sustainable fisheries. The effects and design of marine

reserves will largely depend on the goals and objectives they are intended to meet.

2. How Do We Measure the Potential Effects of Marine Reserves in Achieving our Conservation and Management Goals?

Marine reserves have the potential to achieve a number of conservation and management goals, such as enhancing fish stocks, preventing overfishing and protecting essential fish habitat. The effectiveness of reserves in achieving each of these goals must be evaluated relative to the status quo. Good baseline information collected before or at the time the reserve is implemented and post-implementation studies of reserves are necessary. Knowledge of fishing effort prior to reserve implementation, as well as control areas before and after reserve implementation, will also be important for conclusive interpretation of results. Evaluation will need to address various issues, including annual variation in target species, adequate sample sizes, and the likely time lag between the establishment of reserves and measurable effects. It may take many years or decades for effects to be detected. There is substantial risk in improperly evaluating reserve effectiveness, which could have costly policy implications. Negative impacts could ensue if inadequate monitoring and evaluation found that reserves are effective when they actually are ineffective, or finding reserves are ineffective when they are actually effective.

The cost of monitoring reserves is difficult to evaluate and will primarily depend on reserve design, including the number and size of reserves, and the number of significant habitat types included in the reserves. There is potential for planned and ongoing habitat and stock assessment efforts to be modified for use in reserve evaluation.

Reserves are not a panacea. Many of the potential difficulties of status quo management also apply to reserves. Both status quo management measures and reserves may have adverse short-term economic effects on the industry. Just as status quo measures may generate spillover effects on other fisheries, reserves may also create spillover effects as vessels are displaced from the reserve area. Just as status quo measures often have different effects on different sectors of the fishery, decisions regarding the size and location of a reserve and the types of activities excluded from the reserve will also have allocative implications. Since reserves will supplement rather than completely replace status quo management, it is important to consider how the two approaches might be coordinated and the implications of each approach for the other.

(d) MARINE RESERVES RECOMMENDATIONS

1. Adopt marine reserves as a fishery management tool for Pacific groundfish and proceed with implementation.

2. Identify the specific objectives that marine reserves are expected to meet.
3. Develop siting and design criteria, including the size of the reserve, which will meet these objectives. Analyze options for establishing reserves that set aside 5%, 10% and 20% of nearshore, shelf and slope habitat.
4. Adopt final siting criteria, including reserve size and location, and proceed with implementation and evaluation as quickly as possible, to minimize this transition in groundfish management.
5. Direct the Scientific and Statistical Committee to recommend new methodologies for continued stock assessments and for establishing harvest levels outside the reserves following the implementation of reserves.

7. Pacific Groundfish Habitat



(a) Problem Statement

The Magnuson-Stevens Act requires Councils to include descriptions of Essential Fish Habitat (EFH) in all fishery management plans (FMPs). EFH is defined as those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. The definition of EFH may include habitat for an individual species or an assemblage of species, whichever is appropriate to the FMP.

The Magnuson-Stevens Act also requires Councils to identify any fishing activities that may adversely affect EFH and, where fishing-related adverse impacts are identified, FMPs must include management measures that minimize those adverse effects from fishing, to the extent practicable.

The Pacific coast groundfish FMP includes 83 species that inhabit a large and ecologically diverse area. Research on the life histories and habitats of these species varies in completeness, so while some species are well studied, there is relatively little information on others.

Pacific coast groundfish species occur throughout the exclusive economic zone (EEZ) and occupy diverse habitats at all life stages. Some species are widely dispersed during certain life stages, particularly those with pelagic eggs and larvae, and the EFH for these species/stages is correspondingly large. Other species during all or part of their life stages may inhabit somewhat small EFHs, such as that of many adult nearshore rockfishes that show strong affinities to a particular location. As a consequence of the large number of species and their diverse habitat associations, the entire EEZ becomes EFH when all of the individual EFHs are combined.

(b) Strategic Plan Goal for Pacific Groundfish Habitat

To protect, maintain, and/or recover those habitats necessary for healthy fish populations and the productivity of those habitats.

(c) Issues/Options/Alternatives

1. Where Do We Find Essential Fish Habitat Information?

A background resource document that provides extensive descriptions of EFH for each life stage of the FMP species has been developed and added to the FMP. This background document includes life history descriptions, lists of data sets, and GIS maps of the distribution of species life stages, as available. For each life stage, tables of known habitat associations, life history traits, reproductive traits, and EFH information levels are also provided. Data on west coast groundfish are not readily available to evaluate the extent of areas most commonly utilized by these species in each life stage; however, depth range data for adults of many species are available.

2. Impacts to Groundfish Habitat: How Do We Minimize Adverse Effects of Fishing and Non-Fishing Activities on Habitat and Its Productivity to the Extent Practicable?

In an ecosystem, living organisms interact with each other as well as their physical surroundings. For some groundfish species, the physical environment provides shelter from predatory animals and serves as spawning, nursery, rearing, foraging and migratory grounds. Juvenile fish, in particular, rely on refuge holes and rocky areas to avoid predation. Therefore, when assessing the impacts of fishing gear on fish habitat, it is essential to consider the impacts on the physical as well as the living components of the habitat.

Groundfish habitat is impacted by both non-fishing and fishing practices. Some non-fishing threats to groundfish habitat include: pollution, erosion of coastal wetlands, destruction of coral reefs, and entrainment of eggs and larvae into pumps, power plants, etc. However, while the National Marine Fisheries Service may require consultation regarding non-fishing practices that adversely affect EFH, regulation of the non-fishing threats do not fall under the Pacific Council's jurisdiction.

The Council regulates fishing gear and practices that have direct impact on groundfish habitat including activities such as trawls, dredges, and lost or discarded nets, pots, and lines. Fishing gear and practices can degrade complex habitats such as reefs, rocky outcrops, and rock piles, harming the plants and animals that live there. Many studies indicate that less complex habitat areas result in fewer numbers and less diverse populations of fish.

There are different types of fishing gear and fishing practices exercised on the West Coast. For the most part, the use of gear which does not touch the bottom (e.g., mid-water trawl) does not have as significant an impact as gear that does come in contact with the bottom (e.g., longline, pot, set gillnet, and trawl). Longline, and other types of hook and line gear, may disrupt rocks, coral, kelp, and other objects on the bottom that serve as important habitat for groundfish species. In addition, line gear may break and remain on the bottom where it can entangle marine life. Damage to habitat from pot or trap gear can also occur if the pot is dragged across the bottom as the gear is retrieved particularly if the fishing effort is in rocky regions and more complex habitats.

The results of numerous studies on trawled areas indicate that when trawl nets and the associated gear comes in contact with the bottom, significant adverse impacts to the bottom habitat and communities can occur. Bottom trawls can substantially alter ecosystems by suspending sediments, destroying benthic organisms, and damaging complex habitats, and also alters habitat sediment structure. By increasing the turbidity in benthic habitats, bottom trawl gear may indirectly smother suspension feeders and injure or kill larvae.

The potential of bottom trawl gear to damage groundfish habitat has increased due to advances in technology. Use of synthetic net material coupled with the use of larger bobbins and rollers has enabled fishers to access rocky reef substrates not previously fished.

Adverse impacts to habitat can also be caused by lost or discarded fishing gear. Ghost fishing occurs when gear is lost or abandoned; yet it continues to entangle and kill fish. Ghost fishing can be significant, particularly when nets or pot gear made of long-lasting polyethylene are lost.

3. Marine Reserves: What Role Might Marine Reserves Play in Achieving Our Management Goals?

The Council has identified marine reserves, or closed areas, as a possible management tool for West Coast groundfish. Several species of groundfish (including lingcod, cowcod, Pacific ocean perch, bocaccio, and canary rockfish) have been designated as overfished, and other species that have not been assessed may be overfished as well. Marine reserves (closed areas) may be useful to guard against scientific uncertainty in fish populations, provide increased protection to certain depleted species, and to accelerate the rebuilding process. Sedimentary species such as Lingcod and Pacific Ocean Perch likely receive the greatest benefits from marine reserves although the size of the marine reserve is also a significant determining factor regarding what species will benefit.

Closed areas designed to recover fish populations should be located in areas that

have either supported large populations in the past, or in areas where fish are currently found. Historically abundant sites that contain undamaged habitat may provide fish with productive spawning or nursery grounds. While there is evidence that demonstrates the benefits of closed areas on some groundfish populations within a relatively short period of time (5-7 years), the recovery time frame may be slower for other species.

(d) Summary

In order to protect, maintain, and/or recover those habitats necessary for healthy fish populations and the productivity of those habitats, the Council must act now. As noted earlier, the Pacific Council has limited authority to protect groundfish habitat and does not have direct jurisdiction over non-fishing practices that may adversely affect marine habitat. However, the Council does have the ability to manage groundfish fisheries including regulating the areas fished and the types of gear used.

As groundfish stocks decline, many fishers compensate by adopting more efficient fishing practices. This includes using less selective gear and fishing in rocky relief habitats. These complex habitat areas are then altered, potentially removing the physical habitat that groundfish need to feed, grow, and reproduce.

The use of marine reserves can help guard against known and unknown adverse impacts of fishing on habitat and would serve as control areas for scientific studies of these impacts. Use of marine reserves as a management tool can be contrasted with the need for extensive time/area closures in response to the depressed nature of many west coast groundfish stocks.

(e) PACIFIC GROUND FISH HABITAT RECOMMENDATIONS

1. The Council should consider either prohibiting or modifying any fishing gear or fishing practice determined to adversely impact EFH areas of concern such as nearshore and shelf rock-reef habitats.
2. Review and revise where necessary gear performance standards for hook and line, pot, set gillnet, and trawl to decrease ghost fishing by lost gear and to increase gear selectivity.
3. Establish no-take marine reserves to help rebuild stocks with limited recruitment.
4. Promote scientific research on the impacts of fishing gear on various habitat types and the feasibility of habitat restoration.

5. Promote research to modify existing gear and practices to provide practical, economically viable alternatives to destructive fishing gear.

SECTION II

THE GROUND FISH STRATEGIC PLAN

“WHAT WILL WE DO TO GET THERE?”

**SCIENCE, DATA COLLECTION, MONITORING AND
ANALYSIS**



Resource Assessments
Fmsy Proxies
Collaborative Science
Best Available Science
Data Collection
Monitoring
Fisheries Economic Data

B. SCIENCE, DATA COLLECTION, MONITORING AND ANALYSIS

(a) Problem Statement

The foundation for good fisheries management is good science. Although, the Magnuson-Stevens Act requires the use of the “best available science,” the perceived quality of the scientific basis for management has a direct bearing on the Council’s management policies and their acceptance by the fishing community and the public.

The greater the uncertainty in the accuracy of stock assessment, the more precautionary management policies must be to assure that stocks are not overfished.

The building blocks for good fisheries science include data collection, analytical evaluation, interpretation of results, and application for management. The most important of these for the Pacific groundfish fishery, and the one most lacking, is basic data collection from both fishery independent and fishery dependent sources.

Resource surveys provide the most basic information for stock assessments. Resource surveys for Pacific groundfish are too infrequent and lacking in geographic scope to adequately assess and track trends in abundance for those groundfish stocks that are assessed. A secondary, but no less important problem, is the small number of groundfish stocks that are actually assessed. The Groundfish Fishery Management Plan asserts fisheries management authority over 83 species of groundfish, yet only about a dozen are fully assessed, and then only once every three years. Although the assessed species comprise the majority of the total removals, unassessed species are caught in a species complex mixture or as incidental catch. Due to lack of knowledge regarding sustainable harvest levels for these unassessed species, the Council must once again apply a precautionary approach to the harvest of species complex mixtures in order to achieve an acceptable level of certainty that stocks are not overfished. Generally, the higher the degree of scientific uncertainty, the greater the amount of precautionary harvest restrictions are required and the greater the cost to the fishing industry in terms of potentially foregone harvest.

The second major area where basic scientific data is lacking is fisheries dependent data collection, and total fishery removals in particular. The lack of an at-sea observer program means that scientists and fishery managers have little confidence in their knowledge of the impact of the fishery on the stocks and stock complexes, and little ability to evaluate the impacts of current regulations or of potential new regulations. This lack of confidence spills over to the fishing industry who in turn have less and less confidence in the

decisions of the Council, which results in increased controversy, divisiveness among the fishing industry, and loss of Council credibility.

Thus, the real problem is how to improve the quantity and quality of the scientific data collection that forms the basis for management of the Pacific groundfish fishery. Fiscal constraints now and in the future will require increasing amounts of creativity and collaboration between the federal government, coastal State resource agencies, academic institutions, private foundations, and the fishing industry to make the most effective use of their collective scientific data collection capabilities.

(b) Strategic Plan Goal for Science, Data Collection, Monitoring and Analysis

To provide comprehensive, objective, reproducible, and credible information in an understandable and timely manner to meet our conservation and management objectives.

(c) Issues/Options/Alternatives

1. Resource Assessments: (a) How do we effectively assess 83 species? (b) How do we account for wide variability in the estimates of the biomass and lack of information on total mortalities? (c) How do we acquire the information needed to understand influences of environmental variability on fish stock productivity?

It is unlikely that the necessary resources to collect the data required to assess all 83 species with the same level of quantitative rigor will become available. As a result, managers will need to prioritize and use the available resources wisely. Species that comprise the majority of the total removals have received the most attention in the past because of the directed fishing effort they receive, their economic importance to the industry, and the potential for being overfished. Equally important, from a resource management perspective, are the species that contribute relatively minor proportions of the catch that are not individually assessed and are often taken as bycatch or in species complex mixtures, (e.g. *Sebastes*). To protect the species that fall into this category it is necessary to identify the weakest species/stocks of the complex and to assess them with sufficient rigor to permit the establishment of optimum yields that will prevent overfishing of the stock. A species such as yelloweye rockfish (*Sebastes ruberrimus*) is an example of a very long-lived, unproductive rockfish that co-exists with assemblages of other more productive rockfish.

Fishery independent surveys are a critical component of age-structured assessments. A vessel dedicated to collecting scientific information required to manage west coast groundfish is a critical need if the Council's is going to

successfully manage the fishery. The information is used to “tune” the demographic information obtained from the age composition information to some level of absolute abundance. Realizing that most surveys are indices of relative abundance at best, groundfish models typically estimate a catchability coefficient for surveys that attempts to relate the index information to absolute abundance. The wide variability in the assessments comes in part from fishery independent surveys that are biased and/or are not sufficiently precise. The best way to reduce the variability in the final estimates of biomass is to collect more geographically synoptic, unbiased, and precise survey data on an annual basis.

Several studies provide compelling evidence that strong linkages exist between decadal and interannual scale variations in Pacific Northwest coastal marine fishery production and large-scale variability in physical forces. These linkages have been most strongly established for salmon, crustaceans, and coastal pelagics, relatively little research has been done with regard to west coast groundfish resources. Scientists need to acquire additional information regarding the effects that changes in ocean environmental conditions have on groundfish recruitment and productivity.

2. What are the Appropriate FMSY Proxies?

The Council’s 40-10 harvest policy was adopted in 1999 as part of Amendment 11 to the groundfish FMP. This biomass-based policy was developed in response to specific statutory requirements imposed by the re-authorization of the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) and the Sustainable Fisheries Act (SFA). The two key inputs to the control rule are estimates of: (1) current stock size relative to the unfished condition and (2) the fishing mortality rate that produces Maximum Sustainable Yield (F_{MSY}). Outputs of the policy are the Allowable Biological Catch (ABC) and Optimum Yield (OY). Thus, errors in estimating F_{MSY} ramify directly into the setting of groundfish ABCs and OYs.

Due to the statistical difficulty of accurately estimating F_{MSY} directly from short time series of spawner-recruit data, the PFMCA has for many years employed the use of proxy estimates of F_{MSY} , including especially $F_{35\%}$. This particular surrogate is based on theoretical work that has shown, over a range of plausible productivity states, that harvesting at an $F_{35\%}$ rate would be expected to produce a large fraction of MSY (i.e., $\approx 75\%$). However, subsequent theoretical work and other focused studies of west coast groundfish productivity have questioned the propriety of harvesting at such a rate, not only for rockfishes (*Sebastes* spp.), but also more generally for groundfish species other than flatfish.

The natality function of fish stocks (i.e., the spawner-recruit curve) has proven to be the most difficult relationship to elucidate in applied fish stock-assessments. There are very few instances where a statistically accurate description of stock productivity has been achieved by analyzing spawner-recruit data. Moreover, stock

productivity is known to depend explicitly on the ocean environment, which can change abruptly (e.g., El Niño), or more slowly as climate shifts from one regime to another. The effect of inaccurate estimates of spawner-recruit parameters is the mis-specification of key management reference points, including F_{MSY} , the level of stock biomass that produces MSY (B_{MSY}), and the size of the stock in the absence of fishing (B_0). Given the widespread difficulty of estimating these quantities, it is unrealistic to believe that statistically accurate estimates of F_{MSY} for specific stocks of west coast groundfish will be forthcoming in the near future. The best that can be hoped for is that imprecise but unbiased estimates of spawner-recruit parameters can be acquired and that these, in conjunction with a precautionary approach, can be used to establish management reference points that achieve near-MSY performance while adequately protecting groundfish stocks from overfishing.

Some of the more promising analytical techniques that will prove useful in implementing this kind of management system are Bayesian and other “comparative” methods, which provide a statistical framework within which the estimated productivity of a stock can be influenced by knowledge gained from analyses of similar stocks (e.g., members of the same genus or stocks from the same geographic area). Additional work on unconventional robust estimation schemes for determining groundfish productivity should also be encouraged.

3. Resources and Collaboration: (a) How Do We Increase the Resources Directed to Research and Data Collection for West Coast Groundfish? (b) How Can We Improve Science Given Limited Resources and Increasing Demands? (c) Can We Maximize the Amount of Information Available to Management Through Collaboration, and If So, How?

The only apparent opportunity to increase federal funding is if all of the primary fishery related and environmental interest groups unite in support of a common funding initiative. Fractured efforts to obtain additional funding for west coast groundfish will most certainly result in failure.

Absent increases in federal or state funding for groundfish management, the only source for additional governmental funds and scientific staff for west coast groundfish research and data collection is through re-prioritizing resources within the existing federal and state programs. To be successful, these entities must establish new partnerships that are not constrained by geographical boundaries and form a single groundfish program that addresses the highest priorities for groundfish resource surveys, assessments, age reading, and potentially fishery monitoring efforts. Dedicated leadership from each entity will be required to overcome bureaucratic barriers that impede collaboration. This partnership must include all programs of the NMFS regional offices and science centers and State agencies.

In addition to governmental partnerships, collaboration with non-governmental entities may also reap benefits. Effective collaboration requires that the participants share common objectives. If the shared objective can be defined as obtaining useful and scientifically defensible information for management of the groundfish fishery, then it is possible to have meaningful partnerships that involve combinations of governmental agencies, academia, the fishing industry, private foundations, and non-profit organizations.

4. How Do We Improve On the “Best Available Science”?

The building blocks for scientific understanding from which Councils and NMFS base fishery management decisions are: data collection, analytical evaluation of data, interpretation of results, and application of information for management decisions. “Best” is a reference to the quality of science applied to this process of collection, analysis, interpretation and application. The generation of high quality data for fishery science requires that responsible agencies and entities have long-term data collection plans with 1) established priorities, 2) sampling designs which incorporate statistical properties of data, 3) documented sampling protocols, 4) funded sampling programs, 5) data base management, and 6) experienced personnel. Achievement of high quality analysis and interpretation requires a team of knowledgeable and highly skilled researchers with experience in the disciplines of fishery biology, economics, marine ecology, statistical and quantitative analysis, population dynamics, and computer science.

The team members must be able to work in an environment that is free from political influences of the agency leadership, managers, constituents, and user groups. The Council then must have access to a team of scientists knowledgeable in the Council management issues who can draw on available scientific information to prepare evaluations of pertinent management alternatives to generate concise easy to read decision documents. Periodic review by knowledgeable and independent (if possible) peers should be conducted at each step of the process. Development of a coast-wide prioritized collection plan, funded sampling programs, and the coordination of collaborative teams of analysts will improve the “available science”.

5. How To Collect, Analyze, and Interpret the Data In a Credible Manner?

Credibility goes to the question of achieving “objectivity” and “acceptability” in the application of the scientific method. Objectivity requires trying to observe things as they are, without altering observations to coincide with a preconceived point of view. Acceptance of the results from science is the ability of another investigator to replicate the result using the same methodology. Credibility follows when there is a consensus in the community that these essential principals of the scientific method have been appropriately applied. To gain public support that the data are credible will require creating meaningful communication opportunities between the scientists and the public including one-on-one communication opportunities. In

addition, scientists need to take advantage of opportunities to be the guests of fishermen at sea to become more knowledgeable of the fisherman's concerns and experiences.

6. What are the Components of An Effective Fishery-Monitoring Program?

The objectives of monitoring include: 1) quantification of total catch to document total fishery caused mortality, and 2) biological sampling of the catch to document the sex, size, age, and maturity of the removals. To be effective, a groundfish fishery-monitoring plan should be comprehensive both spatially and temporally. It should cover the full coast wide distribution of the fisheries and should involve both an at-sea and a shoreside component to reflect the biological composition of the retained catch as well as the catch discarded at-sea. Fishery monitoring information is a key element in groundfish stock assessments.

The information should be collected and made available in a timely manner for incorporation into stock assessments and monitoring programs, particularly for stocks under a rebuilding plan. Trained individuals using a biometrically approved sampling plan should collect fishery-monitoring information. The plan should be designed and applied according to the scientific method. The proper sampling design must be implemented to assure that the data collected are statistically representative at acceptable levels of sampling uncertainty.

7. Data Collection and Collaboration: a) What Data Do We Need to Collect; How and Who Will Collect It? (b) If All the Needed Data Cannot Be Collected, What are the Priorities? (c) How Can We Utilize Industry in Collecting Scientific Information? (d) How Can We Incorporate Qualitative Data?

The Council has, on a biennial basis, updated a comprehensive Research and Data Needs Document. It contains a prioritized list of biological, social, and economic data needs that pertain to the groundfish fishery. This list should be updated and reprioritized to reflect the current state of crisis in the groundfish fishery. Groundfish items are prioritized under the categories: 1) Fishery Monitoring and Data Collection, 2) Resource Assessment Surveys, 3) Fishery and Productivity Parameters, 4) Stock Assessment Modeling, and 5) Habitat.

There is a role for industry in the collection of scientific information whenever collaborative projects can be structured in a way to collect information according to the scientific method. Industry can also provide in-kind support such as 1) providing vessels for at-sea research or surveys or 2) money to hire professional scientists as consultants to tackle specialized projects. In addition, fishermen possess a wealth of subjective knowledge acquired from personal observations accumulated over many years while working at sea. One way this valuable, subjective information can begin to be translated into objective, reproducible scientific information is when

fishermen's observations are used to design pilot studies to collect initial data on sampling variability.

This information can then be used to aid in the statistical design of larger scale studies by providing valuable insights on how to stratify to reduce the variance (uncertainty) on parameter estimates. For example, fishermen possess subjective knowledge on bottom type and fish distribution that can be used to establish "pilot study" level survey stratifications. The principals of random sampling can then be applied to the pilot study sites to evaluate improved stratifications in the design of larger scale federal or state survey efforts.

8. How Can We Better Collect, Analyze, and Utilize Economic and Social Information?

In 1998, the Council spearheaded an effort to develop a West Coast Fisheries Economic Data Plan. The Plan provides a framework for depicting the interrelationships among different types of economic data collections and a systematic approach for addressing short and long-term economic data needs. The Plan is a useful vehicle for mobilizing and coordinating the collection and utilization of economic information. An individual who is knowledgeable regarding regulatory requirements for economic analysis should be assigned to and held accountable for implementing the Plan. This person would coordinate with other West Coast economists in: (1) prioritizing economic data needs, (2) devising ways in which existing data bases could be modified or augmented to be more useful for economic analysis, (3) seeking out economic data collection and funding opportunities, (4) ensuring that the design and content of future

economic data collections address Council needs, and (5) periodically updating the Economic Data Plan.

The shortage of economists has meant that even existing databases (e.g., PacFIN) are not being used to their full potential. Additional economists are needed to help develop and evaluate management options, to ensure that SAFE documents provide adequate and meaningful economic information, to monitor the economic health of Council-managed fisheries and to provide economic input regarding various issues facing the Council. Economists should be adequately represented on the Council's Plan Teams and on ad hoc Council committees where appropriate. An economist with recreational expertise is particularly needed.

Additional data management support will enhance productivity of the economists we now have. Frequently, the data summarizations needed to conduct economic analysis are more time-consuming than the analysis itself. The expertise of economists who already work with or for the Council could be more efficiently and effectively tapped if someone was specifically assigned to work with them to provide customized data summarizations on a timely basis.

Although sometimes called upon to conduct "social impact analysis" or evaluation of "community effects", economists have little training in these areas. A concerted effort must be made to determine the data and analytical requirements and the types of expertise needed to properly conduct such analysis.

(d) SCIENCE RECOMMENDATIONS

1. Identify and complete stock assessments for the suspected "weakest stock" in mixed-stock fisheries by gear type.
2. Obtain a dedicated research vessel(s) to perform annual surveys and collect other data needed to manage the coastwide groundfish under Council jurisdiction.
3. Create cooperative partnerships between state, federal, private foundations, and other private entities to collect and analyze the scientific data needed to manage groundfish.
4. Promote improved understanding, communication and mutual credibility between the fishing industry and scientists through increased communication and collaboration including at-sea ride-alongs.
5. Update the Council's Research and Data Needs document to reflect the current priority needs of groundfish management.

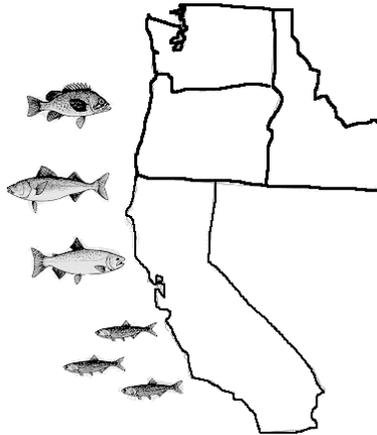
6. Develop methods for incorporating fishermen's observations into stock assessment and monitoring programs.
7. Implement the Council's draft West Coast Fisheries Economic Data Plan.
8. Insure that economists are adequately included on Council plan teams and ad hoc committees where appropriate.
9. Hold an annual or bi-annual meeting of U.S./Canada and/or U.S./Mexico stock assessment scientists to plan upcoming (preferably joint) assessments of transboundary stocks. The U.S./Canada portion of this recommendation could be conducted under the umbrella of the existing U.S./Canada Groundfish Technical Subcommittee.
10. The Council should meet annually with National Marine Fisheries Service's Northwest and Southwest Regions and Science Centers and the Pacific States Marine Fisheries Commission to integrate the Council's data and research needs into NOAA's budget process.
11. The states, NMFS, and Council should meet and develop a joint multi-year research and data collection/analysis plan for west coast groundfish.
12. Scientific efforts should be directed to measure the changes in groundfish productivity due to ocean environmental changes.

SECTION II

THE GROUND FISH STRATEGIC PLAN

“WHAT WILL WE DO TO GET THERE?”

COUNCIL PROCESS AND EFFECTIVE PUBLIC INVOLVEMENT DURING AND BEYOND THE TRANSITION



Laws and Regulations
Meaningful Goals and Objectives
Utilizing Advisory Entities
Building Trust and Credibility
Monitoring Management Effectiveness
Public Outreach & Stakeholder Involvement

C. COUNCIL PROCESS AND EFFECTIVE PUBLIC INVOLVEMENT DURING AND BEYOND THE TRANSITION

(a) Problem Statement

The Pacific Fishery Management Council is guided and constrained by federal law. The main statute is the Magnuson-Stevens Act, which created the councils and sets standards for the councils to meet and procedures for the Councils to follow. The Council's actions result in federal regulations, which are governed by additional procedural laws, most importantly the Administrative Procedure Act, the National Environmental Policy Act, and the Regulatory Flexibility Act. The purpose of these administrative laws is to ensure the appropriate factors are considered prior to implementation of federal regulations.

The interplay of these laws imposes a complex regulatory process on the Council that in some cases is duplicative of Magnuson Act requirements. The Council, like other entities that operate with federal funding, may not lobby Congress. However, Congress regularly asks the Council to provide their suggestions during the routine reauthorization process for the Magnuson Act, and at other times.

To meet the provisions of the Magnuson Act, including providing for meaningful public involvement, the Council generally utilizes a two-meeting decision making process, i.e. alternatives for a proposed action are identified at one meeting, the alternatives are provided to the public for review and comment, and the Council considers final action at the subsequent meeting. The challenge in this procedure is assuring that the public is aware of the Council process, is informed about the proposed action and its potential impacts, and has a readily available avenue to provide the Council their comments.

Historically, the Council Groundfish management process provided adequate time to establish annual harvest regulations, allocation amendments and, periodically, management plans. In 1995 and 1996, the operating environment for the fisheries and the Council changed significantly. First, each new round of assessments seemed to predict new declines. Second, the science itself and modeling were questioned along with the adequacy of databases. Finally, Congress created new precautionary requirements for management, significantly raising performance expectations.

These conditions began accelerating the current groundfish fishery crisis. The Council is confronting a larger array of issues of greater complexity than ever before, and issues develop at a far greater rate than they can be addressed. Participants are frustrated with the process as well as the perceived lack of stability or predictability in the fishery. The fundamental trust and credibility relationship between industry, the public and management is strained and the process is not serving its intended purposes.

(b) Strategic Plan Goals for Council Process

- *To establish and maintain a management process that is transparent, participatory, understandable, accessible, consistent, effective, credible, and adaptable;*
- *To provide a public forum that can respond in a timely way to the needs of the resource and to the communities and individuals who depend on them; and*
- *To establish a long-term view with clear, measurable goals and objectives.*

(c) Issues/Options/Alternatives

1. What Additions or Changes to Laws and Regulations Would Assist the Council in Making Progress in Achieving Its Objectives?

The Council is on record supporting several amendments to the Magnuson-Stevens Act that would provide needed management authority. In particular, the Council has supported authorization to establish individual quota programs and to collect fees to pay for an observer program (or for direct federal funding). These two additions would go a long way towards accomplishing the goals of improved information, reduced bycatch, and allowing the market to take care of many necessary changes. The Council has also supported increased funding both for itself and for NMFS. In addition, if the Council believes community quotas might benefit West Coast fisheries, it could support authority in future Magnuson-Stevens Act amendments.

The federal tax code could be changed to provide incentives for fishers to retire their permits and vessels. The various federal incentives for fishers to increase their capital investments in vessels, gear, permits, etc., (e.g., Capital Construction Fund) could be revised to allow transfer of that capital to other uses.

Federal buyback/fleet restructuring legislation and funding would provide a means for proceeding quickly with fleet reduction.

2. How Could Congress be Informed About the Need to Authorize Development of Non-Standard Tools Which Encourage Experimentation and Innovation in Solving Fishery Management Problems (e.g., Scientific and Research Permits, Community Quotas, etc.).

As the Council identifies non-standard tools that would assist in fishery management, it could write up the proposals so they would be ready for the periodic Magnuson Act reauthorization process when the Council's are routinely asked for their input. In addition, the Council could establish a development committee to try

to think creatively about what would assist in future fishery management. The new issues could be ready for presentation when Congress approaches the Council for testimony.

3. Should the Magnuson-Stevens Act be Changed to Reduce Management Requirements and Complexity?

This question has been around since the early days of the FCMA. For example, Councils pushed for exclusion from National Environmental Policy Act (NEPA) requirements so that environmental assessments and environmental impact statements would not be necessary for all FMPs and regulations. This is because the Magnuson-Stevens Act contains the same basic requirements for identifying alternatives and considering the impacts of the alternatives, and NEPA primarily imposes additional procedures. The Regulatory Flexibility Act is aimed at ensuring that when the government imposes restrictions on large entities, it does not unnecessarily burden smaller entities. Since most of the entities in the fishing industry are small entities, the Regulatory Flexibility Act is not necessary. In addition, the Magnuson Act requires that impacts be assessed.

Councils have also argued for exemption from the Paperwork Reduction Act (PRA), which is designed to reduce the record keeping and reporting required of individuals. There is a conflict between protecting fishers from keeping and reporting information, and the need for this information in order to ensure management decisions are founded on good information. Over the past 25 years, there have been multiple attempts to streamline the bureaucracy with only minimal improvements. The tension is between requiring additional analysis and process to ensure appropriate information for the decisions and being able to act with adequate speed and flexibility to manage fisheries in an appropriate and timely manner. The fundamental question is whether the public at-large would be better served if the basic rules were changed.

During the next Magnuson Act reauthorization process the Council could recommend that actions under the Magnuson-Stevens Act be exempt from NEPA and the Regulatory Flexibility Act because the relevant issues are already covered under the Magnuson Act itself.

4. How Can the Council Ensure Effective Congressional Interaction?

The Council is routinely asked to comment on relevant pieces of legislation. The Council chairmen meet routinely and develop positions to present to Congress in response to Congressional requests. The Council could ensure it has a committee (such as the Legislative Overview Committee) and/or a member identified so that, when a request comes in, the Council has a timely, well-thought-out response. As the Council increases its interactions, and the quality of its presentations, it may receive more requests for information.

5. Meaningful Goals and Objectives: (a) How Can the Council Minimize Conflicting Goals and Objectives, and Adopt Goals and Objectives That are Meaningful, Operational and Measurable (b) How Do You Balance Goals and Objectives?

A direct approach to minimizing conflicting goals and objectives is to establish a clear, prioritized hierarchy such that no goal or objective is allowed to compromise achieving another ranked higher in that hierarchy. The hierarchy may include a division between required and desirable to achieve goals. Any new goal or objective adopted by the Council would be carefully considered and placed on the prioritized list.

A second alternative to addressing conflicting goals and objectives is to consciously balance the attainment of each by considering and weighing them against the National Standards and other applicable statutory requirements

There is always a balance between establishing a comprehensive list of *all* the goals and objectives that might be associated with any given undertaking, and simultaneously attempting to achieve that list; the broader the list, the greater the difficulty in achieving all elements within it.

Whether a goal is achieved, or to what degree it may be in conflict with other goals, can only be determined if it is measurable. Qualifying adverbs such as “to the extent practicable” or abstract measurements such as “minimize, or maximize” only serve to increase the difficulty in resolving conflict between competing goals and objectives. As an example, consider the difference between minimize discard to the extent practicable versus reduce discard by 30 percent. The lack of guidance provided by unmeasurable objectives is even more dramatic when they are weighed against conflicting goals which are also characterized by abstract terms such as minimize, maximize or to the extent practicable. Whenever possible, the Council should adopt goals and objectives with measurable criteria. Absent measurable criteria, there is greater discretion, which leads to less predictability in Council decisions.

6. Clarifying the Roles of Advisory Entities: How Do We Encourage Each Advisory Groups to Provide Their Special Insight and Expertise on Relevant Issues, Especially When There May Be Conflicts Between Advisory Entities?

As harvest opportunities decrease, demands upon the information supporting management increase, and allocation of the resource becomes increasingly necessary; resulting in increased conflict between and among public interest sectors. The Council needs to determine how they will receive conflicting advice from its advisory entities. Minority statements from advisory groups could be encouraged. Specific votes on issues, perhaps recorded by affiliation within the advisory body, could also be provided to the Council.

As harvest opportunities become increasingly constrained, the Council should insure that it is receiving the perspectives from regionally oriented constituencies. Expense and meeting management constraints probably preclude expanding advisory groups to fully represent all unique interest groups, but the Council should seek input from industry, the environmental community, and management to what extent the current advisory groups adequately provide the broad-based, comprehensive advice the Council requires. The Council may wish to explore a more formal process to allow members of interest groups an opportunity to communicate with those representing them on Council advisory bodies.

7. How Can the Council Do a Better Job of Defining the Roles and Responsibilities of the Groundfish Advisory Committees and Teams?

The Council needs to specifically address what it expects from each of its advisory groups. Considerable attention has recently been given to the issue of separating science from management. This can be more difficult than it may first appear. However, the Council could facilitate this separation by more clearly defining where it receives scientific advice vs. where it receives management advice. To the extent that the Council can clearly identify the specific product or perspective it desires from its advisory bodies, the more effective that body could be in delivering the desired product.

8. How Can the Council Find Ways to Break Down the Walls that Prevent the Smooth Flow of Information?

Walls are most often a manifestation of a communication barrier. Barriers may result from an unyielding attitude taken on an issue, or a deep-seated mistrust. Breaking through such barriers relies on the establishment of open and free communication. Free and open sharing of all information used in decision-making including the use of multiple communication techniques can be used. If the public knows precisely what the Council members know, they are better prepared to understand the decisions being made.

9. How Can the Council Help to Build Trust Between the Advisory Entities?

For anyone to be regarded as trustworthy, another individual must first give them their trust. Each advisory panel can begin by agreeing to accept that analysts reporting to the panel are competent, objective and informed on the issue at hand. The Scientific and Statistical Committee (SSC), whose job it is to insure that Council analyses are analytically correct and appropriately focused, can acknowledge for the record that analysts have made a sincere effort to utilize the correct data and methodologies; thus, underscoring the competence of the presenter. The prestige of an SSC endorsement will contribute to public confidence provided that the SSC has adequate time to read and review Council documents.

10. How Should the Council Monitor Management Effectiveness?

If the Council has established goals and objectives with measurable outcomes, management effectiveness could be assessed by simply measuring to what degree those goals and objectives have been attained. Sustaining the resource that supports the fishery it manages is one obvious measure. Realistically, the complexity of groundfish management will likely make direct measurement of effectiveness difficult for the foreseeable future.

11. Sustainable Fisheries: (a) How Can the Council Obtain Sufficient Support for a Sustainable Fishery from All Stakeholders? (b) How Does the Council Gain Public Acceptance that Sustainable Fisheries and Resource Conservation Can Co-Exist?

The Council must first lay out its view of a sustainable fishery, which should come naturally from the vision statement. Sustainability is a foundation stone of the Magnuson-Stevens Act, and recreational, commercial and environmental representatives speak in support of the concept. The Council should clearly describe the various elements and the necessary balance: productive resources, prosperous industries, diverse recreational opportunities, vibrant communities, etc. To get philosophical buy-in, this message must be clearly, consistently and frequently stated at Council meetings, in newsletters, at hearings, and in other venues.

12. How Can the Council Help Inform and Educate the Public as Well as Provide for Effective Public Outreach?

The Council by itself cannot inform and educate the public. This will require cooperation among the Council, NMFS, the various state agencies, fishing groups (both recreational and commercial) and environmental organizations.

The Council currently distributes five newsletters each year, numerous meeting notices and announcements, and various documents relating to proposed regulation changes. The Council's newsletter summarizes its major actions, decisions and events. The Council staff maintains a mailing list of over 4,200 individuals and

organizations; newsletters are mailed to approximately 2,700 individuals plus additional media, library and organization addresses. Over 1,000 addresses receive mailings specific to groundfish issues. Each of these lists is updated regularly, typically at least once each week. Major Council documents and newsletters are posted on the Council's website. One measure of current outreach is the number of visits to the Council's website: recently, there have been over 42,000 hits per month. The Council can also help by holding meetings at multiple locations, improving its website and website links.

The state representatives on the Council need to recognize their individual roles and responsibilities to their respective constituents. Public outreach is one role of each individual Council member--state representatives can develop mailing lists of license holders, update web pages to include Council information, establish advisory groups, and host public meetings. All of these tools will help increase communication and help facilitate understanding of the Council and its process.

13. Who Are the Stakeholders That Are Affected By and Interested in the Actions of the Council, What is Their Role, and Who Represents Their Interests?

Currently Council engages stakeholders through Council meetings, public hearings on Fishery Management Plan amendments, and membership on committees and panels such as the Groundfish Advisory Panel, Habitat Select Group, and other advisory entities. Others express their interests via phone calls and letters to Council members and the Council office. Council committee membership changes every two years and nominations are solicited from organizations and individuals. The number of seats and their designations are also reviewed from time to time to better reflect the population of interested stakeholders.

The fishery resources under the Council's jurisdiction belong to the country as a whole and the Council is charged with managing the resources to obtain the maximum/optimum benefit. Under this view, every United States citizen is a stakeholder. Constituency representative groups include, among others: commercial and recreational fishers, Indian tribal fisheries, fish processors, and those who support fishing activities including associated business owners, representatives from surrounding fishing communities and environmental organizations. There is also a constituency of non-consumptive users such as scuba divers, pleasure boaters, surfers, beachcombers, bird watchers, and others who have a stake in the aesthetic qualities of the marine environment and fish resources. These groups may be represented by local or national organizations. The Council maintains a mailing list of individuals, commercial and recreational fishing organizations, commercial enterprises, environmental and other interested organizations, as well as others identified as interested and affected stakeholders.

14. Economic Health/Community Well-Being: How Can the Council Minimize Adverse Impacts and Take Into Account the Needs of Fishing Communities When Making Council Management Decisions?

Economic impacts on individual fishing participants, companies and communities in recent years have been substantial due to declining stocks and overcapacity. Social and economic impacts will continue until the industry comes into equilibrium with resource availability and stocks stabilize at productive and sustainable levels. A major restructuring of the industry and coastal communities is inevitable, and the Council and federal government can provide much needed direction for the necessary changes.

A strategic approach for this restructuring would include the Council taking a leadership role in “transitioning to sustainability” through capacity reduction and open access fleet restructuring so that the industry that survives is one that is diverse, stable, market driven, and profitable, regardless of environmental and stock variability. The help of state and federal governments can facilitate the necessary change and ease the trauma through public assistance, training, and tax relief.

The Council staff has been preparing a baseline document that describes coastal communities, categorizes commercial vessels by the combinations of species they land, identifies participation in recreational fishing, and fish processing. This information may be useful in better tuning fishery management decisions. Identification of classes or groups of vessels that operate similarly will help the Council predict and understand regulatory impacts.

Finally, the Council may receive more comprehensive user viewpoints and public comments about the needs of fishing communities, as well as the potential impacts of Council decisions, by improving public outreach and holding meetings in locations convenient to the affected communities.

(d) COUNCIL PROCESS RECOMMENDATIONS

1. Encourage long term thinking so the Council can suggest creative solutions to Congress and NMFS during the reauthorization process
2. Establish a committee, with a designated staff person, to maintain a list of possible Magnuson-Stevens Act changes to be presented upon request of Congress and NMFS
3. Seek NEPA / Regulatory Flexibility Act exemption during the next Congressional reauthorization
4. The Council should establish a performance evaluation committee to periodically and critically review progress being made towards Council goals and objectives.

The committee should also analyze improvements needed in Council procedures to maintain efficiency.

5. Adopt goals and objectives that are: (a) measurable, (b) have minimal conflicts, and (c) clearly prioritized where possible.
6. The Council should continue to routinely update its mailing lists and ensure that they contain commercial and recreational fishing associations, conservation and environmental groups, commercial licensed fishers for groundfish and other fishery species, local port offices, media contacts, and community-based organizations.
7. More effectively utilize newsletters, web page displays, public forums, news releases and public service announcements to improve public participation in Council activities and decisions.
8. Make draft agendas available earlier to the local media from fishing communities, with key issues highlighted.
9. The Council should sponsor workshops to explain the Council process, its role and responsibility relative to fishery management, the roles of its committees and advisory entities, and the various opportunities for public involvement. Workshops should be held as an annual evening session during a Council meeting and by state agencies in local port communities.

SECTION III
THE GROUND FISH STRATEGIC PLAN

“HOW WILL WE MEASURE SUCCESS?”

**IMPLEMENTING AND UPDATING
THE STRATEGIC PLAN DOCUMENT**



**Implementation Process and
The Action Plan**

Updating The Strategic Plan

III. “How Will We Measure Success?” Implementing and Updating the Strategic Plan

A. Implementation

[placeholder for the implementation action plan]

B. Measuring Success

1. Options for Updating the Groundfish Strategic Plan Document

a) Background

A good strategic plan is rigid enough to have clearly- stated, expected results but also flexible enough to modify when evaluation indicates change is necessary. The Council wishes to maximize the value of the time, energy and money invested in its strategic plan by regularly evaluating the plan's effectiveness and initiating changes as deemed necessary to enhance success. The Council also recognizes that periodic review provides plan continuity for Council members and staff, and promotes awareness in the public being served.

However, the strategic plan is a complex document that was drafted to cover the long term, and thorough review will take a significant amount of the Council's limited time. If review is routinely scheduled too frequently the energies of the Council may be diverted to trying to re-argue existing policy choices rather than to implementing the plan, thereby detracting from the goal of moving through the transition period to a more stable fishery.

The Council review would be a formal process for assessing success and progress in implementation of the strategic plan and for determining whether the plan should be modified. Even if a formal review is not scheduled, the Council, as always, has the option of placing plan review on its agenda if it determines it is necessary. This could happen if the Magnuson-Stevens Act is amended so that the plan would need to be amended, or if significant new information is developed that affects the plan.

b) Options for Timing of Review

Option 1 – The Council would review the plan annually.

Option 2 – The Council would review the plan every two years.

Option 3 – The Council would review the plan every five years.

c) Options for the Review Process

Option 1 – The Council would review the plan, with public participation, as part of a Council meeting. The public would have notice of the upcoming review, would have the opportunity to provide written comment to the Council, and would have the opportunity to provide comment to the Council at the meeting at which the review takes place. The advisory entities would have input through the standard Council meeting format. If the Council determines that action is necessary, it will initiate the necessary process.

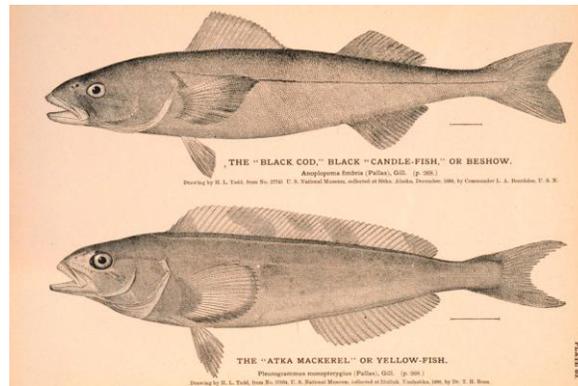
Option 2 – This option includes the activities described in Option 1, but in addition, the Council would hold hearings along the coast to allow in-person testimony from interested parties.

(d) UPDATING THE STRATEGIC PLAN RECOMMENDATION

1. The Council should schedule a routine review every five years (Option b3). If a Council member determines a review should occur more frequently, the member could seek to have the review placed on the Council agenda in the same manner that other actions are placed on the agenda. When the review takes place, the Council should follow the standard Council meeting process and take written and oral public comment, and involve the appropriate advisory entities (Option c1).

SECTION IV THE GROUND FISH STRATEGIC PLAN

APPENDICES



SSC Economic Subcommittee Overcapacity Executive Report Strategic Plan Timeline and Schedule Ad-Hoc Strategic Plan Committee Members Acronym List

IV. APPENDICES- THE GROUND FISH STRATEGIC PLAN

(appendices will be included with the final document; see Pacific Fishery Management Council staff for copies of these documents as they were provided at previous Council meetings)

- A. SSC Economic Subcommittee Overcapacity Report—Executive Summary with reference the full report.
- B. Groundfish Strategic Plan Timeline and Schedule
- C. List of the Ad-Hoc Groundfish Strategic Plan Committee members
- D. Acronyms List

PUBLIC HEARING SCHEDULE FOR THE
PACIFIC FISHERY MANAGEMENT COUNCIL
STRATEGIC PLAN

STATE/PORT	DATE	TIME	<i>Hearing</i> MEETING LOCATION
Washington			
Seattle	July 31	10 a.m. - 12 p.m.	National Marine Fisheries Service 7600 Sand Point Way NE Seattle, WA 98115
Montesano	August 1	3 p.m. - 5 p.m.	Washington Department of Fish and Wildlife 48 Devonshire Road Montesano, WA 98563
Oregon			
Astoria	August 2	1 p.m. - 3 p.m.	Oregon State University Seafood Lab 2021 Marine Drive Astoria, OR 97103
Newport	July 27	7 p.m. - 9 p.m.	Hatfield Marine Science Center Meeting Room 9 2040 SE Marine Science Drive Newport, OR 97365
Charleston	August 1	10 a.m. - 12 p.m.	Oregon Institute of Marine Biology Boat House 4619 Boat Basin Drive Charleston, OR 97420
Brookings	July 25	11 a.m. - 1 p.m.	Chetco Senior Center 550 Chetco Lane Brookings, OR 97415
California			
Eureka	July 26	7 p.m. - 9 p.m.	Harbor Commission Woodley Island Marine, CA
Santa Rosa	July 27	7 p.m. - 9 p.m.	Flamingo Resort Hotel and Conference Center 2777 - 4th Street Santa Rosa, CA 95405
Long Beach	August 9	7 p.m. - 9 p.m.	California Department of Fish and Game 330 Golden Shore, Suite 50 Long Beach, CA 90802

PFMC
06/28/00

GROUND FISH ADVISORY SUBPANEL STATEMENT ON
STOCK ASSESSMENT PRIORITIES FOR 2001

The Groundfish Advisory Subpanel (GAP) reviewed the list of stocks proposed to be assessed in 2001 and agrees with the choices made. However, the GAP has the following additional comments:

1. Although convening a Stock Assessment Review (STAR) Panel for three assessments is difficult, NMFS should take this step with the Dover, sablefish, and shortspine thornyhead assessments. These species are caught in conjunction with each other and reviewing the assessments as a group makes more sense.
2. STAR Panel meetings should be held in locations where sufficient computer and administrative support is available, including telephones, printers, and copying machines.

PFMC
06/28/00

STOCK ASSESSMENT PRIORITIES FOR 2001

Situation: The Council's stock assessment and review procedures direct the Council to specify stock assessment priorities in June to allow sufficient time for assessment authors to obtain relevant data for next year's assessments. Ms. Cyreis Schmitt, Stock Assessment Coordinator, will present a list of proposed species for assessment in 2001 (Supplemental Attachment D.4.a.).

Council Action: Discuss priorities for groundfish stock assessments in 2001.

Reference Materials:

1. Proposed list of assessments for the year 2001 (Supplemental Attachment D.4.a.).

PFMC
06/13/00

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON
STOCK ASSESSMENT PRIORITIES FOR 2001

Ms. Cyreis Schmitt, National Marine Fisheries Service, presented a list of species proposed for stock assessment in 2001. The stocks proposed for assessment are: sablefish, shortspine thornyhead, black rockfish (south), silvergrey, Dover sole, and cabezon. Depending on available staff resources yelloweye and the "remaining" rockfishes complex may be assessed. The Scientific and Statistical Committee (SSC) views the assessment for sablefish, shortspine thornyhead, and Dover sole the most important. Given the information made available to the SSC, we were unable to rank the relative importance of the remaining five stocks. The SSC notes the scheduled 2001 assessment of arrowtooth, English sole, blackgill, chilipepper, longspine thornyhead, and shortbelly were postponed. The SSC recommends criteria be developed to select stocks for assessment and the assessment schedule be planned several years in advance. A longer lead time will allow agencies to prepare databases and collect information for the assessment. Useful assessment criteria the SSC discussed were: the stock's value to the fishery, a weak stock that may constrain fisheries in mixed stock fishery, and compelling evidence that a stock is in decline (or increase).

The SSC disagrees with the recommendation to delay the Pacific whiting assessment in 2002. The delay will prevent the Council from using the 2001 triennial survey results until it sets quotas for the 2003 fishery. The SSC recommends that the 2002 assessment begin when data from the 2001 triennial survey become available, so the Council can use the results when setting quotas for the 2002 fishery. In 1999, this accelerated schedule was compatible with the Canadian system allowing a joint assessment and review.

PFMC
06/28/00

PROPOSED SPECIES TO BE ASSESSED IN 2001

A rough assessment of the available staff resources indicates that we can likely conduct six stock assessments in 2001. There is a possibility that two additional species or species complexes (one each by the NWFSC and SWFSC) may be able to be assessed, so I have identified eight species/complexes as a target, excluding whiting. Based on several factors, outlined in following sections and tables, I propose the following to be assessed in 2001:

- sablefish** — major species in fisheries, due based on 3-year cycle (NWFSC)
- shortspine thornyhead** — major species in fisheries, due based on 3-year cycle (NWFSC)
- black rockfish (south)** — postponed from 2000 (SWFSC)
- silverygrey**— overfishing concerns, first full assessment (NWFSC)
- Dover sole** — major species in slope fisheries, due based on 3-year cycle (ODFW/OSU)
- cabezon** — concerns about status, first full assessment (SWFSC, CDFG)
- “remaining” rockfishes complex** — update previous work by Rogers (SWFSC)
- yelloweye** — overfishing concerns, first full assessment (NWFSC)

I propose that a whiting assessment not be conducted in 2001 and the results of the 2000 assessment be utilized for management of the 2001 and 2002 whiting fisheries. A joint US/Canada stock assessment for whiting is being conducted during summer 2000, and a joint review is proposed for fall 2000 (Canadians have yet to accept). No new survey information is available since the previous assessment, so the 2000 assessment will utilize updated catch and biological information to produce updated results for setting harvest levels for the 2001 fishery. The next survey will be conducted in late summer 2001, and the results will not be available in time for an assessment to be completed in the same calendar year. As in 1998, it would be difficult to complete a joint assessment and review early in 2002. Accordingly, I propose that the results of the 2000 whiting assessment be utilized for management of the 2001 and 2002 whiting fisheries.

Several factors were considered in developing a proposed list of species to be assessed in 2001:

1. For species that have been previously assessed, the following table shows their next scheduled assessment, based on the 3-year cycle. (A table is attached which lists information for each of the 82 groundfish species: assessments, if any; stock status; and 1998 catch.)

	Previous Assess. Year	Next Assessment, Based on 3-yr cycle
Flatfishes		
Arrowtooth	1993	2001
Dover sole	1997	2001
English sole	1993	2001
Petrale sole	1999	2002
Rockfishes		
Bank	2000	2003
Black	1999(North)	2001(South)*
Blackgill	1998	2001
Bocaccio	1999	2002
Canary	1999	2002
Chilipepper	1998	2001
Cowcod	1999	2002
Darkblotched	2000	2003
Longspine thornyhead	1998	2001
Pacific ocean perch	2000	2003
Shortbelly	1989	2001
Shortspine thornyhead	1998	2001
Widow	2000	2003
Yellowtail	2000	2003
Others		
Lingcod	2000	2003
Sablefish	1998	2001
Whiting	2000	2001 (annually)

*delayed from planned assessment in 2000.

2. Silvergrey and yelloweye rockfishes — concerns about the status of these species because overfishing occurred in 1998 (catches exceeded ABCs) and may be continuing.

3. Concerns about the status of several species also have been mentioned independently to me by various individuals, although these concerns have not been expressed in writing. These species are:

splitnose rockfish	shortraker rockfish
yelloweye rockfish	rougeye rockfish
china rockfish	California scorpionfish
kelp greenling	dogfish
cabezon	skates

4. Proposed Schedule of Rebuilding Analyses/Reports:

Species	Year												
	98	99	00	01	02	03	04	05	06	07	08	09	10
Bocaccio	A	O	P		A			A			A		
Lingcod	A	O	PA		A			A			A	R?	
POP	A	O	PA		A				A			A	
Canary RF		A	O	P	A			A			A		
Cowcod		A	O	P	A				A				A
Darkblotched RF			A	O	P			A			A		
Widow RF?			A	O	P	A			A			A	
Other Info.													
# Assessments	3	2	4	0	5	1	0	4	3	0	4	2	1
Shelf surveys	T			T			T			T			T

A = year when complete assessment was done or is proposed.

O = year (Jan.) when species was officially designated as overfished.

P = year (Jan.) when rebuilding plan due.

R = year (Jan.) when species is due to be rebuilt.

T = year when triennial shelf survey is conducted. (Slope survey conducted annually). Triennial survey is a critical data source for Bocaccio, POP, lingcod, and darkblotched and canary rockfishes.

For some species like cowcod and POP, the proposed schedule above does not maintain the typical triennial assessment frequency. To try to avoid having 5 or 6 assessments of overfished species due in any one year, sometimes assessments are scheduled 4 years apart, particularly for long-lived species and for assessments that may not be so dependent on triennial shelf survey data.

Total catch through 6/20/00 in the at-sea processing sector of the whiting fishery (NORPAC 6/21/00)

Catcher Processor catch by week - observer data

Mode	Weekending	Whiting mt	Yellowtail mt	Rate kg/mt	Widow mt	Rate kg/mt	Chinook no.	Rate no./mt
CP	5/16/00	419.26	0.02	0.0496	0.13	0.3015		
CP	5/23/00	5258.82	100.55	19.1209	13.16	2.5026	262.00	0.0498
CP	5/30/00	5875.33	11.33	1.9285	6.28	1.0697	267.25	0.0455
CP	6/6/00	4850.90	1.80	0.3711	8.89	1.8317	53.00	0.0109
CP	6/13/00	6376.59	0.97	0.1517	3.07	0.4815	15.00	0.0024
CP	6/20/00	6600.38	7.44	1.1276	0.47	0.0709	632.00	0.0958
CP	6/27/00	345.06	5.36	15.5471	0.27	0.7770	5.01	0.0145
SUM-2000		29726.34	127.48	4.2885	32.26	1.09	1234.26	0.04
SUM-1999		67679.00	431.00	6.3683	101.00	1.49	2704.00	0.04
Industry Threshold				2.40		1.40		0.05

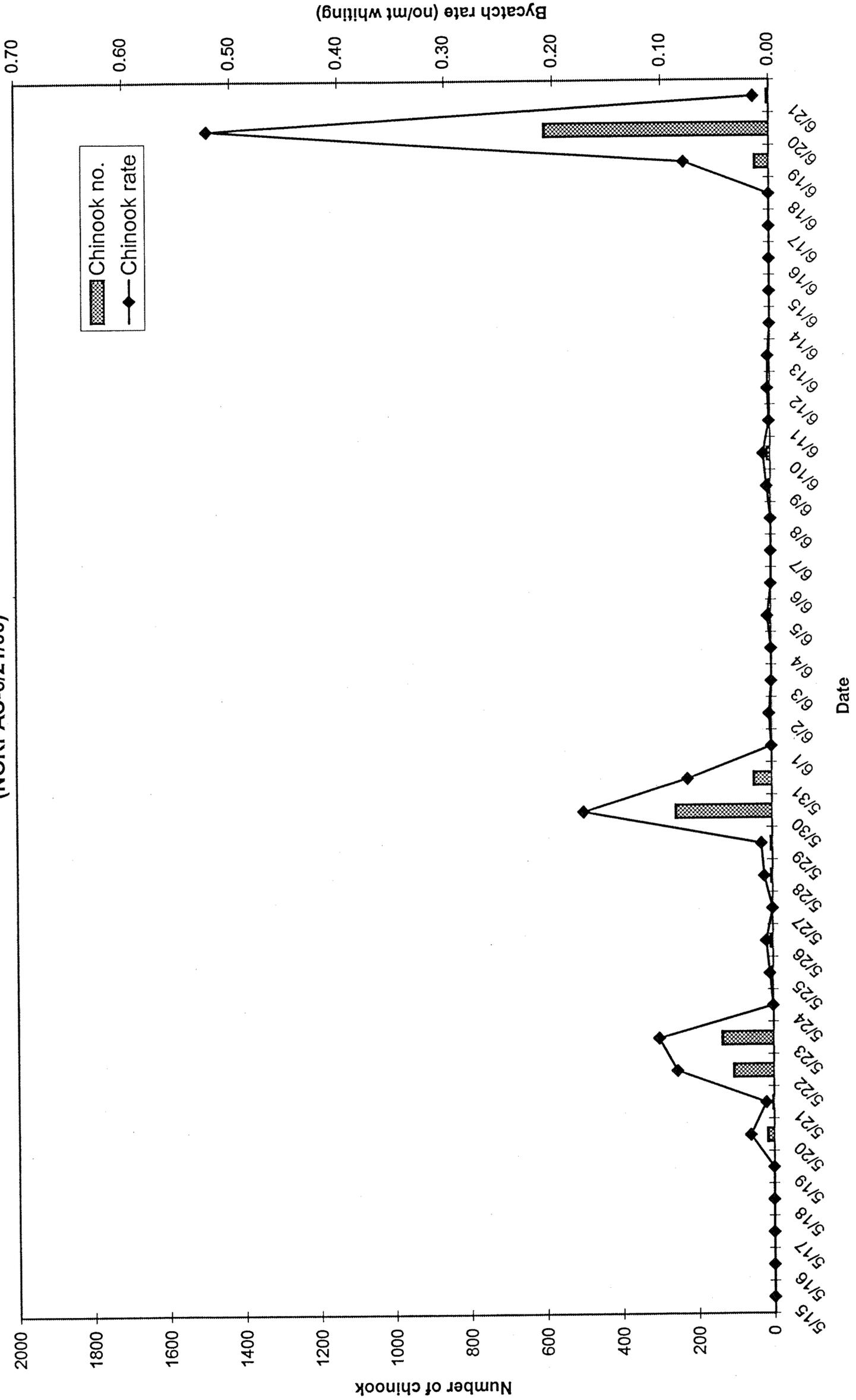
Mothership catch by week - observer data

Mode	Weekending	Whiting mt	Yellowtail mt	Rate kg/mt	Widow mt	Rate kg/mt	Chinook no.	Rate no./mt
MP	5/16/00	4608.73	46.87	10.1691	21.16	4.5918	32.90	0.0071
MP	5/23/00	15276.89	85.27	5.5815	20.56	1.3457	1545.78	0.1012
MP	5/30/00	14119.25	103.00	7.2953	26.61	1.8847	2495.54	0.1767
MP	6/6/00	9486.79	15.95	1.6815	47.25	4.9802	261.17	0.0275
MP	6/13/00	3348.15	34.90	10.4227	35.19	10.5098	94.92	0.0284
SUM-2000		46839.81	285.99	6.11	150.77	3.22	4430.31	0.09
SUM-1999		47,580	253	5.32	48	1.01	1,687	0.04
Industry Threshold				7.00		2.70		0.05

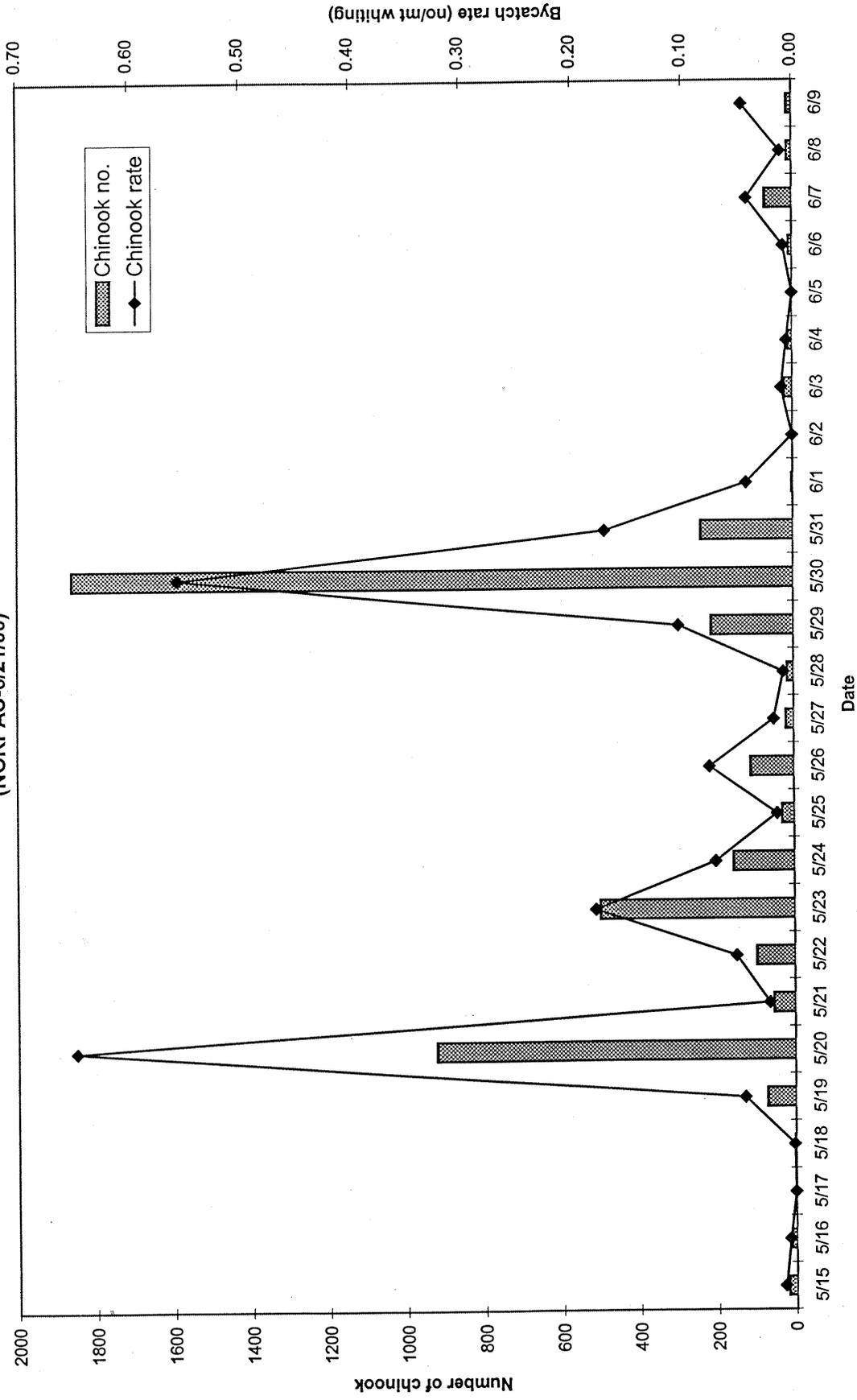
Tribal Catch by week - observer data

Mode	Weekending	Whiting mt	Yellowtail mt	Rate kg/mt	Widow mt	Rate kg/mt	Chinook no.	Rate no./mt
TP	6/13/00	734.28	15.90	21.6539	0	0	5	0.0068
TP	6/20/00	882.81	1.1	1.2460	0.01	0	7	0.0079
SUM-2000		1617.09	17.00	10.5127	0.01	0	12	0.0074
SUM-1999		25,844	451	17.4509	37	0	4,497	0.1740
Industry Threshold				7.00		0.60		0.05

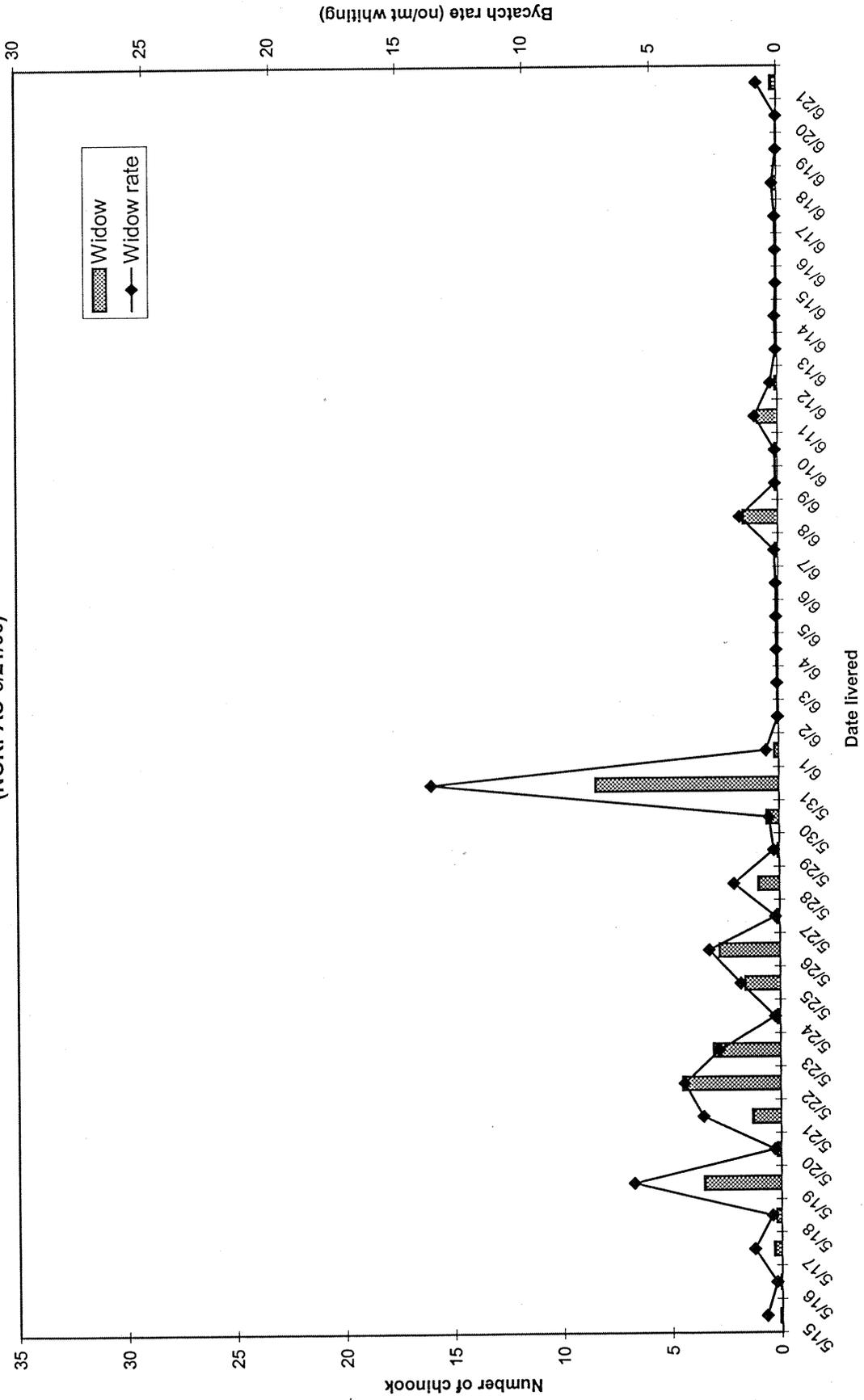
Chinook salmon bycatch in the catcher processor sector of the 2000 whiting fishery (NORPAC-6/21/00)



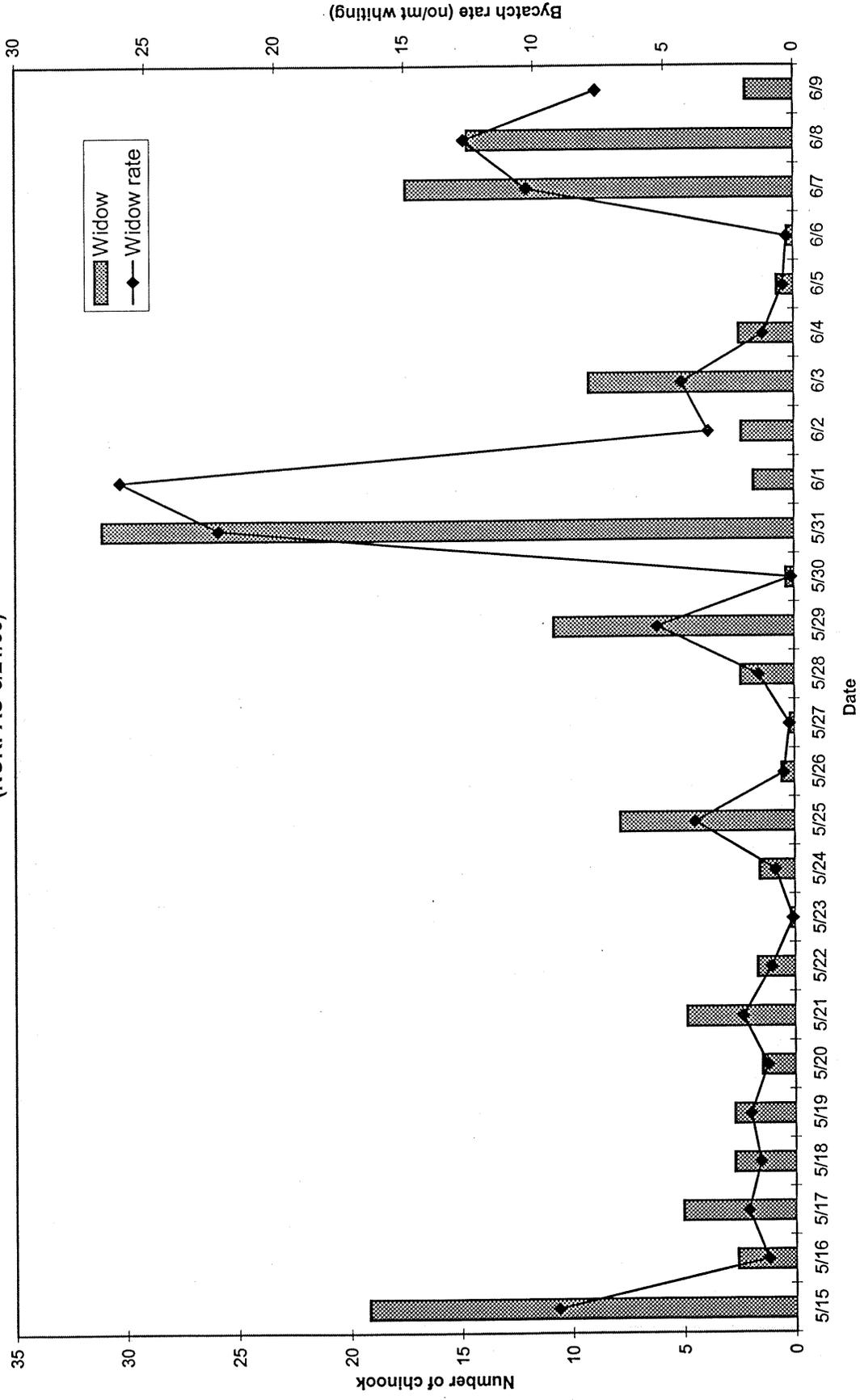
Chinook salmon bycatch in the mothership sector of the 2000 whiting fishery (NORPAC-6/21/00)



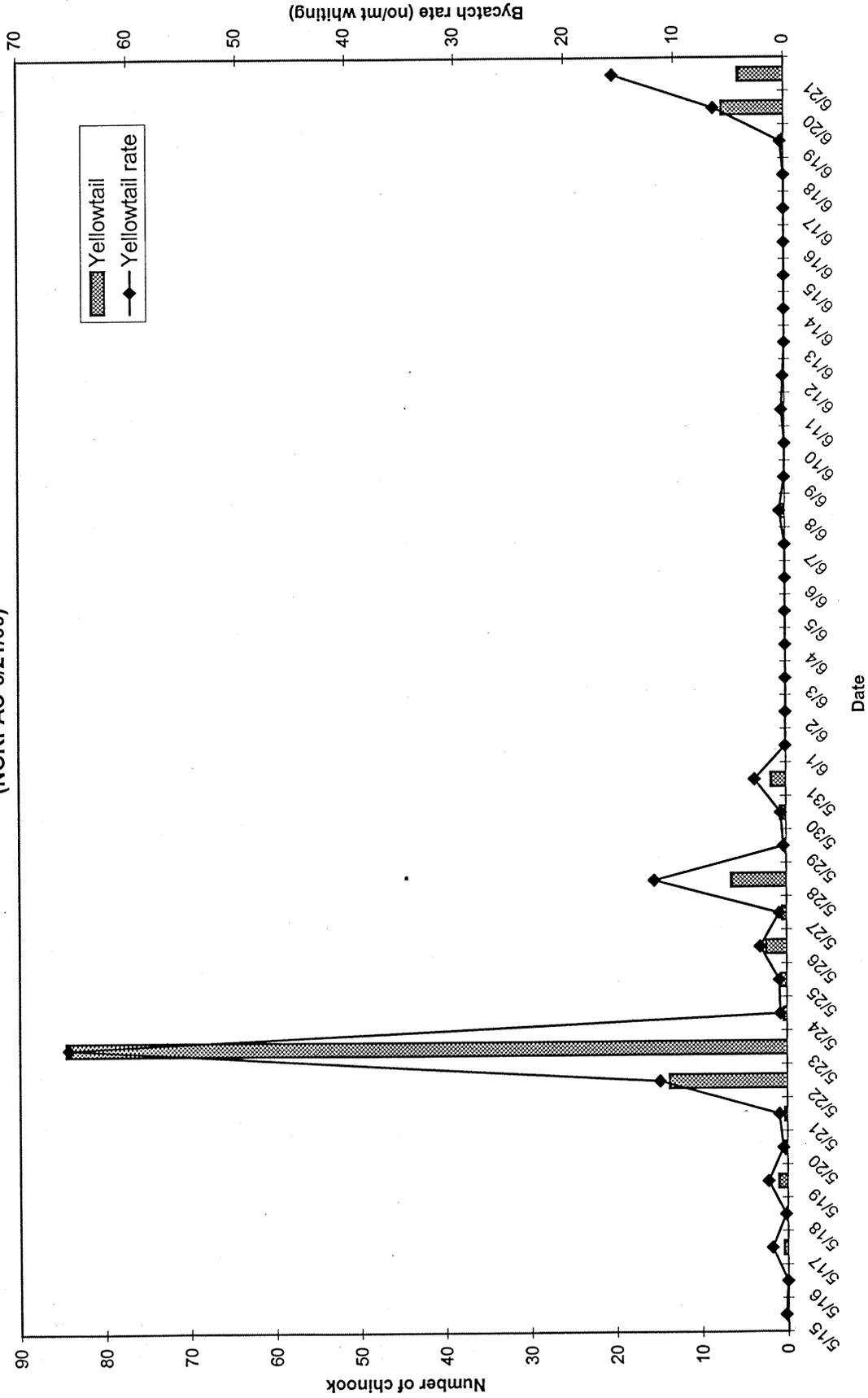
Widow rockfish bycatch in the catcher processor sector of the 2000 whiting fishery (NORPAC-6/21/00)



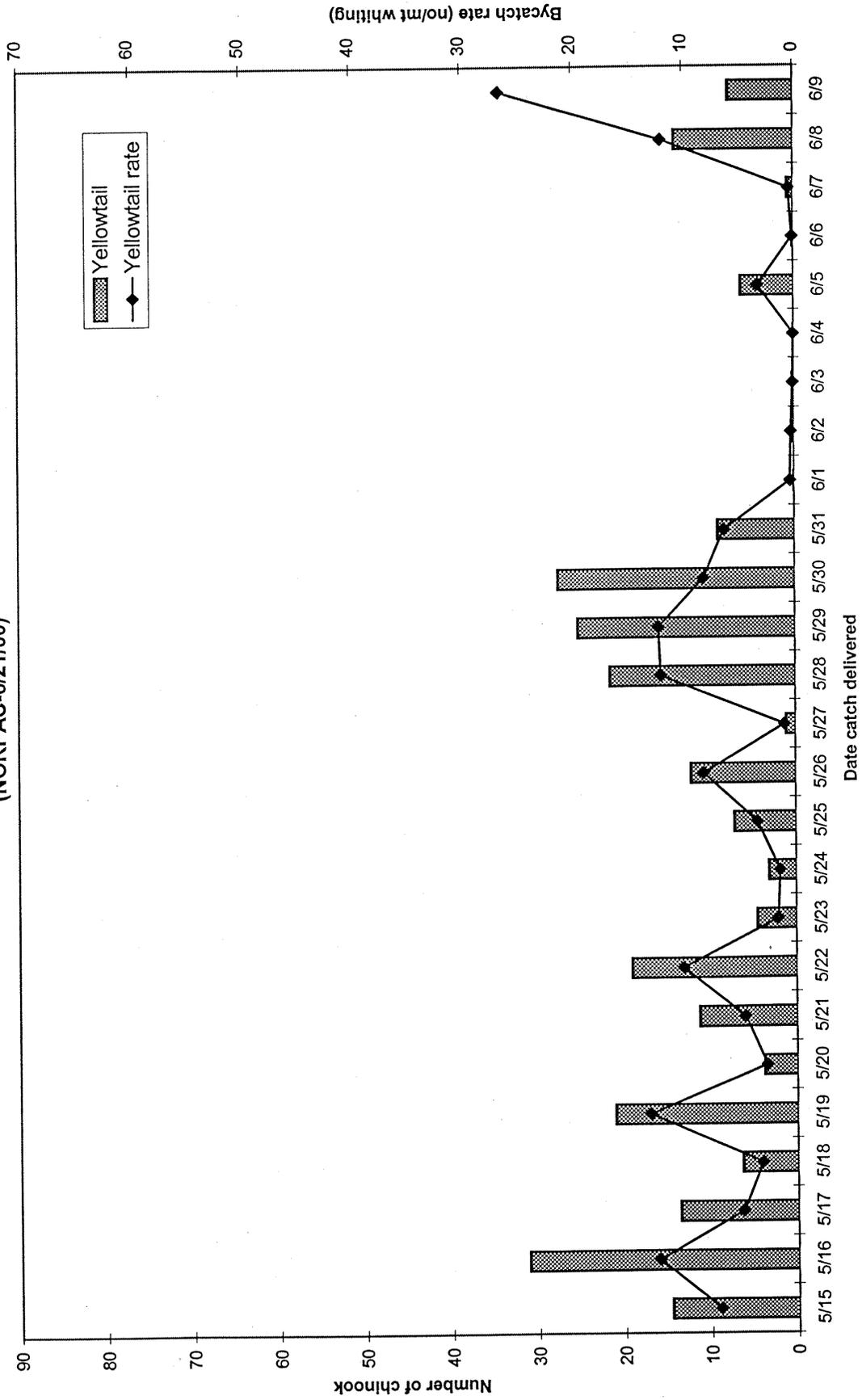
Widow rockfish bycatch in the mothership sector of the 2000 whiting fishery (NORPAC-6/21/00)



Yellowtail rockfish bycatch in the catcher processor sector of the 2000 whiting fishery (NORPAC-6/21/00)



Yellowtail rockfish bycatch in the mothership sector of the 2000 whiting fishery (NORPAC-6/21/00)



June 7, 2000
Fort Bragg, California

Pacific Fisheries Management Council
2130 SW Fifth Ave, Suite 224
Portland, Oregon 97201

RECEIVED

JUN 15 2000

PELCO

Dear Council Members:

As a commercial fisherman, I would appreciate it if the council could review the monthly limits on open access Sable fishing.

Under our existing limits, we have not been able to harvest the quota the council has made available to us. Due to weather constraints and small boat size, we are most able to fish during the summer and early fall months. An increased quota in the summer months would help us to come closer to your allotment. We aren't requesting a larger annual number but increased monthly limits during the time when we are able to fish.

The restrictions on Salmon and in-shore rock cod have made many of the Ft Bragg fishing families dependent on the Sable fishery. For this reason, we would greatly appreciate any consideration you could give concerning monthly limits.

Thank you for reviewing this request.

Richard Wetzel

Richard Wetzel

June 9, 2000

RECEIVED

JUN 15 2000

Pacific Fishery Management Council
2130 SW Fifth Ave., Suite 224
Portland, Oregon 97201

PFMC

Dear Council Chairman:

I would like to address a problem that has existed for the last couple of years. Open-access is allotted 500 metric tons of Sablefish a year. Why are we Open-access fisherman not allowed to harvest this quota? Many families need this extra income to financially make ends meet.

I am asking the Council to instruct the Groundfish Management Team to help us meet these goals. Thank you for your attention to this matter.

Sincerely,

Charles Smith
Open-access Fisherman

Charles A. Smith
6/10/00

RECEIVED

JUN 15 2000

PFMC

Kenyon Hensel
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To the Ground Fish Management Team,

I am not able to attend this meeting, so I am submitting this letter on behalf of the Crescent City open access ground fish fisherman. There are currently a dozen of us actively fishing out of the harbor here.

The next management cycle during July/August will be the best weather and poorest market of the year. We fishermen have talked over many scenarios concerning the prospects of this period. Where as all of us agree on the fact that November and December are not heavy fishing months, some of us would like to fish in September and October. My recommendation is a doubling of the May/June quotas. With the possibility of there being 40mts of fish caught by July 1st, a doubling of the catch could add up to 60-70mts to the catch by August 31st. If that was the case Sep-Oct quota could be adjusted to finish off the season's 192mts. We know we are opening up the fishery at a time fair weather fishermen will be able to capitalize on. We can only hope that summer salmon will pull off some of the pressure in the Oregon segment of the near shore fishery. Oregon has not to my knowledge, closed their near shore fishery as has California.

The move by California to limit the near shore fishery stopped six people I know of for entering the fishery. I am sure that many people have entered the Oregon waters who were enticed by the new trucking activity of Carvalho and Nor Cal as they expanded their range into Coos Bay, Port Orford, Gold beach, and Brookings. We fishermen have seen the results of this increased effort in lowered prices. The prices are still high enough to interest new fisherman into the rock cod market. Showing that lowering catch cannot by it's self necessarily limit fishing pressure.

We have been adjusting to the 2000 management quotas for 6 months. It has put a great financial burden on all of us, but the greatest losses are among the vertical line fisherman who had traditionally fished black snapper for their living. We do not have the long line gear to catch the other minor near shore rockfish that receive the highest price in the live fish fishery. Our gear does not lie on bottom, and thus we only catch one or two of these bottom hugging fish with each drop. Without any transition time or warning, we vertical line fisherman had no time to regear, or more importantly, time to relearn a new long line fishery. Due to this, a number of us are facing financial failure.

We need about 3000lbs of black rock cod a month. This 3000lbs of black snapper reflects a decrease of over 50% from our previous years fishery. We are paid much less for the black snapper, and have made up that difference with a larger catch. There are many more of these fish in our bio mass than the non black Seabastes, so this catch ratio reflected the ease with which we could find and catch the black rock fish with our non long line gear.

This year the council cut us off from this resource by giving the closed access long line fishermen 90% of the black rockfish OY. Those boats, if they fished black rockfish at all in years passed, used vertical gear to catch them. Then these fishermen switched to long line gear to prosecute the colored fish, which brought them more money. The long liners would usually avoid the black rockfish, or fish in deeper water outside their range. These fishermen, who were active in the 80's and early 90s, were given A permits.

The fishermen fishing vertical gear at that time, asked for A permits, and where deigned them due to gear. (See attached letter from Jim Englehart.) I would like to see this situation remedied in one of two ways. Either give fishermen who have been landing fish since before 94 with vertical gear "A" permits, or commission a V permit for this group to fish vertical line gear with a special quota of black rockfish attached to it. Our gear could be limited by number of hooks, (50 or less for example), or just the gear its self allows for controlled take by these fisherman.

→ See General
Public
Comment

I cannot stress enough the hardship that has befallen myself and several other fishermen in this harbor who relied on this resource. We can only make about 1200\$ a month with the May/June limits. This time of year I normally pay off the debt I have incurred in the sparse winter months. This year I am still incurring debt without any way to repay it. I do not see how I can financially survive the fall months until crab season. I have never in my life faced this kind of financial difficulty.

We few long time fishermen who have used this resource, and proven it a viable sustainable livelihood, need immediate help if we are to survive this year. In the new age of gear management, This permit would both rescue us long time fishermen left out of the fish decisions in 94, and allow the Council to see how selective our gear is. How cleanly it can be fished. Please help us.

Sincerely,

Kenyon Hensel

GROUND FISH ADVISORY SUBPANEL STATEMENT ON
STATUS OF FISHERIES AND INSEASON ADJUSTMENTS

The Groundfish Advisory Subpanel (GAP) met jointly with the Groundfish Management Team (GMT) and offers the following recommendations for inseason adjustments:

Limited Entry

1. For all gears, increase slope rockfish cumulative limits in the south to 7,000 pounds per two-month period.
2. For all gears, reduce shelf rockfish cumulative limits in the south to 500 pounds per month.

These two recommendations are made in the interest of protecting weak stocks.

3. For fixed gear, increase nearshore rockfish cumulative limits in the north to 5,000 pounds per two-month period, with a maximum of 1,800 pounds being species other than blue or black rockfish.
4. For fixed gear, increase nearshore rockfish cumulative limits in the south to 2,000 pounds per two-month period.

These two recommendations are made to allow target attainment.

5. For the fixed gear daily-trip-limit sablefish fishery, increase the cumulative limit to 3,300 pounds per two-month period, while maintaining the daily limit of 300 pounds.

This recommendation is made to allow a reasonable harvest of sablefish in this fishery while avoiding confusion with different daily trip limits.

6. For the small footrope trawl fishery in the north, remove the current two-month cumulative limit on yellowtail rockfish and substitute the following:
 - a. The "per trip" limit for yellowtail rockfish is the sum of 10% of the weight of arrowtooth flounder plus 33% of the weight of flatfish other than arrowtooth, not to exceed 7,500 pounds of yellowtail per trip.
 - b. A vessel using a small footrope may not land yellowtail unless it is also landing flatfish.
 - c. A vessel may not exceed the 30,000-pound cumulative limit per two-month period regardless of gear used.

Open Access

1. For slope rockfish in the south, increase the cumulative limit to 1,000 pounds per two-month period. This will allow a modest increase while protecting weak stocks.
2. For nearshore rockfish in the north, increase the cumulative limit to 2,500 pounds per two-month period, with a maximum of 900 pounds of species other than black or blue rockfish. The GAP understands allowing this higher cumulative limit may result in early attainment and closure for this fishery.
3. For nearshore rockfish in the south, increase the cumulative limit to 1,600 pounds per two-month period. This will allow a year-round fishery to be maintained.
4. For the fixed gear daily-trip-limit sablefish fishery, increase the cumulative limit to 3,300 pounds per two-month period, with a daily-trip-limit of 300 pounds.

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06/27/00

GROUND FISH MANAGEMENT TEAM REPORT ON
STATUS OF FISHERIES AND INSEASON ADJUSTMENTS

Limited Entry

Only two species provide any concern for early attainment of target poundage: Dover sole and shortspine thornyheads. About 50% of each of these species allocations had been landed through the end of May. However, with the suite of limits adopted by the Council in November, limits for both of those species were already lowered by over 50%, beginning May 1. This reduction resulted in May landings that were 40% to 50% lower than the preceding two monthly totals. As a result, no further changes are recommended at this time. Landings of longspine thornyheads and trawl sablefish through May represent only about 25% of the annual poundage. The sablefish limit did increase from 7,000 pounds to 10,000 pounds per two months in May, accompanied by about a 50% increase in landings. However, in conjunction with the scheduled reduction in the shortspine limit in May, the longspine limit was also lowered from 12,000 pounds to 4,000 pounds per two months. The Groundfish Management Team (GMT) would not be inclined to support a higher longspine limit unless it could be accompanied by a proportional increase in the shortspine limit.

Widow, yellowtail, and chillipepper rockfish were the three species afforded higher limits with the use of midwater gear, and much smaller bycatch allowances with small footrope gear. Of these, widow has had the highest limit poundage and has achieved the highest percentage of its annual allocation through May: 34%. Although widow poundage through May is only 60% of what it was last year at this time, the initial three-month cumulative period in 1999 accelerated landings dramatically from previous years. This year's landings are actually slightly ahead of where the fishery was at the end of May 1998. No changes are recommended at this time, though a higher limit than scheduled at the end of the year remains a possibility. Chillipepper landings through May are only 11% of the optimum yield (OY). However, the GMT feels this is indicative of the difficulties involved in fishing for it with midwater gear. Given this and the concern for potential bocaccio bycatch, no change in the limit is recommended.

The yellowtail limit was one-third of that for widow at the beginning of the year, and its landings through May represent about 20% of the available poundage. After the scheduled increase from 10,000 pounds to 30,000 pounds per two months May 1, landings increased from 52 mt in April to 316 mt in May. The GMT received comment from the industry regarding significant discard of yellowtail that was occurring in shelf flatfish fisheries, under the current 1,500 pound per-month small-footrope limit. In an effort to reduce this discard without creating undue incentive to target yellowtail with bottom gear, the GMT worked with the Groundfish Advisory Subpanel (GAP) to craft an alternative limit structure that could be employed experimentally for the remainder of the year. The proposed change would tie the small footrope yellowtail allowance to the amount of flatfish delivered in a trip. Rates in the range of 30% to 40% of the non-arrowtooth flatfish were discussed, along with lower percentages of arrowtooth. The GMT supports the GAP recommendation to constrain yellowtail landings per trip with small footrope to the lesser of 7,500 pounds or the sum of 33.3% of flatfish other than arrowtooth and 10% of the arrowtooth landed. No yellowtail allowance would be provided for trawl trips without flatfish, however the current fixed-gear bycatch limit would remain. The total amount of yellowtail caught with either midwater or small footrope gear for a two-month period would be constrained by the current 30,000-pound limit for midwater gear. The greatest concern with such an arrangement is that operations experiencing lower rates of incidental yellowtail catch on a trip may modify their strategy in an attempt to top-off their allowance before landing. However, the GMT believes this is a worthwhile experiment and hopes that the industry will refrain from altering their fishing strategies to increase their catch of yellowtail with bottom gear.

Landings of the three current rebuilding species--lingcod, Pacific Ocean perch (POP) and bocaccio rockfish--as well as canary rockfish, are in the 10% to 15% range of their annual allocations. However, there is concern that some fishers may be avoiding landing canary even when they have limit poundage remaining. No changes are recommended for these species.

Within the *Sebastes* subgroups, the shelf species limits were set in accordance with a bycatch-only policy, and both are at less than 5% of their allocations through May. However, it is noted that landings increased dramatically in both areas, coincident with the scheduled increase in limits May 1. Some of this increase is

believed to reflect targeting by fixed-gear vessels, and the GMT received reports of bocaccio discard occurring in some of these cases. At this time fishticket data cannot be used to evaluate which components of the fishery are contributing to these increases. Because of the bocaccio concerns identified in the discussion of the recreational fishery, the GMT is inclined to favor returning the shelf limit to the previous 500 pounds per month.

The slope groups have identical limits for trawl and fixed gear. In the northern area, slope rockfish landings through May represent 14% of the target poundage. The scheduled increase in this limit from 3,000 pounds to 5,000 pounds per two months was accompanied by an increase in landings from 49 mt to 93 mt. However, landings would have to average over 200 mt per month for the remainder of the year in order to achieve the available poundage. Adjustments to the current limit are also complicated by uncertainty regarding how much of the total would be comprised by darkblotched rockfish, which has been reported to Congress as a species where previous overfishing has occurred and which may be in need of a rebuilding plan next year. Aside from the darkblotched issue, the limit could probably be raised to something in the 7,000 pound to 8,000 pound per two-months range. Bank rockfish, and to a much lesser extent darkblotched, also enter into the equation for slope rockfish in the southern area, where landings through May are only 10% of the target poundage. Unlike the northern case, the same increase in limits May 1 did not increase landings in the south. Landings actually fell from 14 mt to 7 mt. A likely contributing factor to this drop was the lack of closure of opportunities to fish alternative nearshore and shelf targets in May. Since landings would have to be on the order of 50 mt per month in order to achieve the target poundage, it is not clear how high limits would have to be raised to achieve this rate. A limit of 10,000 pound per two months is presented as the best guess of a limit that might allow the target poundage to be taken.

The limited-entry table contains two sets of recommendations, one based on attempt to achieve the slope target and the second based on protecting the currently identified weak-link stocks within the subgroup. In the north, darkblotched has comprised about 50% of the identifiable slope species landings in each of the past three years, over a range of total identifiable slope landings from 500 mt to 1,200 mt. This year's limited-entry slope target in the north is nearly 1,500 mt, and the acceptable biological catch (ABC) for darkblotched is about 270 mt, 75% of which (200 mt) represents the OY contribution to the slope subgroup. If the slope target were fully achieved, expected catch of darkblotched rockfish would probably be three to four times this OY. Given the increase in May landings, the GMT feels that if not exceeding the darkblotched OY is the highest management priority, the current limit should not be raised, and may even need to be returned to the previous 3,000 pounds per two months. In the southern area, recent bank rockfish landings have ranged from 23% of the 69 mt of identifiable slope species landings in 1999 to 54% of the 870 mt identifiable slope total in 1998. This year's target is 335 mt, and the ABC for bank rockfish is around 80 mt, with an OY value (for both limited-entry and open-access) of about 60 mt. If the full target were achieved, it is probably reasonable to expect that 30% to 40% of the total would be comprised by bank rockfish. This would imply bank rockfish landings by just the limited-entry fleet of 100 mt to 135 mt, substantially over the total OY. Given the present rate of this fishery, the GMT feels that a small increase in the bi-monthly limit could be sustained without exceeding the bank rockfish OY. However, the GMT also has concerns about fixed-gear targeting of shelf rockfish and potential impacts on bocaccio mortality, given progress in the recreational fishery discussed below. If reductions are made in the shelf limit, this may transfer effort back to the slope, as was apparently the case during the April inside closure.

Limits for nearshore rockfish species were set to provide a target opportunity for fixed-gear and a bycatch allowance for trawl. The northern fishery is at 5% of its target poundage, and monthly landings showed no change with the increase in limit from 2,400 pounds to 3,000 pounds per two months in May. Landings were 3 mt in both months and would need to average over 20 mt for the remainder of the year in order to achieve the target poundage. Also, fishticket data that are available from PacFIN at this time are too incomplete to estimate what percentage of the total nearshore landings has been comprised by species other than black or blue rockfish. The southern nearshore rockfish fishery has taken only 13% of its target poundage, however their target is just 68 mt. In both of these nearshore fisheries, as well as their counterparts in the open-access fishery, the initial GMT recommendations for limits were based upon a very imprecise understanding of the relationships between limit size and participation. In the attempt to exercise caution, it would appear that some of these limits have crossed a threshold, below which most of the fishing for those species ceases. Because we are unsure how quickly effort may return to these

fisheries as limits are increased, the Council must begin to evaluate whether increasing the opportunity for individuals to make profitable trips with larger limits outweighs the potential risks of early closure. This situation is complicated by higher historical fixed-gear participation during the upcoming summer months, as well as the problematic identification of nearshore species in previous landings records, which would ordinarily be relied upon to provide a context for evaluating management alternatives.

If maintaining a fishery through the end of the year is a higher priority, then the GMT would recommend increasing the northern limit in July to 4,000 pounds per two months, no more than 1,500 pounds of which may be species other than black or blue rockfish. The southern picture is also clouded by the two-month closures in alternating portions of the California fishery. The March-April closure was apparently responsible for no nearshore rockfish being landed in either of those months. However, quota species monitoring (QSM) reports no landings in May either, despite a 300 pound per two-months increase in the limit. Given the small target and this uncertainty, the GMT would recommend increasing the limit to 1,600 pounds per two months in July. If maintaining the year-round fishery is of lesser importance than finding limits that can be profitably fished and enable the fleets to achieve their targets, the GMT would recommend increasing the northern limit to 5,000 pounds per two months, no more than 1,800 pounds of which may be species other than black or blue rockfish; and increasing the southern limit to 2,000 pounds per two months.

The fixed-gear daily-trip-limit (DTL) fishery for sablefish is also running slowly, having landed about 12% of the target poundage. Although the level of the bi-monthly cap may be responsible for some of this pace, a contributing factor is likely the available limits for shelf and slope rockfish, which are lower than in previous years. Since cost data are not available for this fishery, it is unknown to what extent fishers have depended on combining rockfish revenue with income from their 300 pounds of sablefish in order to assemble a profitable trip. Without doubt, any operation that was dependent on rockfish revenue in order to profitably pursue DTL sablefish limits would currently be able to make far fewer sablefish trips than would have been possible in the past. Given that the 300-pound limit was initially conceived as a bycatch allowance for individuals fishing rockfish and that the outlook for future shelf and slope rockfish trip limits is not promising, the Council may want to re-evaluate the current target pound for the DTL fishery and/or its daily-limit structure. Up through April, the Council experimented with an option allowing 600 pounds to be landed in a single landing once per week, with a lower bimonthly limit. Fishticket data are too incomplete to fully evaluate the degree to which this option was exercised, although it does not appear to have been widely used. While a higher daily limit may be a direction the Council wishes to consider, reports of the confusion created by having differential bi-monthly caps for those exercising this option were conveyed at the June GMT meeting. Given the uncertainty regarding the effect of rockfish limits on summer participation, the GMT recommends raising the bi-monthly cap to something in the range of 3,000 pounds to 3,300 pounds.

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Open access was allocated 3 mt of shortspine thornyheads, with no retention north of Point Conception, and 50 pounds of combined thornyheads south of there. That limit has resulted in 4 mt through May, so further retention of shortspine should be prohibited.

Although lingcod landings stand at 39% of the 31 mt allocation, all 12 mt were landed in May, following the January-April closure. The current limit of 400 pounds per month was intended to continue through October, before the fishery closed again. However, six months of fishing at the May rate would result in landings that are roughly double the allocation. If landings in June are higher than May, there may be little or no target poundage left. Because of the timing of this Council meeting, it will not be possible to close or reduce limits in this fishery by July 1. Therefore, GMT recommends returning to no retention of lingcod in open access beginning August 1.

As in limited entry, limits for shelf rockfish species were intended as bycatch only, and no change is recommended. Unlike limited entry, open-access shelf limits were not increased in May, and landings have shown no increasing trend. Landings of species in the other *Sebastes* subgroups are less than 7% of the target poundage in three cases and 15% in the fourth. In the northern nearshore group, monthly landings did not exceed 3 mt until May, when they jumped to 23 mt, coincident with an increase in the limit from 1,000 pounds to 1,500 pounds per two months. Since this is a two-month limit, however, it remains to

be seen whether this will represent the bulk of the landings for the May-June period. If the fishery averaged the amount landed in May from June through October, there would be 50 mt remaining for the last two months. Were the average in those five months to be 30 mt, 15 mt would remain. The southern nearshore fishery has only taken 6% of its target poundage and no more than 5 mt has been landed in any single month. As discussed regarding the comparable limited-entry fisheries, the magnitude of limit changes in these fisheries should be evaluated in the context of the importance of maintaining a year-round fishery. If that is a higher priority, the GMT would recommend a small increase in the north, perhaps to 1,800 pound per two months, no more than 800 lb of which may be species other than black or blue rockfish; and a more substantial increase in the south, from 800 pounds to 1,600 pounds per two months. If the Council desires an estimated discard amount to be subtracted from the open-access targets, these increases may be too large to sustain the fisheries through the end of the year. If making sure these fleets have a real opportunity to harvest all of their targets is a higher priority than increased risk of early attainment, the GMT would support increasing the northern limit to 2,500 pounds per two months, no more than 900 pounds of which may be species other than black or blue rockfish; and 2,500 pounds per two months in the south.

Although no slope rockfish have apparently been landed by open access vessels in the northern area, their target is only 10 mt. It may be reasonable to implement a small increase in this limit, given that few of these vessels would likely be interested in pursuing slope species during the winter, however the concern over darkblotched rockfish outlined above may argue against any increase. The southern fishery has landed only 1 mt of their 97 mt target. However, both of these fisheries would be expected to have a strong seasonal pattern of participation. Aside from the concern over bank rockfish, the GMT would recommend raising the southern limit from 500 pounds to somewhere in the range of 1,500 pounds to 2,000 pounds per two months, depending on the interest in ensuring a winter opportunity. Open-access landings of slope species have tended to include even higher percentages of bank rockfish than those in limited entry. With the much-reduced *Sebastes* limits of 1999, less than 9 mt of identifiable slope sub-group species were landed, but 41% of that amount was bank rockfish. The landings of these species totaled 132 mt in 1998 and 91 mt in 1997, the latter value being just under the 2000 target amount. Landings of bank rockfish in those years were 82 mt and 32 mt, respectively, comprising 82% and 35% of the totals. If this year's 97 mt target were achieved, the expected bank landings, this range of percentages would yield somewhere between 34 mt and 80 mt of bank rockfish. Recall from the limited-entry discussion that the OY for bank is calculated to be 60 mt for both sectors. Given that only 1 mt of slope species has been landed by open access through May, some limit increase may be warranted, but perhaps to something more like 1,000 pounds per two months.

As in limited entry, the DTL fishery is progressing slowly, with only 7% of the allocation having been landed through May. An increase in the bi-monthly cap from 2,400 pounds to something in the 3,000-pound to 3,300-pound range per two months would appear warranted. The discussion provided in the limited-entry section regarding the synergistic effects of shelf/slope rockfish limits on participation with a 300 pound daily limit applies to open access, as well.

Recreational

It was brought to the attention of the GMT at its June meeting that the estimated catch of bocaccio during the first four months of 2000 is 75 mt. Since the total OY for bocaccio is only 100 mt and the amount set aside to account for recreational catch is 45 mt, this is an issue of major concern. Even if the current partial-season estimate is high by a significant amount, the recreational fishery will likely have exceeded the 45 mt set-aside by the end of June. The fact that this volume of catch was generated with two-month closures in alternating areas of the state underscores the seriousness of this situation. If the current estimate is taken at face value, and the Council is intent on trying to achieve the rebuilding target for bocaccio, all fishing in areas where bocaccio might be encountered should be halted as quickly as possible. However, the GMT acknowledges that an unknown portion of the recreational catch occurs within state waters and it may be very difficult to alter California state recreational regulations inseason.

The higher-than-expected amounts of recreational catch are consistent with the conclusions presented by Dr. Alec MacCall in November, that the presence of rather strong incoming year classes would require drastic reductions in effort in order to achieve the rebuilding targets. However, anecdotal reports conveyed

to the GMT suggest that this year's catch is not comprised predominantly by young fish. It should also be noted that the GMT estimates of the amount of recreational catch with the current regulations were founded primarily on data from the 1998 fishery--reflecting 55 mt of catch--given that 1999 data were far from complete last fall. Subsequent review of the 1999 data this spring revealed that the Recreational Fishery Information network (RecFIN) estimate of last year's catch was around 120 mt.

The GMT is also concerned about the apparent rate of catch in the recreational lingcod fishery. Even though California had alternating-area, two-month closures and Washington catch is not reflected in RecFIN at this point, the estimated recreational catch through the first four months of the year is 108 mt, compared to a 215 mt set aside. This situation would appear to be analogous to that observed in the open access fishery. With the inclusion of Washington data and two more months of fishing through June it is very possible that recreational catch will be near the amount set aside for the entire year.

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06/27/00

June 2000 GMT recommendations for limited-entry trip-limit changes

	Current limits	Recommendations	
Limited entry		Achieve total OY	Protect weak stock *
Slope rockfish subgroup (all gears)			
North	5,000 lb / 2-months (through October)	7 - 8,000 lb / 2-months (through October)	3 - 5,000 lb / 2-months
South	5,000 lb / 2-months (through October)	8 - 10,000 lb / 2-months (through October)	7,000 lb / 2-months
* Recommendations reflect concern over darkblotched rockfish (North) & bank rockfish (South)			
Shelf rockfish subgroup (South)	1,000 lb / month		500 lb / month
Nearshore rockfish subgroup (fixed-gear)		Year-round fishery priority	Target attainment priority
North	3,000 lb / 2-months (max. 1,400 non-black/blue)	4,000 lb / 2-months (max. 1,500 non-black/blue)	5,000 lb / 2-months (max. 1,800 non-black/blue)
South	1,300 lb / 2-months	1,600 lb / 2-months	2,000 lb / 2-months
Fixed-gear daily-trip-limit fishery		Current daily limit	Higher daily limit
	2,400 lb / 2-months (300 lb / day)	3,000 - 3,300 lb / 2-months (300 lb / day)	2,400 lb / 2-months (600 lb / day)
Yellowtail rockfish (small footrope)	1,500 lb / month	[33.3% of non-arrowtooth flatfish + 10% of arrowtooth on each trip] up to 7,500 lb per trip (cumulative poundage applied to the 2-month midwater limit)	

Note: **Bold** entries represent consensus recommendations of the GMT and GAP.

June 2000 GMT recommendations for open-access trip-limit changes

Current limits		Recommendations	
Open access			
Shortspine thornyheads	50 lb / day, S. of Pt. Conception	No retention (August 1)	
Lingcod	400 lb / mo	No retention (August 1)	
Slope rockfish subgroup		Achieve total OY	Protect weak stock *
North	500 lb / 2-months	700 lb / 2-months	500 lb / 2-months
South	500 lb / 2-months	1,500-2,000 lb / 2-months	1,000 lb / 2-months
* Recommendations reflect concern over darkblotched rockfish (North) & bank rockfish (South)			
Nearshore rockfish subgroup		Year-round fishery priority	Target attainment priority
North	1,500 lb / 2-months (max. 700 non-black/blue)	1,800 lb / 2-months (max. 800 non-black/blue)	2,500 lb / 2-months (max. 900 non-black/blue)
South	800 lb / 2-months	1,600 lb / 2-months	2,500 lb / 2-months
Fixed-gear daily-trip-limit fishery		Current daily limit	Higher daily limit
	2,400 lb / 2-months (300 lb / day)	3 - 3,300 lb / 2-months (300 lb / day)	2,400 lb / 2-months (600 lb / day)

Note: **Bold** entries represent consensus recommendations of the GMT and GAP.

Limited-entry Inseason Progress Report: June 2000

	State distribution of tonnage thru May, 2000				1999 Thru May	Individual months					Annual Allocation	Landings thru March		Landings thru April		Landings thru May	
	WA	OR	CA	Total		Jan	Feb	Mar	Apr	May		mts	% of ann.	mts	% of ann.	mts	% of ann.
Dover sole	378	2,632	1,414	4,424	4,064	730	744	1,013	1,290	647	8,955	2,487	27.8%	3,777	42.2%	4,424	49.4%
Longspine THDS	13	434	454	901	732	173	154	199	275	100	3,730	526	14.1%	801	21.5%	901	24.2%
Shortspine THDS	17	174	169	360	333	71	56	75	108	50	664	202	30.4%	310	46.7%	360	54.2%
TWL Sable (V&C&E&M)	52	535	253	840	1,094	108	113	171	181	267	3,355	392	11.7%	573	17.1%	840	25.0%
NTW Sable (V&C&E&M)	17	4	24	45	72	5	3	10	13	14	379	18	4.7%	31	8.2%	45	11.9%
Sablefish Conception	0	0	34	34	85	11	5	9	4	5	425	25		29		34	
Lingcod	2	6	4	12	76	0	0	0	0	12	132	0	0.0%	0	0.0%	12	9.1%
Widow Rockfish	67	843	192	1,102	1,851	244	126	211	286	235	3,237	581	17.9%	867	26.8%	1,102	34.0%
Canary Rockfish	0	7	1	8	162	0	0	0	2	6	88	0	0.0%	2	2.3%	8	9.1%
POP (V&C&E)	6	26	1	33	165	4	2	2	6	19	227	8	3.5%	14	6.2%	33	14.5%
Yellowtail (V&C&E)	91	331	0	422	687	12	21	21	52	316	2,153	54	2.5%	106	4.9%	422	19.6%
North Near-shore RF	0	7	2	9	0	1	0	2	3	3	172	3	1.7%	6	3.5%	9	5.2%
North Shelf rockfish	7	7	28	42	0	0	1	0	14	27	1,133	1	0.1%	15	1.3%	42	3.7%
North Slope rockfish	31	125	50	206	0	29	19	16	49	93	1,490	64	4.3%	113	7.6%	206	13.8%
(V&C&E) UNSP RCKFSH	{38}	{139}	{80}	{257}	{164}	{30}	{20}	{18}	{66}	{123}	0	{68}	{2.4%}	{134}	{4.8%}	{257}	{9.2%}
Bocaccio (MT&CP)	0	0	4	4	16	1	0	1	1	1	31	2	6.5%	3	9.7%	4	12.9%
Chilipepper (MT&CP)	0	0	103	103	315	7	13	46	27	10	915	66	7.2%	93	10.2%	103	11.3%
Splitnose RF (MT&CP)	0	0	27	27	74	6	3	3	7	8	517	12	2.3%	19	3.7%	27	5.2%
South Near-shore RF	0	0	9	9	0	1	8	0	0	0	68	9	13.2%	9	13.2%	9	13.2%
South Shelf rockfish	0	0	17	17	0	0	0	0	1	16	337	0	0.0%	1	0.3%	17	5.0%
South Slope rockfish	0	0	34	34	0	8	3	2	14	7	335	13	3.9%	27	8.1%	34	10.1%
(MT&CP) UNSP RCKFSH	{0}	{0}	{60}	{60}	{38}	{9}	{11}	{2}	{15}	{23}	0	22		37		{60}	
Pacific Whiting	0	27	2,549	2,576	91	0	0	0	163	2,413	0	0		163		2,576	

Open-access Inseason Progress Report: 2000

	State distribution of tonnage thru May, 2000				1999 Thru May	Individual months					Annual Allo-cation	Landings thru March		Landings thru April		Landings thru May	
	WA	OR	CA	Total		Jan	Feb	Mar	Apr	May		mts	% of ann.	mts	% of ann.	mts	% of ann.
Dover sole	0	0	1	1	23	0	1	0	0	0	0	1		1		1	
Longspine THDS	0	0	1	1	2	0	1	0	0	0	0	1		1		1	
Shortspine THDS	0	0	4	4	9	1	1	0	1	1	3	2	66.7%	3	100.0%	4	133.3%
TWL Sable (V&C&E&M)	0	0	2	2	11	1	0	0	1	1	0	0		1		2	
NTW Sable (V&C&E&M)	3	12	27	42	31	7	2	7	11	15	600	16	2.7%	27	4.5%	42	7.0%
Sablefish Conception	0	0	9	9	6	1	1	5	0	2	425	7		7		9	
Lingcod	1	8	3	12	29	0	0	0	0	12	31	0	0.0%	0	0.0%	12	38.7%
Widow Rockfish	0	1	1	2	14	1	0	0	0	1	128	1	0.8%	1	0.8%	2	1.6%
Canary Rockfish	0	1	1	2	25	0	0	0	0	2	15	0	0.0%	0	0.0%	2	13.3%
POP (V&C&E)	0	0	0	0	2	0	0	0	0	0	0	0		0		0	
Yellowtail (V&C&E)	0	2	0	2	23	0	0	0	0	2	286	0	0.0%	0	0.0%	2	0.7%
North Near-shore RF	0	22	6	28	0	0	3	1	1	23	193	4	2.1%	5	2.6%	28	14.5%
North Shelf rockfish	0	1	0	1	0	0	0	0	0	1	50	0	0.0%	0	0.0%	1	2.0%
North Slope rockfish	0	0	0	0	0	0	0	0	0	0	10	0	0.0%	0	0.0%	0	0.0%
(V&C&E) UNSP RCKFSH	{0}	{23}	{6}	{29}	{22}	{0}	{3}	{1}	{1}	{24}	{253}	{4}	{1.6%}	{5}	{2.0%}	{29}	{11.5%}
Bocaccio (MT&CP)	0	0	1	1	11	0	0	0	0	1	24	0	0.0%	0	0.0%	1	4.2%
Chilipepper (MT&CP)	0	0	22	22	50	13	1	0	5	3	866	14	1.6%	19	2.2%	22	2.5%
Splitnose RF (MT&CP)	0	0	0	0	0	0	0	0	0	0	0	0		0		0	
South Near-shore RF	0	0	15	15	0	3	1	3	3	5	233	7	3.0%	10	4.3%	15	6.4%
South Shelf rockfish	0	0	3	3	0	1	0	0	1	1	258	1	0.4%	2	0.8%	3	1.2%
South Slope rockfish	0	0	1	1	0	0	0	0	1	0	97	0	0.0%	1	1.0%	1	1.0%
(MT&CP) UNSP RCKFSH	{0}	{0}	{19}	{19}	{20}	{4}	{1}	{3}	{5}	{6}	{588}	{8}	{1.4%}	{13}	{2.2%}	{19}	{3.2%}

Percentage of darkblotched rockfish in identifiable landings of slope subgroup species.

	Open access			Limited entry			All commercial		
	1997	1998	1999	1997	1998	1999	1997	1998	1999
Northern area									
Identifiable landings									
Aurora Rockfish	0.0	0.0	0.7	15.0	17.0	12.5	15.0	17.0	13.2
Bank Rockfish	0.0	0.1	0.3	10.3	3.3	10.7	10.3	3.4	11.0
Blackgill Rockfish	0.0	0.1	2.5	16.2	5.2	9.8	16.2	5.3	12.3
Darkblotched Rockfish	0.6	0.2	10.5	522.0	707.4	265.2	522.5	707.6	275.6
Rougheye Rockfish	0.9	1.0	5.4	138.9	145.3	78.1	139.8	146.3	83.4
Sharpchin Rockfish	0.0	0.0	0.2	224.3	101.1	27.3	224.3	101.1	27.5
Shorthead Rockfish	0.5	0.0	0.4	90.4	48.6	22.5	91.0	48.6	22.9
Splitnose Rockfish	0.0	0.0	1.8	134.9	152.8	60.4	134.9	152.8	62.1
Total	2.0	1.4	21.8	1,152.0	1,180.7	486.5	1,154.0	1,182.1	508.0
Percentage of total									
Aurora Rockfish	0.0%	0.0%	3.2%	1.3%	1.4%	2.6%	1.3%	1.4%	2.6%
Bank Rockfish	0.0%	7.1%	1.4%	0.9%	0.3%	2.2%	0.9%	0.3%	2.2%
Blackgill Rockfish	0.0%	7.1%	11.5%	1.4%	0.4%	2.0%	1.4%	0.4%	2.4%
Darkblotched Rockfish	30.0%	14.3%	48.2%	45.3%	59.9%	54.5%	45.3%	59.9%	54.3%
Rougheye Rockfish	45.0%	71.4%	24.8%	12.1%	12.3%	16.1%	12.1%	12.4%	16.4%
Sharpchin Rockfish	0.0%	0.0%	0.9%	19.5%	8.6%	5.6%	19.4%	8.6%	5.4%
Shorthead Rockfish	25.0%	0.0%	1.8%	7.8%	4.1%	4.6%	7.9%	4.1%	4.5%
Splitnose Rockfish	0.0%	0.0%	8.3%	11.7%	12.9%	12.4%	11.7%	12.9%	12.2%
Southern area									
Identifiable landings									
Aurora Rockfish	0.7	1.3	0.1	32.8	17.0	5.1	33.5	18.3	5.2
Bank Rockfish	31.8	131.8	3.4	378.1	465.4	15.7	409.9	597.3	19.1
Blackgill Rockfish	58.0	21.1	4.9	199.6	200.8	42.2	257.6	221.8	47.2
Darkblotched Rockfish	0.6	6.3	0.0	273.5	175.5	4.9	274.1	181.8	4.9
Pacific Ocean Perch				4.4		1.0	4.4		1.0
Rougheye Rockfish		0.5			0.8	0.1		1.3	0.1
Sharpchin Rockfish	0.0			98.1	9.6		98.1	9.6	
Shorthead Rockfish				1.5			1.5		
Total	91.1	161.0	8.4	988.0	869.1	69.0	1,079.1	1,030.1	77.5
Percentage of total									
Aurora Rockfish	0.8%	0.8%	1.2%	3.3%	2.0%	7.4%	3.1%	1.8%	6.7%
Bank Rockfish	34.9%	81.9%	40.5%	38.3%	53.5%	22.8%	38.0%	58.0%	24.6%
Blackgill Rockfish	63.7%	13.1%	58.3%	20.2%	23.1%	61.2%	23.9%	21.5%	60.9%
Darkblotched Rockfish	0.7%	3.9%	0.0%	27.7%	20.2%	7.1%	25.4%	17.6%	6.3%
Pacific Ocean Perch	0.0%	0.0%	0.0%	0.4%	0.0%	1.4%	0.4%	0.0%	1.3%
Rougheye Rockfish	0.0%	0.3%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.1%
Sharpchin Rockfish	0.0%	0.0%	0.0%	9.9%	1.1%	0.0%	9.1%	0.9%	0.0%
Shorthead Rockfish	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.1%	0.0%	0.0%

STATUS OF FISHERIES AND INSEASON ADJUSTMENTS

Situation: In the current groundfish management program, the Council sets annual harvest targets (optimum yield [OY] levels) and individual vessel landing limits for specified periods, with the understanding these vessel landing limits will likely need to be adjusted periodically through the year in order to reach but not exceed the OYs. The initial vessel landing limits are based on predicted participation rates, estimates of how successful participants will be at achieving their limits for each period, and comparisons with previous years. This process has become more complicated over the years as various OYs have been subdivided geographically and into allocations for limited entry and open access fishing sectors and as gear regulations have been changed. The June Council meeting is typically the first opportunity for a comprehensive evaluation of overall landings rates and projections of total annual catch. The Council's task at this meeting is to review the available information and projections and adjust the current management measures as appropriate.

In November 1999, the Council established three minor rockfish categories in order to protect overfished and depleted rockfish stocks while providing as much access as possible to healthier stocks. The Council listed the individual rockfish species included in the nearshore, shelf, and slope rockfish categories. Management measures for large and small footrope trawl gears were approved for each rockfish category and other species associated with each category. A primary objective of this management approach is to reduce fishing activities in areas where canary rockfish would likely be caught. Restrictions on shelf flatfish species were included in the management program. At the April meeting, the Council shifted two rockfish species into different categories, revised the flatfish allowances for limited entry trawl gear, and approved a special provision for certain open access participants.

This year the June Council meeting occurs during the last week of the May-June cumulative landings period; the next cumulative period begins July 1 and ends August 31. There is not enough time for managers to implement any proposed adjustments before the next period begins. This will not be a problem for trip limits that may be increased; vessels will have to wait until the regulations change before they have access to the larger limits.

Council Action:

1. Adopt inseason adjustments.

Reference Materials:

1. Excerpt from May 17, 2000 *Federal Register*: minor rockfish categories and species list; current trip limits (Attachment D.5.a.).
2. Public Comment D.5.

PFMC
06/14/00



JUN 23 2000

Supplemental NMFS Report D.5.
June 2000

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
 NATIONAL MARINE FISHERIES SERVICE
 Sustainable Fisheries Division
 7600 Sand Point Way N.E., BLDG. 1
 BIN C15700
 Seattle, Washington 98115-0070

1504-11-c-090

TO: DISTRIBUTION
 FROM: F/NWR2 - Katherine King *Katherine King*
 SUBJECT: PRELIMINARY Report #2 -- 2000 Pacific Whiting Fishery

This report consolidates preliminary state, federal, and tribal data for the 2000 Pacific whiting fishery off Washington, Oregon, and California. The catcher/processor and non-tribal mothership fishery started on May 15. The mothership fishery was projected to reach its allocation and was closed on June 9. As in previous years, the catcher/processor fishery for whiting continues at a slower pace, due in part to the industry's cooperative agreement to divide the allocation amongst themselves, eliminating the need to compete with more vessels at a faster pace. The shore-based season in most of the Eureka area (between 42°- 40°30' N. lat.) began on April 1, and the fishery south of 40° 30' N. lat. opened April 15. The shore-based whiting fishery south of 42° N. lat. reached its allocation and was temporarily "closed" (a 20,000 lb per trip limit applied) from June 8 until June 15 when the shore-based fishery north of 42° N. lat. began.

	Allocation		Catch (mt)	Thru [date]	Status	Percent of allocation taken
	Percentages	Metric Tons				
California (south of 42 N lat.)	(5% shore alloc'n; included in WOC shore-based allocation)	4,190	4,109	6/8	started 0001 hours April 1; 5% alloc'n taken 6/8/00. Temp. "closure" noon 6/8/00 to 0001 hours 6/15/00	98.1%
Oregon	--	NA	37	6/10	start 0001 hours 6/15 (37 mt taken under 20,000 lb per trip limit)	
Washington	--	NA	0		start 0001 hours 6/15	
WOC shoreside	42% commercial OY	83,790	4,146			4.9%
Mothership (n. of 42 N. lat.)	24% commercial OY	47,880	46,876	6/9	started 0001 hours 5/15/00, closed 1600 6/9/00	97.9%
Catcher/processor (n. of 42 N. lat.)	34% commercial OY	67,830	29,726	6/21	started 0001 hours 5/15/00	43.8%
Total nontribal	commercial OY (86% OY)	199,500	80,748	--	--	40.5%
Tribal (Makah)	14% OY	32,500	1,333	6/21	started 6/10	4.1%
Total	OY=optimum yeild	232,000	82,081	--	--	35.4%

* Catch includes discards from at-sea processors; weigh-backs from shore-based catcher vessels; and small amounts landed under the 20,000-pound trip limit between the seasons. The data for at-sea processing (catcher/processors and motherships) are preliminary and are based on reports from NMFS-trained observers. Data for shoreside processors also are preliminary and are provided by each State to NMFS for the purpose of monitoring the fishery. If you have questions on shoreside landings, please contact the appropriate state fishery management agency. Preliminary data for the Makah fishery will be from a NMFS-trained observer (s). All weights are round weight (the weight of the whole fish before processing) or round-weight equivalents. One metric ton is 2,204.62 pounds.



RECEIVED

Public Comment D.5.
June 2000

MAY 31 2000

PFMC

May 20, 2000

Dear Sir

Please read this.

South of 40° 10' N
Year 2000 Federal Groundfish Management
Measures Federal and State Waters

Limit Entry Trawl	Limit Entry Fixed Gear	Open Access with Nearshore Permit
Yellowtail Rockfish 1,500 to 30,000 lbs per month per 2 month cumulative	1,500 lbs per month	200 lbs per month without others
200 lbs Nearshore per month	3,000 lbs 2 month cumulative	800 lbs 2 mo. cumulative
Canary Rock fish 300 lbs. per month	300 lbs per month	50 lbs per month

I have fish since 1980 (small vessel fishery).
I have Nearshore Permit last year and this year. I'm
in Open Access Group because I'm not qualified for
Limit Entry.

Limit Entry Group gets a whole lot more fish than
I do in Yellowtail Rockfish, Canary Rockfish, and
Nearshore Rockfish. It is so unfair. Now,
Please explain to me about this. Why do I get
this punishment? Are you or they (PFMC) trying
to kick me out of business because I'm not
greedy?

John Henry
P.O. Box 464 Elizabeth Ann
Bodega Bay, Calif.
94923

Salmon Trollers Marketing Association Incorporated

P. O. BOX 137

PH: (707) 964-5500

FORT BRAGG, CALIFORNIA 95437

June 1, 2000

RECEIVED

JUN 05 2000

Pacific Fishery Management Council
2130 SW Fifth Ave., Suite 224
Portland, Oregon 97201

PFMC

Dear Council Chairman:

The Fort Bragg Trollers Marketing Association would like to request the Council to revisit the open access/limited entry Sable fish monthly limits.

For the past couple of years we have not landed the annual quota. Often, the Council has waited until late in the year to either raise the limits or leave fish unharvested. We would like to be able to harvest this fish during the summer months, mainly because of the weather.

Our association feels that June is the appropriate time to raise the monthly limit to a point that would utilize all the fish allocated to the open access/limited entry fleet.

Thank you for considering this request.

Sincerely,

Bill Haas, President
Fort Bragg Marketing Association



Table 2.--Minor Rockfish Species (excludes thornyheads)

North of 40° 10' N. lat.

South of 40° 10' N. lat.

NEARSHORE

black, *Sebastes melanops*
black and yellow, *S. chrysomelas*
blue, *S. mystinus*
brown, *S. auriculatus*
calico, *S. dalli*
China, *S. nebulosus*
copper, *S. caurinus*
gopher, *S. carnatus*
grass, *S. rastrelliger*
kelp, *S. atrovirens*
olive, *S. serranoides*
quillback, *S. maliger*
treefish, *S. serriceps*

black, *Sebastes melanops*.
black and yellow, *S. chrysomelas*.
blue, *S. mystinus*.
brown, *S. auriculatus*.
calico, *S. dalli*.
California scorpionfish, *Scorpaena guttata*.
China, *Sebastes nebulosus*.
copper, *S. caurinus*.
gopher, *S. carnatus*.
grass, *S. rastrelliger*.
kelp, *S. atrovirens*.
olive, *S. serranoides*.
quillback, *S. maliger*.
treefish, *S. serriceps*.

SHELF

bronzespotted, *S. gilli*
bocaccio, *S. paucispinis*
chameleon, *S. phillipsi*
chilipepper, *S. goodei*
cowcod, *S. levis*
dwarf-red, *S. rufinanus*
freckled, *S. lentiginosus*
greenblotched, *S. rosenblatti*
greenspotted, *S. chlorostictus*
greenstriped, *S. elongatus*
halfbanded, *S. semicinctus*
honeycomb, *S. umbrosus*
Mexican, *S. macdonaldi*
pink, *S. eos*
pinkrose, *S. simulator*
pygmy, *S. wilsoni*
redstriped, *S. proriger*
rosethorn, *S. helvomaculatus*
rosy, *S. rosaceus*
silvergrey, *S. brevispinis*
speckled, *S. ovalis*
squarespot, *S. hopkinsi*
starry, *S. constellatus*
stripetail, *S. saxicola*
swordspine, *S. ensifer*
tiger, *S. nigrocinctus*
vermilion, *S. miniatus*
yelloweye, *S. ruberrimus*

bronzespotted, *S. gilli*.
chameleon, *S. phillipsi*.
dwarf-red, *S. rufinanus*.
flag, *S. rubrivinctus*.
freckled, *S. lentiginosus*.
greenblotched, *S. rosenblatti*.
greenspotted, *S. chlorostictus*.
greenstriped, *S. elongatus*.
halfbanded, *S. semicinctus*.
honeycomb, *S. umbrosus*.
Mexican, *S. macdonaldi*.
pink, *S. eos*.
pinkrose, *S. simulator*.
pygmy, *S. wilsoni*.
redstriped, *S. proriger*.
rosethorn, *S. helvomaculatus*.
rosy, *S. rosaceus*.
silvergrey, *S. brevispinis*.
speckled, *S. ovalis*.
squarespot, *S. hopkinsi*.
starry, *S. constellatus*.
stripetail, *S. saxicola*.
swordspine, *S. ensifer*.
tiger, *S. nigrocinctus*.
vermilion, *S. miniatus*.
yelloweye, *S. ruberrimus*.
yellowtail, *S. flavidus*.

SLOPE

aurora, *S. aurora*
bank, *S. rufus*
blackgill, *S. melanostomus*
darkblotched, *S. cramerii*
redbanded, *S. babcocki*
rougheyeye, *S. aleutianus*
sharpchin, *S. zacentrus*
shortraker, *S. borealis*
splitnose, *S. diploproa*
yellowmouth, *S. reedi*

aurora, *S. aurora*.
bank, *S. rufus*.
blackgill, *S. melanostomus*.
darkblotched, *S. cramerii*.
Pacific ocean perch (POP), *S. alutus*.
redbanded, *S. babcocki*.
rougheyeye, *S. aleutianus*.
sharpchin, *S. zacentrus*.
shortraker, *S. borealis*.
yellowmouth, *S. reedi*.

Table 3. 2000 Trip Limits 1/ and Gear Requirements 2/ for Limited Entry Trawl Gear

Read Section IV. A. NMFS Actions before using this table.

line	Species/groups	JAN-FEB	MAR-APR	MAY-JUN	JUL-AUG	SEP-OCT	NOV-DEC
1	Minor slope rockfish						
2	North	3,000 lb / 2 months		5,000 lb / 2 months			1,500 lb / month
3	South	3,000 lb / 2 months		5,000 lb / 2 months			1,500 lb / month
4	Splitnose-South	8,500 lb / 2 months		14,000 lb / 2 months			4,000 lb / month
5	POP-North	500 / month		2,500 lb / month			500 lb / month
6	Sablefish	7,000 lb / 2 months; 22-inch size limit 3/		10,000 lb / 2 months; 22-inch size limit 3/			3,500 lb / month ; 22-inch size limit 3/
7	Longspine thornyhead	12,000 lb / 2 months		4,000 lb / 2 months			6,000 lb / month
8	Shortspine thornyhead	3,000 lb / 2 months		1,000 lb / 2 months			1,500 lb / month
9	Dover sole	55,000 lb / 2 months		20,000 lb / 2 months			20,000 lb/ month
10	Arrowtooth flounder	10,000 lb / trip		Small footrope--No pound limit; Large footrope--Included in "other flatfish" trip limit 2/			10,000 lb / trip
11	Petrale sole	No restriction	No limit but small footrope required	Small footrope--No pound limit; Large footrope--Included in "other flatfish" trip limit 2/			No restriction
12	Rex sole	No limit					
13	Other flatfish 4/	Small footrope--No pound limit; Large footrope--400 lb per trip 2/					
14	Whiting shoreside 5/	20,000 lb / trip		Primary season			20,000 lb / trip
15		before primary season					after primary season
16	Use of small footrope bottom trawl or midwater trawl required for landing all the following species 6/:						
17	Minor Shelf rockfish						
18	North	300 lb / month		1,000 lb / month			300 lb / month
19	South	500 lb / month		1,000 lb / month			500 lb / month
20	Canary rockfish	100 lb / month		300 lb / month			100 lb / month
21	Widow rockfish						
22	mid-water trawl	30,000 lb / 2 months		30,000 lb / 2 months			30,000 lb / 2 months
23	small footrope trawl	1,000 lb / month		1,000 lb / month			1,000 lb / month
24	Yellowtail-North 7/						
25	mid-water trawl	10,000 lb / 2 months		30,000 lb / 2 months			10,000 lb / 2 months
26	small footrope trawl	1,500 lb / month		1,500 lb / month			1,500 lb / month
27	Bocaccio-South 7/	300 lb / month		500 lb / month			300 lb / month
28	Chilipepper-South 7/						
29	mid-water trawl	25,000 lb / 2 months		25,000 lb / 2 months			25,000 lb / 2 months
30	small footrope trawl	7,500 lb / 2 months		7,500 lb / 2 months			7,500 lb / 2 months
31	Cowcod - South 7/	1 fish per landing		1 fish per landing			1 fish per landing
32	Minor Nearshore rockfish						
33	North	200 lb / month		200 lb / month			200 lb / month
34	South	200 lb / month		200 lb / month			200 lb / month
35	Lingcod	CLOSED		400 lb / month; 24-inch size limit 8/			CLOSED

1/ These trip limits apply coastwide unless otherwise specified. North means 40° 10' N. lat.

to the US-Canada border. "South" means 40° 10' N. lat. to the US-Mexico border.

40° 10' N. lat. is about 20 nautical miles south of Cape Mendocino CA.

2/ Gear requirements and prohibitions are explained at paragraph IV.A.(14).

3/ No more than 500 lbs (227 kg) per trip may be sablefish smaller than 22 inches (56 cm) total length, which counts toward the cumulative limit.

4/ Other flatfish means all flatfish listed at 50 CFR 660.302 except those in this Table 3 with a trip limit (excludes rex sole).

5/ The whiting "per trip" limit in the Eureka area inside 100 fm is 10,000 lb / trip throughout the year (See IV.B.(3)(c)).

6/ Small footrope trawl means a bottom trawl net with a footrope no larger than 8 inches (20 cm) in diameter.

Midwater gear also may be used; the footrope must be bare. See paragraph IV.A.(14).

7/ Yellowtail rockfish and POP in the south and bocaccio, chilipepper, and cowcod rockfishes in the north are included in the trip limits for minor shelf rockfish in the appropriate area (Table 2).

8/ Lingcod must be greater than or equal to 24 inches (61 cm) total length. See IV.A.(6).

To convert pounds to kilograms, divide by 2.20462, the number of pounds in one kilogram.

Table 4. 2000 Trip Limits 1/ for Limited Entry Fixed Gear

Read Section IV. A. NMFS Actions before using this table.

line	Species/groups	JAN-FEB	MAR-APR	MAY-JUN	JULY-AUG	SEP-OCT	NOV-DEC
1	Minor slope rockfish						
2	North	3,000 lb / 2 months		5,000 lb / 2 months		1,500 lb / month	
3	South	3,000 lb / 2 months		5,000 lb / 2 months		1,500 lb / month	
4	Splitnose-South	8,500 lb/2 mo.		14,000 lb / 2 months		4,000 lb / month	
5	POP-North	500 lb / month		2,500 lb / month		500 lb / month	
6	Sablefish (daily trip limit fishery) 2/						
7	North of 36 ° N. lat.	300 lb / day, 2,100 lb / 2 months or 1 landing above 300 lb but less than 600 lb/week, less than 1,800 lb / 2 mo		300 lb / day, 2,400 lb / 2 months (option to make one landing per week above 300 lb removed May 1; may be reinstated in July)		300 lb / day, 2,400 lb / 2 months	
8							
9							
10	South of 36 ° N. lat.	350 lb / day or 1 landing above 350 lb per week, up to 1,050 lb		350 lb / day or 1 landing above 350 lb per week, up to 1,050 lb		350 lb / day or 1 landing above 350 lb per week, up to 1,050 lb	
11							
12							
13	Longspine thornyhead	12,000 lb / 2 months		4,000 lb / 2 months		6,000 lb / month	
14	Shortspine thornyhead	1,000 lb / month		1,000 lb / month		1,000 lb / month	
15	Dover sole	55,000 lb / 2 months		20,000 lb / 2 months		20,000 lb / month	
16	Arrowtooth flounder	10,000 lb / trip		No restriction		10,000 lb / trip	
17	Petrale sole	No restriction		No restriction		No restriction	
18	Rex sole	No restriction		No restriction		No restriction	
19	Other flatfish 3/	No restriction		No restriction		No restriction	
20	Shoreside whiting 4/	20,000 lb / trip		Open		20,000 lb / trip	
21	Minor shelf rockfish						
22	North	300 lb / month		1,000 lb / month		300 lb / month	
23	South						
24	40°10'-36°00' N. lat.	500 lb / month	CLOSED 5/	1,000 lb / month		500 lb / month	
25	South of 36°00' N. lat.	CLOSED	500 lb / month	1,000 lb / month		500 lb / month	
26	Canary-Coastwide						
27	North	100 lb / month		300 lb / month		100 lb / month	
28	South						
29	40°10'-36°00' N. lat.	100 lb / month	CLOSED	300 lb / month		100 lb / month	
30	South of 36°00' N. lat.	CLOSED	100 lb / month	300 lb / month		100 lb / month	
31	Widow rockfish-Coastwide:						
32	North	3,000 lb / month		3,000 lb / month		3,000 lb / month	
33	South						
34	40°10'-36°00' N. lat.	3,000 lb/month	CLOSED	3,000 lb / month		3,000 lb / month	
35	South of 36°00' N. lat.	CLOSED	3,000 lb/month	3,000 lb / month		3,000 lb / month	
36	Yellowtail-North 6/	1,500 lb / month		1,500 lb / month		1,500 lb / month	
37	Bocaccio-South 6/						
38	40°10'-36°00' N. lat.	300 lb / month	CLOSED	500 lb / month		300 lb / month	
39	South of 36°00' N. lat.	CLOSED	300 lb / month	500 lb / month		300 lb / month	
40	Chilipepper-South 6/						
41	40°10'-36°00' N. lat.	2,000 lb/month	CLOSED	2,000 lb / month		2,000 lb / month	
42	South of 36°00' N. lat.	CLOSED	2,000 lb/month	2,000 lb / month		2,000 lb / month	
43	Cowcod - South 6/						
44	40°10'-36°00' N. lat.	1 fish per landing	CLOSED	1 fish per landing		1 fish per landing	
45	South of 36°00'	CLOSED	1 fish per landing	1 fish per landing		1 fish per landing	
46	Minor nearshore rockfish						
47	North	2,400 lb/2 months, of which no more than 1,200 lb may be species other than black or blue rockfish 7/		3,000 lb/2 months, of which no more than 1,400 lb may be species other than black or blue rockfish 7/		3,000 lb/2 months, of which no more than 1,400 lb may be species other than black or blue rockfish 7/	
48							
49							
50	South						
51	40°10'-36°00' N. lat.	1,000 lb / 2 months	CLOSED	1,300 lb / 2 months		1,300 lb / 2 months	
52	South of 36°00' N. lat.	CLOSED	1,000 lb / 2 months	1,300 lb / 2 months		1,300 lb / 2 months	
53	Lingcod 8/	CLOSED		400 lb / month; size limit 24 inches north, 26 inches south		CLOSED	

1/ Trip limits apply coastwide unless otherwise specified. North means 40° 10' N. lat. to the US-Canada border. "South" means 40 10' N. lat. to the US-Mexico border.

2/ The sablefish size limit does not apply during the daily trip limit fishery, but does apply during the "regular" and mop-up" seasons north of 36° N. lat. See IV.B.(2).

3/ Other flatfish means all flatfish listed at 50 CFR 660.302 except those in this Table 4 with a trip limit.

4/ The whiting "per trip" limit in the Eureka area for catch inside 100 fathoms is 10,000 lb / trip throughout the year.

5/ Closed means it is prohibited to take and retain, possess, or land the designated species in the time or area indicated (see IV.A.(7)).

6/ Yellowtail rockfish and POP in the south and bocaccio, chilipepper, and cowcod rockfishes in the north are included in trip limits for minor shelf rockfish (Table 2).

7/ The "per trip" limit for black rockfish off Washington also applies. See paragraph IV.B.(4).

8/ The size limit for lingcod is 24 inches (61 cm) in the north and 26 inches (66 cm) in the south, total length.

To convert pounds to kilograms, divide by 2.20462, the number of pounds in one kilogram.

Table 5. 2000 Trip Limits 1/ for All Open Access Gear except Exempted Trawl Gear Engaged in Fishing for Pink Shrimp *

Read Section IV. A. NMFS Actions before using this table.

line	Species/groups	JAN-FEB	MAR-APR	MAY-JUN	JULY-AUG	SEP-OCT	NOV	DEC
1	Minor slope rockfish							
2	North	500 lb / 2 months		500 lb / 2 months		500 lb / 2 months		
3	South	500 lb / 2 months		500 lb / 2 months		500 lb / 2 months		
4	Splitnose-South	200 lb / month		200 lb / month		200 lb / month		
5	POP--North	100 lb / month		100 lb / month		100 lb / month		
6	Sablefish 2/							
7	North of 36°	300 lb / day, but no more than 2,100 lb / 2 months		300 lb / day, but no more than 2,400 lb / 2 months		300 lb / day, but no more than 2,400 lb / 2 months		
8	South of 36°	350 lb / day		350 lb / day		350 lb / day		
9								
10	Thornyheads (longspine and shortspine combined)							
11	North of Pt. Conception	CLOSED 3/		CLOSED		CLOSED		
12	South of Pt. Conception	50 lb / day		50 lb / day		50 lb / day		
13	Arrowtooth	200 lb / month		200 lb / month		200 lb / month		
14	Dover sole	(included in "other" flatfish limit)						
15	Petraie sole	(included in "other" flatfish limit)						
16	Nearshore flatfish	(included in "other" flatfish limit)						
17	"Other" flatfish 4/	300 lb / month		300 lb / month		300 lb / month		
18	Shoreside whiting	300 lb / month		300 lb / month		300 lb / month		
19	Minor shelf rockfish							
20	North	100 lb / month		100 lb / month		100 lb / month		
21	South							
22	40°10'-36°00' N. lat.	200 lb / month	CLOSED	200 lb / month		200 lb / month		
23	South of 36°00' N. lat.	CLOSED	200 lb / month	200 lb / month		200 lb / month		
24	Canary							
25	North	50 lb / month		50 lb / month		50 lb / month		
26	South							
27	40°10'-36°00' N. lat.	50 lb / month	CLOSED	50 lb / month		50 lb / month		
28	South of 36°00' N. lat.	CLOSED	50 lb / month	50 lb / month		50 lb / month		
29	Widow							
30	North	3,000 lb / month		3,000 lb / month		3,000 lb / month		
31	South							
32	40°10'-36°00' N. lat.	3,000 lb / month	CLOSED	3,000 lb / month		3,000 lb / month		
33	South of 36°00' N. lat.	CLOSED	3,000 lb / month	3,000 lb / month		3,000 lb / month		
34	Yellowtail-North 5/	100 lb / month		100 lb / month		100 lb / month		
35	Bocaccio - South 5/							
36	40°10'-36°00' N. lat.	200 lb / month	CLOSED	200 lb / month		200 lb / month		
37	South of 36°00' N. lat.	CLOSED	200 lb / month	200 lb / month		200 lb / month		
38	Chilipepper-South 5/							
39	40°10'-36°00' N. lat.	2,000 lb / month	CLOSED	2,000 lb / month		2,000 lb / month		
40	South of 36°00' N. lat.	CLOSED	2,000 lb / month	2,000 lb / month		2,000 lb / month		
41	Cowcod - South 5/							
42	40°10'-36°00' N. lat.	1 fish per landing	CLOSED	1 fish per landing		1 fish per landing		
43	South of 36°00' N. lat.	CLOSED	1 fish per landing	1 fish per landing		1 fish per landing		
44	Minor nearshore rockfish							
45	North	1,000 lb / 2 months, of which no more than 500 lb may be species other than black or blue rockfish 6/		1,500 lb / 2 months, of which no more than 700 lb may be species other than black or blue rockfish 6/7/		1,500 lb / 2 months, of which no more than 700 lb may be species other than black or blue rockfish 6/ 7/		
46	South							
47	40°10'-36°00' N. lat.	550 lb / 2 months	CLOSED	800 lb / 2 months		800 lb / 2 months		
48	South of 36°00' N. lat.	CLOSED	550 lb / 2 months	800 lb / 2 months		800 lb / 2 months		
49								
50	Lingcod 8/	CLOSED		400 lb / month		CLOSED		
51				size limit 24 inches north, 26 inches south				

1/ Trip limits apply coastwide unless otherwise specified. North means 40° 10' N. lat. to the US-Canada border.

"South" means 40°10' N. lat. to the US-Mexico border.

2/ There is no size limit for sablefish taken and retained with nontrawl gear in the open access fishery. See IV.B.2.

3/ Closed means it is prohibited to take and retain, possess, or land the species in the time or area indicated (see IV.A.(7)).

4/ Other flatfish means all flatfish listed at 50 CFR 680.302 except those in this Table 5 with a trip limit.

5/ Yellowtail rockfish and POP in the south and bocaccio, chilipepper, and cowcod rockfishes in the north are included in the trip limits for minor shelf rockfish in the appropriate area (Table 2).

6/ The "per trip" limit for black rockfish off Washington also applies. See paragraph IV.B.(4).

7/ Provisions for landing groundfish in Pacific City, OR are found at paragraph IV.C.(4).

8/ The size limit for lingcod is 24 inches (61 cm) in the north and 26 inches (66 cm) in the south, total length.

To convert pounds to kilograms, divide by 2.20462, the number of pounds in one kilogram.

GROUND FISH ADVISORY SUBPANEL STATEMENT ON
SABLEFISH THREE-TIER FISHERY SEASON AND LIMITS

The Groundfish Advisory Subpanel (GAP) received a report from the Groundfish Management Team on options for the sablefish three-tier fishery.

The GAP recommends adopting a more conservative model which would allow cumulative limits of 85,500 pounds; 38,500 pounds; and 22,000 pounds for Tiers 1, 2, and 3 respectively, in an eight-day season.

The GAP was unable to agree on a starting date for the 2000 season. The two dates recommended were August 6 and September 1. Advantages and disadvantages were cited for both dates by representatives of the fixed gear fishery.

At the request of Council member Mr. Bob Alverson, the GAP also discussed potential modifications to existing regulations regarding permit transfers. The GAP recommends regulations be changed to allow a permit to be transferred once each calendar year. A transferred permit could not be used until the beginning of the next cumulative period following date of transfer.

PFMC
06/28/00

GMT REVIEW OF RECOMMENDATIONS FOR THE 2000 3-TIERED SABLEFISH SEASON

The GMT reviewed the recommendations for the 2000 fishery provided in Attachment D.6.a at their June meeting. The GMT did not identify a preferred alternative between the two model scenarios presented. It should be noted, however, that the expected landings using the Model 1 configuration are only 200,000 lb below the target poundage for the primary fishery, and that this year's reductions in rockfish opportunities may tend to increase participation, relative to recent years. Balancing this concern is the fact that, through May, the limited-entry fleet has landed only 12% of the poundage allocated daily-trip-limit (DTL) portion of the fishery. Consequently, the risk of exceeding the primary fishery target poundage may carry a lower expectation of early DTL closure than in some previous years.

The 45 mt of sablefish landed through May represents about 60% of what was landed last year by that month. And although somewhat lower limits at the start of this year have contributed to the reduction, it is also likely that lower rockfish limits have reduced opportunities to fashion profitable trips from a combination of rockfish and 300 lb of sablefish. Given that the 300 lb limit was initially conceived as a bycatch allowance for individuals fishing rockfish and that the outlook for shelf and slope rockfish trip limits is not promising, the Council may want to re-evaluate the current target pound for the DTL fishery and/or its daily-limit structure.

SABLEFISH THREE-TIER FISHERY SEASON AND LIMITS

Situation: At the April 2000 meeting, the Council reviewed preliminary information on tier limits and season length for the 2000 fishery. Revised limits were included in the newsletter for public review. At this meeting, the Council is scheduled to make final recommendations for the fixed gear sablefish primary fishery season. This fishery (including both the main opening and mop-up segments) is open only to limited entry vessels with sablefish endorsements operating north of 36° N latitude.

The Groundfish Management Team's preliminary estimates at the April Council meeting indicated the fishery would be in the range of eight days to ten days with Tier 1 limits of 76,000 pounds to 85,000 pounds (all limits are in round weight). The revised calculations, using the most recent data from the 1999 season, indicate an eight-day season or nine-day season is likely.

Predicting the number of participants and their actual performance is difficult, so a range of assumptions must be considered. The more conservative modeling approach suggests that an eight-day fishery with the following limits would be expected to achieve a 38% overhead. (Overhead is calculated as the percentage difference between what is actually caught and the amount that would be caught if every permit reached its limit.)

Tier 1: 85,000 pounds
Tier 2: 38,000 pounds
Tier 3: 22,000 pounds

Under a less conservative set of assumptions, a nine-day fishery with the smaller limits would be expected to achieve a 28% overhead:

Tier 1: 81,000 pounds
Tier 2: 37,000 pounds
Tier 3: 21,000 pounds

In April, the Groundfish Advisory Subpanel recommended August 6 as the opening date for this year's fishery, based primarily on tides.

The 1999 main opening ran nine days, with cumulative limits of 84,800 pounds for Tier 1, 38,300 pounds for Tier 2, and 22,000 pounds for Tier 3. The fishery opened at noon on August 16 and ended at noon on August 25. As in years past, the fishery was preceded by a 48-hour closure, closed at sea, and was followed by a 30-hour closure. These closures applied to all fixed gear groundfish vessels (both limited entry and open access). The mop-up fishery ran September 20-25 with a cumulative vessel limit of 1,100 pounds.

Council Action:

- 1. Adopt recommendations for season length, opening date, tier limits and other measures relating to the 2000 limited entry fixed gear sablefish season.**

Reference Materials:

1. Recommendations for the Duration and Cumulative Limits for the 2000 Primary Season of the Limited Entry Fixed Gear Sablefish Fishery, and Overview of the 1999 Fishery (Attachment D.6.a.).
2. Public Comment D.6.

PFMC
06/14/00

F/V CHALLENGE

Mike Pettis
310 SE Yaquina View Dr.
Newport, OR 97365

RECEIVED

May 26, 2000

JUN 02 2000

Dear Jim and Council members;

PERM

My name is Mike Pettis and I am writing today to express my interests for the future of the fixed-gear sable-fish fishery.

It seems these days that safety at sea is at the top of the list when it comes to what the government thinks is important. We have several requirements such as: EPIRBs, EMERSON SUITS, LIFE RAFTS, HYDROSTATIC RELEASES, FIRE EXTINGUISHERS, DATED BATTERIES, FLARES, HORNS, BELLS, CPR TRAINING, FIRST-AID TRAINING, CREW DRILLS ETC..... All of these are required by the federal government, at considerable annual expense to the fisherman, in an attempt to improve safety for fishermen at sea. AND I AGREE WITH ALL OF IT.

On the other hand, when it comes to scheduling fishing seasons, the federal government seems to put safety on the back burner. I would give as an example of this, the west coast fixed-gear directed sablefish season. With a federal ban on "individual fishing quotas" (IFQs) Fisheries managers are forced to inact season lengths that ensure a certain portion of the fleet will not catch their allowed poundage. This "OVERHEAD" is required so that the fishery does not resemble to closely an IFQ. What you end up with, is the majority of the fleet engaged in a derby fishery. Working as fast, as hard and as long as they can, trying not to be part of the "overhead".

So where does safety fit into this situation? The U.S. Coast Guard has repeatedly refered to the derby style fishery as an unsafe undesirable option for fisheries management. With a portion of the fleet (15 to 25%) expected to not reach their allowed catch. How many days can you "take off" due to bad weather? Probably none! So the working long, hard, fast as you can, takes place weather be damned. Does this seem consistent with the long list of safety requirements at the top of the page???

There is no way to predict what the weather will be for the season that is scheduled months in advance.

It is my sincere hope that congress will relax or eliminate the ban on IFQs so that more reasonable-safer seasons can be scheduled. This fishery, this fleet, would benefit greatly from a longer season. Bad weather could be avoided. Safety would be greatly increased by better weather, crews that were rested, hooks or pots being hauled at a slower, safer pace. There would be fewer gear conflicts, since not everyone would be there at once. The overall value of the fishery would increase due to a better ability to negotiate price.

It is hard to imagine that the perceived benefits of this ban on IFQs is worth putting the majority of the fixed-gear sablefish fleet and other fleets in a similar situation around the country in increased physical and financial peril.

Please do what you can to provide a longer-safer season for us to fish.

Thank you for taking the time to read this letter and for considering our situation.

Sincerely, *rp*
Michael Pettis

Michael D. Pettis
310 SE Yaquina View Dr.
Newport, OR 97365

RECOMMENDATIONS FOR THE DURATION AND CUMULATIVE LIMITS FOR THE 2000 PRIMARY
SEASON OF THE LIMITED-ENTRY FIXED-GEAR SABLEFISH FISHERY,
AND OVERVIEW OF THE 1999 FISHERY.

By Jim Hastie

Recommendations for 2000

At the April Council meeting, the Groundfish Management Team discovered the preliminary analysis for the 2000 fixed gear sablefish season had not included a complete set of 1999 landings data for California participants. That analysis indicated a duration range of 9-10 days, with Tier-3 limits between 20,000-22,000 lb. We have updated the analysis using the complete 1999 data, with the results reported below.

The modeling approach discounts the expected future participation of permits that have been inactive or have not taken a high percentage of their recent limits. The final set of California data included substantially higher landings, and therefore all the projections for 2000 increased. That is, the preliminary season parameters we presented in April were too liberal and underestimated 2000 landings. To fix this, we could reduce the tier cumulative limits, but that would reduce the overhead below the accepted standard. [Recall that overhead is calculated as the percentage difference between what is actually caught and the amount that would be caught if every permit reached its limit.] Therefore, the new recommendations reflect a range of fewer fishing days, but with higher tier limits (that is, without a reduction from the preliminary estimates).

The projection model builds the estimated fleet landings up from those of individual permits. Each permit is assigned a catching capacity that reflects the highest rate of landings observed for that permit (or its qualifying vessel) in the sablefish primary seasons since 1991. These rates are standardized to a fixed 21-day length, which can then be scaled for the entire fleet to reflect alternative season lengths. The process is based on the simple assumption of a linear relationship between expected landings and the length of the season. Although this assumption would tend to misrepresent landings occurring with very short or long seasons, based on recent fisheries, we believe it is a reasonable assumption for examining season lengths between seven and twenty days.

These catch rates are then subjected to a series of reductions, designed to capture the impacts of varying degrees of non-participation on the total landings of the fleet. In recent fisheries, the performance of permits, relative to their estimated catching capacity has varied with tier assignment. Tier-1 permits have performed close to expectations, while Tier-3 permits have, on the whole, performed at lower levels with recent season lengths. The first reduction is tier-specific to capture this effect. In projections for the 1999 fishery, revised catching capacities were set at 95% of the original values for permits in Tier 1, 85% for Tier 2, and 75% for Tier 3. The two options developed for the 2000 fishery reflect slightly higher values for Tiers 1 and 2 and somewhat lower values for Tier 3. This reduction does not reduce expected landings for all permits. For instance, if a cumulative limit is only half of a permit's estimated catching capacity for a specified time period, then reducing its catching capacity by 35% would not affect its estimated landings.

Following this reduction, each permit's revised catching capacity is constrained by the appropriate tier limit; in other words, the minimum of the two values is selected. At this stage, reductions are applied to the expected landings of each permit. All permits are subjected to a 1-2% reduction in landings, depending on the scenario, to reflect the common tendency not to achieve a limit exactly. Additional reductions are applied for non-participation in the 1997-99 primary fisheries. Failure to participate in more recent fisheries results in greater reductions. The less conservative Model 1 reduces expected landings by 30% for 1999 non-participation, with 20% and 10% reductions applied to the preceding two years, respectively. The more conservative Model 2 applies a 20% reduction for 1999 non-participation, and 10% for each year of non-participation during 1997-98. A permit with no participation in any of the three years would have its expected landings reduced by 60% in Model 1 and 40% in Model 2.

While this weighting system effectively discounts the expected landings of permits which have missed entire fisheries, it does not address permits that participate at a very low level. Model 1 also includes reductions for those whose 1999 landings were less than 50% or 70% of their available limit. The former case results in a 20% reduction in expected landings, with a 10% reduction in the latter case.

Table 1 includes season specifications which meet the overhead objectives, given the two alternative sets of projection assumptions. Since Model 1 assumes lower catch amounts for recent non-participants and low performers, there is a greater risk that actual participation will be greater than projected, which in the extreme could compromise attainment of the desired level of overhead and lead to early closure of the limited-entry daily-trip-limit sablefish fishery for fixed-gear. For that reason, it is labeled as "less conservative". There is less risk of these outcomes under Model 2, hence its label "more conservative", however it carries a greater chance that more poundage than necessary will be allocated through the equal mop-up fishery, rather than through the tiered allocation.

Table 1.--Two alternatives for season length and tier cumulative limits for the 2000 limited-entry, fixed-gear, primary sablefish opening.

	Tier 1	Tier 2	Tier 3	Total	Worst Case (1-day differential)
# of permits	27	43	94		
Model 1: (less conservative)					
with a general landings reduction of 1% and landings reductions for permits not fishing in [1999:1998:1997] of (30%:20%:10%) and/or landings reductions for achieving less than [50%:70%] of their available 1999 limit (20%:10%)					
Duration				9 days	
Tier-specific capacity reductions	2%	13%	33%		
Cumulative Limit	81,278	36,731	21,101	5,757,435	5,757,435
Expected average	68,009	29,664	14,774	4,500,524	4,711,315
Overhead	20%	24%	43%	28%	22%
Regulatory limit recommendation	81,000	37,000	21,000		
Model 2: (more conservative)					
with a general landings reduction of 2% but smaller landings reductions for permits not fishing in [1999:1998:1997] of (20%:10%:10%)					
Duration				8 days	
Tier-specific capacity reductions	4%	15%	35%		
Cumulative Limit	85,712	38,735	22,252	6,071,510	6,071,510
Expected average	64,706	29,083	14,817	4,390,424	4,711,315
Overhead	32%	33%	50%	38%	29%
Regulatory limit recommendation	85,000	38,000	22,000		

Overview of 1999

Table 2 provides an overview of landings and tier performance in the 1999 fishery. Results are presented for each tier and gear group, and the number of participants and landings by state are also summarized within each category. Total landings in the 3-tiered fishery were 4,559,152 lb, compared to the projected amount 4,506,073 lb, a difference of less than 2%. The amount that would have been landed if all permits had caught their limits was 5,906,269 lb, resulting in an achieved overhead of 30%, comfortably above the target of 25%, but closer to it than in previous years. The amount caught during the mop-up fishery was 82,923 lb, yielding a primary fishery total of 4,642,075 lb. This amount represents 98.5% of the target for this portion of the fixed-gear fishery, 4,711,315 lb.

Table 3 details participation in the 1999 daily-trip-limit fishery, for each component of the fixed-gear fleet, as well as poundage totals across all segments of the fishery. The daily fishery accounted 738,444 lb, which represents 88% of the amount allocated to that segment of the fishery. Total landings for the year were 5,380,519 lb, representing 97% of the amount allocated to the limited-entry fixed-gear fleet.

Table 2.--Participation in the 1999 limited-entry fixed-gear primary sablefish season, by tier, gear, and state.

	Tier 1			Tier 2			Tier 3			All permits
	Longline	Pot	All	Longline	Pot	All	Longline	Pot	All	
Number of permits	10	17	27	37	6	43	85	9	94	164
Avg. lbs/permit	64,367	71,137	68,630	29,676	33,752	30,245	15,074	13,814	14,953	27,800
Permit avg. / cum. Limit	75%	83%	80%	78%	89%	80%	69%	63%	68%	
3-tiered fishery										
1999 participants	10	17	27	34	6	40	73	7	80	147
Total landings (lb)	643,665	1,209,335	1,853,001	1,098,018	202,511	1,300,529	1,281,299	124,324	1,405,623	4,559,152
Avg. lbs/participant	64,367	71,137	68,630	32,295	33,752	32,513	17,552	17,761	17,570	31,015
Cum. Limits (lb)	86,000	86,000	86,000	38,000	38,000	38,000	22,000	22,000	22,000	22,000
Part. avg. / cum. Limit	75%	83%	80%	85%	89%	86%	80%	81%	80%	
Participation by state										
California	2		2	3	3	6	23	2	25	33
Oregon	5	15	20	11	3	14	25	4	29	63
Washington	4	2	6	20		20	25	2	27	53
Landings by state										
California	113,772		113,772	88,899	103,578	192,477	397,816	27,000	424,816	731,065
Oregon	307,471	1,146,071	1,453,542	404,166	98,933	503,098	500,051	76,571	576,622	2,533,262
Washington	222,422	63,264	285,686	604,954		604,954	383,432	20,753	404,185	1,294,825
Mop-up										
1999 participants	4	9	13	15	4	19	46	3	49	81
Total landings	4,296	9,256	13,552	15,872	4,341	20,213	45,912	3,246	49,158	82,923

Table 3.--Overview of sablefish poundage landed in all segments of the limited-entry fixed-gear fishery

	No endorsement	Tier 1			Tier 2			Tier 3			All permits		
		Longline	Pot	All	Longline	Pot	All	Longline	Pot	All	Longline	Pot	All
Daily-trip-limit fishery	26	4	12	16	19	3	22	56	3	59	105	18	123
# of permits													
landed lbs	256,902	4,842	75,469	80,310	62,901	3,508	66,409	313,121	21,701	334,823	637,766	100,678	738,444
3-tiered fishery													
landed lbs		643,665	1,209,335	1,853,001	1,098,018	202,511	1,300,529	1,281,299	124,324	1,405,623	3,022,982	1,536,170	4,559,152
Mop-up fishery													
landed lbs		4,296	9,256	13,552	15,872	4,341	20,213	45,912	3,246	49,158	66,080	16,843	82,923
All limited-entry fixed gear													
landed lbs	256,902	652,803	1,294,060	1,946,863	1,176,791	210,360	1,387,151	1,640,332	149,271	1,789,604	3,726,828	1,653,691	5,380,519

ROCKFISH BYCATCH RATES

Situation: At the April 2000 meeting, the Council discussed bycatch/discard rates for several rockfish species, including minor rockfish categories, and adopted 16% as the assumed discard rate. Subsequently, some Council members and public have asked for clarification about exactly what the Council action means and what stocks it applies to. In addition, the Council needs to evaluate whether management measure adjustments are necessary to achieve the lower harvest guidelines, or whether there may be ways to reduce bycatch during this season. At this meeting, the Council will continue the discussion of rockfish management and measures to reduce bycatch.

Council Action:

- 1. Consider ways to reduce rockfish bycatch in 2000 fisheries.**

Reference Materials:

1. None.

PFMC
06/14/00

**NATURAL RESOURCES DEFENSE COUNCIL
CENTER FOR MARINE CONSERVATION
ENVIRONMENTAL DEFENSE**

June 20, 2000

William Stelle, Jr., Regional Administrator
National Marine Fisheries Service
7800 Sand Point Way N.E., Bldg. #1
Seattle, WA 98115-0070

Donald O. McIsaac, Executive Director
Pacific Fishery Management Council
2130 SW Fifth Avenue, Suite 224
Portland, OR 97201

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JUN 20 2000

PFMC

Re: Bycatch provisions and Amendment 13

Dear Mr. Stelle and Dr. McIsaac:

We are writing with regard to Amendment 13 to the Pacific Coast Groundfish Fishery Management Plan and its Draft Environmental Assessment (DEA), and more generally with regard to the Magnuson-Stevens Fishery Management and Conservation Act (Magnuson-Stevens Act) requirements to assess and minimize bycatch and bycatch mortality. We appreciate the DEA's discussion and analysis of alternatives for assessing bycatch and for management measures that would reduce bycatch; identification of alternatives is certainly a step in the right direction. But in order to meet the mandates of the Act—a requirement now long overdue—we believe the Pacific Fishery Management Council (Council) and the National Marine Fisheries Service (NMFS) *must adopt specific measures* to assess and minimize bycatch mortality and implement them promptly. Amendment 13 falls far short of that requirement.

We have two primary concerns about the bycatch provisions of Amendment 13. First, the Council's preferred alternative for bycatch assessment—to implement a standardized reporting methodology when funds become available—leaves the prospects for a tangible bycatch assessment program completely up in the air, in clear violation of Magnuson-Stevens Act requirements. Second, the preferred alternative for bycatch minimization, while the best of the proffered options, does not involve adoption or implementation of a single measure that would reduce bycatch. Amending the Groundfish Fishery Management Plan (FMP) to add a list of bycatch reduction measures that "might" be adopted at some later point does not meet the Magnuson-Stevens Act requirement to include specific measures in the FMP to minimize bycatch and bycatch mortality. We describe these concerns in greater detail below.

Bycatch assessment (DEA Section 4.2, Issue 2). The Council's preferred alternative for a bycatch assessment program contingent on funds becoming available is no different from the bycatch assessment strategy it has pursued for the past two years. That approach has so far produced no actual bycatch assessment program, regardless of concerted efforts by many influential people to secure funding. Delaying indefinitely the implementation of such necessary and, under section 303(a)(11) of the Magnuson-Stevens Act and 50 C.F.R. 600.350(d)(1), nondiscretionary measures in hopes of funding becoming available is facially inconsistent with the Act. As NMFS has emphasized, "The statute makes no allowance for the financial or administrative burden of establishing such reporting programs. It is clear that, in order to be able to assess the amount and type of bycatch occurring in various fisheries, monitoring programs must be established." 63 Fed. Reg. 24, 227 (May 1, 1998).

The Council has acknowledged that "information about bycatch and discard rates in the non-whiting groundfish fisheries" is "desperately needed." Draft Environmental Assessment, at 24. Currently, bycatch and discard rates are unknown in the non-whiting fleets. Draft Environmental Assessment, at 20. Groundfish management currently relies on extrapolation of discard data from a 1988 study that estimated overage rates due to trip limits, and made no attempt to estimate bycatch and discards due to the co-occurrence of groundfish species. To the extent those estimates underpredict overall bycatch and discard rates, the management practices that rely on these estimates may result in continued, unseen overfishing, population declines, and possible stock collapse. Draft Environmental Assessment at 20. Furthermore, the lack of accurate bycatch assessment and related bycatch reduction measures may impede or prolong the rebuilding of depleted species. Management of the Pacific Coast Groundfish Fishery without basic information about the impacts of bycatch on total mortality of target and bycatch species has resulted in ongoing violations of the Magnuson-Stevens Act mandates to avoid overfishing, rebuild overfished species, optimize yield, and sustain participation of fishing communities.

The absence of any information on bycatch mortality has also made assessment of measures intended to reduce bycatch, as required under 50 C.F.R. 600.350(d)(2), impossible. While the Council has attempted to reduce bycatch through experimentation with alternative management measures such as more flexible cumulative landings regimes and gear restrictions, it acknowledges that there is no scientific confirmation for the effectiveness of these activities. Draft Environmental Assessment, at 16-17. Such measures cannot be deemed effective at reducing bycatch until steps are taken to validate their benefits.

We recognize that the Council would prefer to establish an observer program with federal funding, and that implementation of such a program would go a long way towards addressing the above concerns. However, it is unacceptable and inconsistent with the Magnuson-Stevens Act to make compliance with the essential legal requirement for

bycatch assessment contingent upon funding that has not yet been secured. The Council must implement an observer program or a comparable assessment program regardless of whether additional funding becomes available. NMFS and the Council clearly have the authority to implement an assessment program now. They could, for example, require that a rotating portion of the groundfish fleet carry observers at their own expense as a condition of holding a license, if federal funding is not obtained. In short, the EA must identify, and the Council must adopt, an alternative that will ensure compliance with legal requirements to collect reliable data on bycatch and bycatch mortality.

Measures to reduce bycatch and bycatch mortality (DEA Section 4.3a, Issue 3). As NMFS pointed out in its decision letter to the Council, the Magnuson-Stevens Act mandates that all FMPs include specific measures to minimize bycatch, and Amendment 11 failed to meet this statutory standard. Letter from William Stelle, NMFS, to Jerry Mallet, PFMC, March 3, 1999, at 2. Unless the Council adopts specific bycatch reduction measures as part of Amendment 13, it will again fail to meet that statutory standard. The Magnuson-Stevens Act requires that each FMP "shall...include conservation and management measures" that minimize bycatch and bycatch mortality. 16 U.S.C. § 1853(a)(11). Under this plain statutory requirement, it is not enough to envision the adoption of bycatch reduction measures down the line. Adequate and effective measures must be "include[d]" in the FMP itself.

The DEA has identified a number of promising, feasible measures that could be adopted immediately and implemented as soon as federal requirements for notice and comment are met. These measures have been analyzed and discussed at more than one Council meeting, and there is no legally valid reason for delaying their adoption. Measures in that category include:

- shorter fishing seasons combined with higher cumulative landings limits;
- improving species-to-species landings limit ratios, with appropriate adjustments to catch limits;
- time and area closures and creation of marine reserves to avoid bycatch hot spots, particularly for species that are overfished, approaching an overfished condition, or otherwise at risk;
- conducting a pilot study and data assessment to determine comparative bycatch rates for various types of groundfish gear, as a basis for increasing allocations to cleaner gear types;
- mandatory full retention of bycatch, combined with verification measures such as tamperproof cameras and penalties for exceeding catch limits;

Other measures that require verification and may require additional analysis, such as bycatch and discard caps and reservation of a portion of the harvest for those who fish cleanly, should be fast-tracked to be proposed at the Council's next meeting.

In summary, we urge the Council and NMFS to meet their legal duties to adopt, as part of Amendment 13, specific bycatch minimization measures and a bycatch assessment plan that will go into effect whether or not government funding becomes available. We

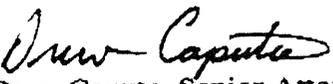
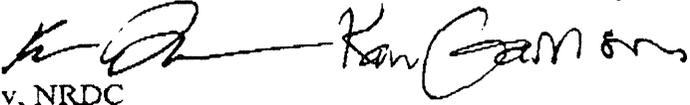
William Stelle, Jr., Donald O. McIsaac

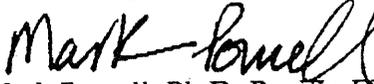
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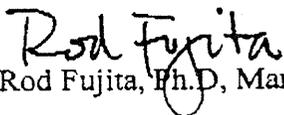
Page 4

appreciate the opportunity to comment on this important issue. Please call Karen Garrison (415 777-0220) with any questions.

Sincerely,

 
Drew Caputo, Senior Attorney, NRDC
Karen Garrison, Senior Policy Analyst, NRDC
Karen Douglas, Legal Intern, NRDC


Mark Powell, Ph.D, Pacific Fisheries Manager, CMC


Rod Fujita, Ph.D, Marine Ecologist, Environmental Defense

GROUND FISH ADVISORY SUBPANEL STATEMENT ON
PLAN AMENDMENT TO ADDRESS BYCATCH AND MANAGEMENT MEASURE ISSUES

The Groundfish Advisory Subpanel (GAP) received a briefing on the proposed amendment to the Pacific groundfish fishery management plan to address bycatch.

The GAP supports the alternatives identified as "preferred" for bycatch definitions, standardized reporting methodologies, bycatch reduction provisions, and annual management framework provisions.

For removal of limited entry permit endorsements (identified as a housekeeping measure), the GAP recommends the Council adopt alternative number 2.

PFMC
06/28/00

PLAN AMENDMENT TO ADDRESS BYCATCH AND MANAGEMENT MEASURE ISSUES

Situation: The groundfish fishery management plan (FMP) is being revised to comply with Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) bycatch provisions, including provisions for standardized reporting methodologies and for bycatch reduction measures. Amendment 13 would also revise the Council process for setting annual routine management measures, so the Council may use that process to meet some of the FMP's overfishing and bycatch requirements. Revisions to the annual management measures process are expected to improve the Council's flexibility in managing the fisheries to protect overfished and depleted species while allowing fisheries access to healthy stocks. Finally, Amendment 13 would update the FMP to remove unused and expired limited entry permit endorsements.

At its April 2000 meeting, the Council reviewed the draft plan amendment, specified preferred alternatives for some issues, and adopted it for public review. The documents were made available in late May, and public comment on finalizing Amendment 13 will be considered at the June 2000 meeting. At this meeting, the Council will make final decisions on the various issues and alternatives considered in the amendment package.

Council Action: Final Council approval of plan amendment.

Reference Materials:

1. Draft Amendment 13 Environmental Assessment/Regulatory Impact Review (Attachment D.8.a.).
2. Draft FMP Amendment Language for Amendment 13 (Attachment D.8.b.).
3. Public Comment D.8.

PFMC
06/14/00

Amendment 13 -- Groundfish FMP

1. Definition of the term “Bycatch” in the FMP
 2. Standardized Reporting Methodologies
 3. Bycatch Reduction Provisions
 4. Annual Management Measures Framework Provisions
 5. Removal of Limited Entry Permit Endorsements other than “A”
Endorsements (Housekeeping Measure)
- ★ = Preferred Options, as indicated by Council at April 2000 meeting

Issue 1 -- Definition of “Bycatch”

Alternative 1 (status quo, no action): “Bycatch means fish which are harvested in a fishery, but which are not sold or kept for personal use and includes economic discards and regulatory discards.”

★ Alternative 2 (Magnuson-Stevens definition): “Bycatch means fish which are harvested in a fishery, but which are not sold or kept for personal use, and includes economic discards and regulatory discards. Such term does not include fish released alive under a recreational catch and release fishery management program

Issue 2 -- Standardized Reporting Methodologies

Alternative 1 (status quo, no action.) Current standardized reporting methodologies would remain: voluntary observer program and voluntary logbook in at-sea whiting fisheries; incidental groundfish landings reported in marine mammal observer program for CA halibut setnet fishery, and; dockside observer coverage in shoreside whiting fishery, as associated with EFPs. Regulatory framework approved by Council to require at least one observer per vessel in at-sea whiting fishery would still be implemented for future whiting seasons.

Alternative 2 (Mandatory logbook reporting of discarded catch.) Includes all of Alternative 1, plus the Council would either: (a) ask the three states (Washington, Oregon, California) to revise their logbooks to allow for reporting of total catch, instead of just retained catch, or (b) bring logbooks under federal authority, with required bycatch and discard reporting.

Issue 2 -- Standardized Reporting Methodologies, II

★ Alternative 3 (Implement observer program as soon as funding becomes available.) Includes all of Alt. 1, plus allows the Council to amend the FMP to provide general provisions for observer coverage plan. In April 2000, Council endorsed a regulatory framework for a groundfish catcher vessel observer program . Implementation of an observer program under this alternative would require federal and/or state funding to pay observer costs, with program and infrastructure costs borne by NMFS. Technological supplements to this program would include, but not be limited to:

1. Electronic logbook reporting
2. Catch monitoring by camera
3. VMS

Alternative 4 (Implement observer program, with requirement that vessels pay for observers.) Like Alt. 3, includes all of Alt. 1, plus allows Council to amend the FMP to provide general provisions for observer coverage plan. However, under this alternative, vessels would pay observer costs, while program and infrastructure costs would be borne by NMFS. Technological options from Alt. 3 could also be used here.

Issue 3 -- Bycatch Reduction Measures

Alternative 1 (status quo - no action.) Council would neither amend the FMP, nor take actions to reduce bycatch rates in the groundfish fisheries. In all likelihood, excess capacity in the groundfish fishery and consequent bycatch rates would be unaffected, and could increase.

Alternative 2 (framework bycatch reduction goals). Council would amend the FMP to indicate its intent to deal with overfishing and overcapacity issues in its strategic plan, and when addressing those issues, choose management options likely to reduce bycatch.

Alternative 3 (framework bycatch reduction goals, plus add full retention options.) Includes all of Alternative 2, plus it would allow: (a) full retention of incidental catch in the at-sea whiting fleet for those processing vessels that carry more than one observer, and (b) full retention of landings limits overages for appropriately monitored vessels (via on-board observers, camera catch recording, etc.) delivering to shorebased processing plants.

Issue 3 -- Bycatch Reduction Measures, II

★ Alternative 4 (implement currently practicable changes to management measures.) This alternative could include all of either Alternative 2 or 3, plus it would require implementation of management measure changes to reduce bycatch in the shore-based groundfish fisheries. The list of management measures that could be implemented reasonably soon would include:

1. Shorter fishing season and higher cumulative landings limit
2. Allow permit stacking in the limited entry fleet
3. Gear modification requirements
4. Catch allocation to, or gear flexibility for, gear types with lower bycatch rates
5. Re-examine/improve species-to-species landings limit ratios
6. Time/area closures (closed "hot spots")

Issue 4 -- Annual Management Measures Framework

Alternative 1 (status quo - no action.) Under this alternative, the current list of frameworked "routine" management measures would not change. Emergency measures taken in 2000 would not be available in 2001 and beyond.

Alternative 2 (amend federal groundfish regulations and the FMP to incorporate the emergency measures taken in 2000 as "routine" management measures.)

1. Frameworked "routine" management measures for the commercial fisheries would include: limited entry cumulative landings limits that may be different based on type of gear used, and closed seasons for lingcod and rockfish.
2. Frameworked "routine" management measures for the recreational fisheries would include: size limits for canary rockfish, bocaccio, cabezon, kelp greenling, sculpin; closures for rockfish and lingcod; boat limits for cowcod; a requirement to keep the skin on rockfish; a prohibition on filleting cabezon; and hook limits.

Issue 4 -- Annual Management Measures Framework, II

★ Alternative 3 (frameworking variation) Commercial and recreational management measures would become part of a framework for routine management measures.

1. Frameworked "routine" management measures for commercial fisheries would be amended to add: in cases where protection of an overfished or depleted stock is required, limited entry cumulative landings limits that may be different based on type of gear used, and closed seasons for any groundfish species.

2. Frameworked "routine" management measures would be revised to allow management of all recreational fisheries for groundfish with bag limits, size limits, time/area closures, boat limits, hook limits, and dressing requirements.

The first time any new measure is used (particular size limit, limits on a particular species, new closed season, etc.) it could only be implemented during the two-meeting preseason process. All routine measures would continue to be set annually through the 2-meeting preseason process, with adjustments allowable at the Council's inseason meetings.

Issue 5 -- Removing Limited Entry Permit Endorsements other than "A" Endorsement (Housekeeping Measure)

Alternative 1 (status quo - no action.) Retain four endorsements: "A" endorsement, provisional "A" endorsement, "B" endorsement, and designated species "B" endorsement. Only "A" endorsement is currently in use.

Alternative 2 (remove limited entry permit endorsements other than "A" endorsement.) Remove the three unused endorsements (provisional "A," "B," and designated species "B") from FMP.

Alternative 3 (remove "B" and designated species "B" endorsements, update provisional "A" endorsement.) Update provisional "A" endorsement to make it only available to vessels that used gear during the window period that is now prohibited by either state or federal law, and with that gear, made sufficient landings to meet the minimum landing requirements for legal gears.

None of the above alternatives would preclude the design of future gear or other permit endorsements, or of other access limitation programs.

If PFMC Approves Amendment 13, What Happens Next?

NMFS sends Amendment 13 out for public review through *Federal Register* Notice of Availability process (60-day comment period.) NMFS publishes Proposed Rule to implement Amendment 13 (30-60 day public comment period.) Proposed regulatory changes would include:

1. Full retention program for at-sea whiting fisheries
2. Flexible annual management measures language
3. Housekeeping measure to remove unused endorsement language

Other measures from Issue 3 for possible Council development:

1. Shorter fishing season and higher cumulative landings limit
2. Allow permit stacking in the limited entry fleet
3. Gear modification requirements
4. Catch allocation to, or gear flexibility for, gear types with lower bycatch rates
5. Re-examine/improve species-to-species landings limit ratios
6. Time/area closures (closed "hot spots")

Public Comment D.8.
June 2000



Pacific Marine Conservation Council

*"Dedicated to the health and diversity
of our marine life and habitats"*

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7 June 2000

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JUN 08 2000

PFMC

Comments on June 2000 PFMC agenda item D. 8., Plan Amendment to
Address Bycatch and Management Measure Issues.

Chairman Lone and Council Members,

The Pacific Marine Conservation Council (PMCC), a coalition of
commercial and sport fishers, marine scientists, and conservationists,
respectfully submits these comments on Draft Amendment 13 to the
Pacific Coast Fishery Management Plan and express our preferred
alternatives.

Issue 1: Definition of the term "bycatch" in the FMP

PMCC preferred alternative: Alternative 2 – Magnuson-Stevens Act
definition

Issue 2: Standardized reporting methodologies

PMCC preferred alternative: Alternative 3 – Implement observer program
as soon as funding becomes available.

The implementation of an observer program, as supported by the
Council's GMT and SSC, could be used to collect information leading to
improved knowledge and data on such issues as, gear selectivity, total
mortality, rebuilding rates of overfished species, and an increase of
species-specific information such as age, maturity, fecundity, location,
and conditions of capture. While we understand the current economic
situation of the groundfish fishery necessitates seeking funding for this
program outside of the groundfish fleet the mandates for bycatch
quantification and reduction are clear. For this reason interim actions
should be taken such as utilization of the bycatch information from the
Enhanced Groundfish Data Collection Project as best available science
for calculating bycatch rates and development of a full retention program
with validation.

Issue 3: Bycatch reduction provisions

PMCC preferred alternative: Alternative 4 – Implement currently practicable changes to management measures.

Section 303 (a)(11) of the Magnuson-Stevens Act clearly requires the Council to (1) “establish a standardized reporting methodology to assess the amount and type of bycatch occurring in the fishery”, and (2) “include conservation and management measures that, to the extent practicable, first minimize bycatch and second, minimize the mortality of bycatch which cannot be avoided.” The list of management measures included in Alternative 4 are deemed “practicable” management measures for the reduction of bycatch and should be implemented immediately.

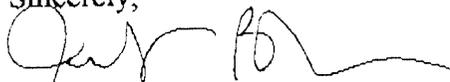
Issue 4: Annual management measures framework provisions

PMCC preferred alternative: Alternative 3 – Under this option, commercial and recreational management measures would become part of a framework for routine management measures.

PMCC is comfortable with the development of a framework for management measures such as those for overfished stocks for the explicit purpose of “achieving the rebuilding plans, reducing bycatch, preventing overfishing, allowing the harvest of healthy stocks as much as possible while protecting and rebuilding overfished and depleted stocks, and equitably distributing the burdens of rebuilding among the sectors.” We feel this caveat should remain and appear in the final document.

We look forward to your decisions on this agenda item at the upcoming Council meeting.

Sincerely,



Jennifer Bloeser

ENVIRONMENTAL ASSESSMENT AND REGULATORY IMPACT REVIEW

DRAFT AMENDMENT 13

PACIFIC COAST GROUND FISH FISHERY MANAGEMENT PLAN

Draft Environmental Assessment and Regulatory Impact Review for Compliance with
Magnuson-Stevens Act Bycatch Requirements, for Amending the FMP
to Increase Flexibility in Setting Annual Management Measures to Better Implement
Overfished Species Rebuilding Plans, and to Remove Designated Species "B" Permits and Others.

Prepared by
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Northwest Region

Drafted May 2000



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Environmental Assessment and Regulatory Impact Review for Draft Amendment 13 to the Pacific Coast Groundfish Fishery Management Plan. (Compliance with Magnuson-Stevens Act bycatch requirements, increase flexibility in setting annual management measures to better implement overfished species rebuilding plans, and remove designated species "B" limited entry permit endorsements and others.)

1.0 INTRODUCTION -- PURPOSE AND NEED FOR ACTION

On October 11, 1996, the Sustainable Fisheries Act went into effect, significantly amending the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). Following the passage of the Sustainable Fisheries Act, fishery management councils were required to amend their fishery management plans to comply with the 1996 changes to the Magnuson-Stevens Act. Amendments to FMPs addressed several large areas of concern in fishery management: overfishing and the rebuilding of overfished stocks; bycatch and bycatch mortality; essential fish habitat, and; the effects of fishery management actions on fishing communities.

The Pacific Fishery Management Council (Council) amended its Pacific Coast Groundfish Fishery Management Plan (FMP) with Amendment 11 to bring the FMP into compliance with the Magnuson-Stevens Act. Amendment 11 included provisions to: amend the FMP framework that defines "optimum yield" for setting annual groundfish harvest limits; define rates of "overfishing" and levels at which managed stocks are considered "overfished;" define Pacific Coast groundfish essential fish habitat; set a bycatch management objective and a framework for bycatch reduction measures; establish a management objective to take the importance of fisheries to fishing communities into account when setting groundfish management measures; provide authority within the FMP for the Council to require groundfish use permits for all groundfish users; authorize the use of fish for compensation for private vessels conducting NMFS-approved research, and; other, lesser updates to the FMP. Once the Council had adopted Amendment 11, NMFS made the amendment and its implementing regulations available for public review and comment. Following the public review period for Amendment 11, NMFS approved all of the FMP amendment except for those provisions addressing bycatch. The bycatch provisions of Amendment 11 were sent back to the Council for new development and more thorough analysis. Amendment 13 would bring the FMP into compliance with the bycatch-related requirements of the Magnuson-Stevens Act, as well as provide analysis supporting the proposed changes and discussing alternatives to those changes.

When, on March 3, 1999, NMFS notified the Council that it had approved most of Amendment 11 to the FMP, it also notified the Council that three species (lingcod, bocaccio, and Pacific ocean perch (POP)) managed under the FMP were considered overfished, according to the definition of an overfished species given in Amendment 11. The Council was then required to provide rebuilding plans for the three overfished species within one year of that notification, in accordance with the Magnuson-Stevens Act. The Council developed draft rebuilding plans for lingcod, bocaccio, and POP, during its September and November 1999 meetings, and adopted rebuilding plans for all three species at its November meeting. Measures necessary to implement the Council-adopted rebuilding plans were incorporated into the 2000 annual specifications and management measures for Pacific Coast groundfish. Council staff submitted finalized rebuilding plans to NMFS on March 2, 2000. At its April 2000 meeting, the Council approved Amendment 12 to the FMP, which provides a framework process for developing future rebuilding plans.

In January 2000, NMFS notified the Council that two additional species, canary rockfish and cowcod, were also considered overfished. While protective measures for these two species were incorporated into the 2000 management measures (January 4, 2000, 65 FR 221,) the formal rebuilding plans will be developed over the coming year and completed for the 2001 annual specifications.

To incorporate effective rebuilding measures for the five overfished species into the 2000 annual specifications and management measures, the Council had to create management measures that were consistent with, but outside of the scope of the FMP. Therefore, the Council asked NMFS to make emergency regulatory changes concurrent with the publication of the 2000 annual specifications, so that the rebuilding measures could begin in the 2000 fishing season. NMFS incorporated the emergency regulatory changes into the 2000 annual specifications and management measures; however, emergency regulations could only be made effective for six months. Emergency regulations may be renewed for a second

six-month period, but the long-term flexibility needed to manage both overfished and healthy groundfish stocks in 2001 and beyond need to be part of the FMP. Draft Amendment 13 could also broaden the scope of the FMP's framework management measures so that the Council may be better equipped to meet some of the overfishing and bycatch requirements of its FMP during the annual specifications and management measures process.

In addition to proposing amendatory language to make the FMP consistent with Magnuson-Stevens Act bycatch provisions, and updating the framework language of the FMP to allow more flexibility in meeting rebuilding goals for overfished stocks, this document proposes updating the FMP to remove provisions for limited entry permits with provisional "A" endorsements, "B" endorsements, and designated species "B" endorsements. These endorsements were used to smooth the transition from an open access system to the limited entry program, but all current limited entry permit holders now have "A" endorsements and the three lesser endorsements have either expired or are no longer useful. Removing these endorsements from the FMP's limited entry provisions is essentially a "housekeeping" measure.

2.0 SUMMARY OF ALTERNATIVES (Council preferred alternatives as of April 2000 indicated in each Issue heading.)

2.1 Issue 1 -- Definition of the term "bycatch" in the FMP -- Alternative 2 Preferred

Alternative 1 (status quo - no action). The FMP defines "bycatch" as follows: "Bycatch means fish which are harvested in a fishery, but which are not sold or kept for personal use and includes economic discards and regulatory discards."

Alternative 2 (Magnuson-Stevens Act definition). The Magnuson-Stevens Act defines "bycatch" as follows: "The term 'bycatch' means fish which are harvested in a fishery, but which are not sold or kept for personal use, and includes economic discards and regulatory discards. Such term does not include fish released alive under a recreational catch and release fishery management program."

2.2 Issue 2 -- Standardized Reporting Methodologies -- Alternative 3 Preferred

Alternative 1 (status quo - no action). Under this alternative, the current standardized reporting methodologies would remain in place: a voluntary observer program and a voluntary logbook in the at-sea whiting fisheries; incidental groundfish landings reported in a marine mammal directed observer program for the California halibut setnet fishery, and; some dockside observer coverage in the shoreside whiting fishery, as associated with EFPs. The regulatory framework approved by the Council to require at least one observer per vessel in the at-sea whiting fishery would still be implemented for future whiting seasons.

Alternative 2 (Mandatory logbook reporting of discarded catch). This alternative would include all of Alternative 1, plus the Council would either: (a) ask the three states (Washington, Oregon, California) to revise their logbooks to allow for reporting of total catch, instead of just retained catch, or (b) bring logbooks under federal authority, with required bycatch and discard reporting.

Alternative 3 (Implement observer program as soon as funding becomes available). This alternative would include all of Alternative 1, plus allow the Council to amend the FMP to provide general provisions for developing an observer coverage plan. In April 2000, the Council endorsed a provision for a regulatory framework for a catcher vessel observer program in the groundfish fisheries. Implementation of an observer program under this alternative would require federal and/or state funding to pay observer costs, while program and infrastructure costs would be borne by NMFS. A list of technological supplements to this program would include, but not be limited to:

- Electronic/paper logbooks with bycatch reporting
- Catch monitoring by camera
- VMS monitoring

Alternative 4 (Implement observer program, with requirement that vessels pay for observers). Similar to Alternative 3, this alternative would include all of Alternative 1, plus allow the Council to amend the FMP to

provide general provisions for developing an observer coverage plan. However, under this alternative, vessels would pay observer costs, while program and infrastructure costs would be borne by NMFS. A list of technological supplements to this program would include, but not be limited to:

- Electronic/paper logbooks with bycatch reporting
- Catch monitoring by camera
- VMS monitoring

2.3 Issue 3 -- Bycatch Reduction Provisions -- Alternative 4 Preferred

Alternative 1 (status quo - no action). Under this alternative, the Council would neither amend the FMP, nor take any actions to reduce bycatch rates in the groundfish fisheries. In all likelihood, excess capacity in the groundfish fishery and consequent bycatch rates would be unaffected, and could increase.

Alternative 2 (framework bycatch reduction goals). Under this alternative, the Council would amend the FMP to indicate its intent to deal with overfishing and overcapacity issues through its strategic plan, and when taking measures to deal with those issues, choose management options likely to reduce bycatch.

Alternative 3 (framework bycatch reduction goals, plus add full retention options.) This alternative would include all of Alternative 2, plus it would allow: (a) full retention of incidental catch in the at-sea whiting fleet for those processing vessels that carry more than one observer, and (b) full retention of landings limits overages for appropriately monitored vessels (via on-board observers, camera catch recording, etc.) delivering to shorebased processing plants.

Alternative 4 (implement currently practicable changes to management measures). This alternative could include all of either Alternative 2 or 3, plus it would require implementation of management measure changes to reduce bycatch in the shore-based groundfish fisheries. Management measures that are not now practicable are described below at 4.3b. The list of management measures that could be implemented reasonably soon might include:

- Shorter fishing season and higher cumulative landings limits
- Allow permit stacking in the limited entry fleet
- Gear modification requirements
- Catch allocation to, or gear flexibility for, gear types with lower bycatch rates
- Re-examine/improve species-to-species landings limit ratios
- Time/area closures (closed "hot spots")

2.4 Issue 4 -- Annual Management Measures Framework Provisions -- Alternative 3 Preferred

Alternative 1 (status quo - no action). Under this alternative, the current list of frameworked "routine" management measures would not change. The Council asked NMFS to use its emergency management authority to take management actions outside of the current routine framework for 2000. Emergency measures are viable for six months, and may be renewed for the second half of 2000. However, emergency regulatory measures may not be renewed more than once, which would mean that, for 2001 and beyond, the status quo option would leave the Council with only the frameworked routine management measures that were available for the 1999 fishery.

Alternative 2 (amend federal groundfish regulations and the FMP to incorporate the emergency measures taken in 2000 as "routine" management measures -- listed at 6.2.1 in the FMP, and at §660.323(b) in the federal groundfish regulations.)

- List of frameworked "routine" management measures for the commercial fisheries would include: limited entry cumulative landings limits that may be different based on type of gear used, and closed seasons for lingcod and rockfish.
- List of frameworked "routine" management measures for the recreational fisheries would include:

size limits for canary rockfish, bocaccio, cabezon, kelp greenling, sculpin; closures for rockfish and lingcod; boat limits for cowcod; a requirement to keep the skin on rockfish; a prohibition on filleting cabezon; and hook limits.

Alternative 3 (frameworking variation) Under this option, commercial and recreational management measures would become part of a framework for routine management measures.

- List of frameworked "routine" management measures for the commercial fisheries would include: in cases where protection of an overfished or depleted stock is required, limited entry cumulative landings limits that may be different based on type of gear used, and closed seasons for any groundfish species.
- List of frameworked "routine" management measures for the recreational fisheries would model the more broad framework for open access fisheries, so that all recreational fisheries for groundfish could be managed with bag limits, size limits, time/area closures, boat limits, hook limits, and dressing requirements.

Further, this option would amend Section 6.2 of the FMP so that the first time any new measure were used (first time for a size limit, for limits on a particular species, first time for a closed season, etc.) it could only be implemented during the two-meeting preseason process. Once adopted under an annual management measures cycle, the new measure could be adjusted as routine during the year. All routine management measures would continue to be established annually through the two-meeting preseason process, with adjustments to those measures allowable through the Council's meetings during the year.

** The purposes of either of the Alternatives 2 or 3 would include: achieving the rebuilding plans, reducing bycatch, preventing overfishing, allowing the harvest of healthy stocks as much as possible while protecting and rebuilding overfished and depleted stocks, and equitably distributing the burdens of rebuilding among the sectors.

2.5 Issue 5 -- Removing Limited Entry Permit Gear Endorsements Other than "A" Endorsement (Housekeeping Measure) -- No Preferred Alternative

Alternative 1 (status quo - no action). The FMP provides for four different gear endorsements, the "A" endorsement, the provisional "A" endorsement, the "B" endorsement, and the designated species "B" endorsement. Of those, only the "A" endorsement is currently in use.

Alternative 2 (remove all of the limited entry permit endorsements other than the "A" endorsement from FMP). Under this alternative, the three unused gear endorsements (provisional "A," "B," and designated species "B") would be removed from the FMP.

Alternative 3 (remove "B" and designated species "B" endorsements, update provisional "A" endorsement.) Under this alternative, the provisional "A" endorsement would be updated so that it is only available in the future to vessels that used gear during the window period that is now prohibited by either state or federal law and with that gear, made sufficient landings to meet the minimum landing requirements for legal gears.

** None of the above alternatives would preclude the design of future gear or other permit endorsements, or of other access limitation programs.

3.0 AFFECTED ENVIRONMENT

3.1 Physical and Biological Characteristics of the Pacific Coast Groundfish Environment

The Pacific Coast Groundfish FMP manages 82 species over a large and ecologically diverse area, from the U.S.-Canada border to the U.S.-Mexico border, and extending westward from the coast out to the 200 nautical mile limit of the Exclusive Economic Zone (EEZ). Marine habitat for Pacific coast groundfish includes estuaries, rocky sub-surface pinnacles, sandy plains of the continental shelf, deep ocean canyons,

and other habitat types. A thorough description of the habitat used by Pacific coast groundfish is provided in the 1998 Essential Fish Habitat appendix to the FMP (NMFS, 1998.)

In the FMP, the 82 managed species are divided as follows: sharks (3 spp.), skates (3 spp.), ratfish (1 sp.), morids (1 sp.), grenadiers (1 sp.), roundfish (6 spp.), rockfish (55 spp.), and flatfish (12 spp.) Of these, fewer than 20 species have ever had comprehensive stock assessments. Each year, assessments are conducted on 5-10 species, typically as part of a three-year rotation. Most of the available information about life histories and distribution of groundfish species is included or referenced in the 1998 Essential Fish Habitat appendix.

Stock assessments for Pacific Coast groundfish are conducted by staff scientists of the California Department of Fish and Game (CDFG), Oregon Department of Fish and Wildlife (ODFW), Washington Department of Fish and Wildlife (WDFW), Oregon State University (OSU), and the Southwest, Northwest, and Alaska Fisheries Science Centers of NMFS. These stock assessments are published annually as appendices to the Council's Stock Assessment and Fishery Evaluation (SAFE) document. [Annual SAFE documents and appendices are available from the Council office.]

An Acceptable Biological Catch (ABC) is established for every stock (a species or species group) where enough information is available. However, numerical Optimum Yields (OYs) are not established for every stock, especially where harvest has been less than ABC. Species and species groups with OYs include lingcod, Pacific whiting, sablefish, POP, shortbelly rockfish, shortspine thornyhead, longspine thornyhead, widow rockfish, chilipepper rockfish, splitnose rockfish, the minor rockfish complexes (northern and southern for nearshore, continental shelf, and continental slope species,) bocaccio, canary rockfish, yellowtail rockfish, and Dover sole.

Eight species are believed to be above their precautionary thresholds of stock size at least 40% of its unfished biomass level: Dover sole (increasing abundance trend), English sole (trend unknown), Petrale sole (trend unknown), shortbelly rockfish (trend unknown), longspine thornyhead (declining), black rockfish (declining), chilipepper rockfish (declining if recent recruitment is low), and blackgill rockfish (declining).

Species near target biomass levels include Pacific whiting, yellowtail rockfish (39% of unfished level,) and sablefish (37%). There are seven species below their target biomass levels: widow rockfish (29%), shortspine thornyhead (32%), canary rockfish (7% in the south and 20% in the north), cowcod (less than 10%), bocaccio (about 2%), POP (13%), and lingcod (8.8%). Darkblotched rockfish is also thought to be below the target biomass level. Of these, POP, bocaccio, lingcod, canary rockfish, and cowcod have been declared overfished. The relative abundance and trends of Pacific cod, other flatfish, other rockfish, and other species categories are unknown; relative abundance of arrowtooth flounder is unknown but believed to be declining (PFMC, December 1999.)

More detailed information on the stock status of each of these species is available in the stock assessments associated with the annual SAFE document process, as well as in the Environmental Assessment and Regulatory Impact Review for the 2000 groundfish ABC and OY specifications and implementing management measures for the Pacific coast groundfish fishery, which are available from the Council office (PFMC, December 1999.) Rebuilding plans for the three species that were designated as overfished in March 1999 (POP, bocaccio, lingcod) are also available from the Council office.

3.2 Characteristics of the Groundfish Industry and Fishery

Commercial Fishery

The Pacific coast groundfish fishery is a year-round, multi-species fishery that takes place off the coasts of Washington, Oregon, and California. Most of the Pacific coast non-tribal, commercial groundfish harvest is taken by the limited entry fleet. The groundfish limited entry program was established in 1994 for trawl, longline, and trap (or pot) gears. There are also several open access fisheries that take groundfish incidentally or in small amounts; participants in those fisheries may use, but are not limited to longline, vertical hook-and-line, troll, pot, setnet, trammel net, shrimp and prawn trawl, California halibut trawl, and sea cucumber trawl. In addition to these non-tribal commercial fisheries, members of the Makah, Quileute, Hoh, and Quinault tribes participate in commercial, and ceremonial and subsistence fisheries for groundfish off the

Washington coast. Participants in the tribal commercial fishery use similar gear to non-tribal fishers who operate off Washington, and groundfish caught in the tribal commercial fishery is sold through the same markets as non-tribal commercial groundfish catch.

One of the primary goals of the Pacific coast groundfish FMP is to keep the fishery open throughout the entire year for most segments of the fishery (See FMP goals and objectives at section 2.0). Harvest rates in the limited entry fishery are constrained by annual harvest guidelines, two-month or one-month cumulative period landings limits, individual trip limits, size limits, species-to-species ratio restrictions, and other measures, all designed to control effort so that the allowable catch is taken at a slow rate that will stretch the season out to a full year. Cumulative period catch limits are set by comparing current or previous landings rates with the year's total available catch. Landing limits have been used to slow the pace of the fishery and stretch the fishing season out over as many months as possible, so that the overall harvest target is not reached until the end of the year. Open access fisheries that land groundfish are more commonly targeting on non-groundfish species with some incidental groundfish landings, although there is a significant open access hook-and-line fleet that targets and lands groundfish.

There are about 500 vessels with Pacific coast groundfish limited entry permits, of which approximately 55% are trawl vessels, 40% are longline vessels, and 5% are trap vessels. Each permit is endorsed for a particular gear type and that gear endorsement cannot be changed, so the distribution of permits between gear types is fairly stable. The number of total permits will only change if multiple permits are combined to create a new permit with a longer length endorsement, or if a permit is not renewed. Limited entry permits can be sold and leased out by their owners, so the distribution of permits between the three states often shifts. At the beginning of 2000, roughly 39% of the limited entry permits were assigned to vessels making landings in California, 37% to vessels making landings in Oregon, and 23% to vessels making landings in Washington.

Because open access groundfish landings vary according to which non-groundfish fisheries are landing groundfish as bycatch, the number of open access boats that land groundfish accordingly varies with the changes in those non-groundfish fisheries. In recent years, however, there have been approximately 1,500 vessels per year that have been making small groundfish landings against open access allocations. Of these vessels, about 1,000 land their catch in California, about 400 land their catch in Oregon, and about 100 land their catch in Washington.

Limited entry fishers who use bottom trawl, longline, and pot gears target on many different species, with the largest landings by volume (other than Pacific whiting) from these species: Dover sole, sablefish, thornyheads, widow rockfish, and yellowtail rockfish. There are 55 rockfish species managed by the Pacific coast groundfish FMP and, taken as a whole, rockfish landings represent the highest volume of non-whiting landings in the Pacific coast commercial groundfish fishery.

In addition to these mixed-species fisheries, there is a distinct mid-water trawl fishery that targets Pacific whiting (*Merluccius productus*). Pacific whiting landings are significantly higher in volume than any other Pacific coast groundfish species. In 1998, whiting accounted for approximately 66% of all Pacific coast commercial groundfish shoreside landings by weight. The Pacific whiting fleet includes catcher boats that deliver to shore-based processing plants and to at-sea processor ships, as well as catcher-processor ships. Whiting is a high volume species, but it commands a relatively low price per pound, so it accounts for only about 9% of all Pacific coast commercial groundfish shoreside landings by value. [For more specific information on distribution of groundfish catch by volume and by value see the 1999 SAFE (PFMC, October 1999.)

With the exception of the portion of Pacific whiting catch that is processed at sea, all other Pacific coast groundfish catch is processed in shore-based processing plants along the Pacific coast. By weight, 1998 commercial groundfish landings were distributed among the three states as follows: Washington, 13%; Oregon, 69%; California, 18%. By value, commercial groundfish landings are distributed among the three states as follows: Washington, 15%; Oregon, 43%; California, 41% (PFMC, October 1999.) The discrepancies between the Oregon and California portions of the landings are expected because Oregon processors handle a relatively high percent of the shore-based whiting landings, a high volume, low value fishery. Conversely, California fishers land more of the low volume, high value species as a proportion of the

total state-wide catch than Oregon fishers.

Catcher vessel owners and captains employ a variety of strategies to fill out a year of fishing. Fishers from the northern ports may fish in waters off of Alaska, as well as in the West Coast groundfish fishery. Others may change their operations throughout the year, targeting on salmon, shrimp, crab, or albacore, in addition to various high-value groundfish species, so as to spend more time in waters close to their communities. Factory trawlers and motherships fishing for or processing Pacific whiting off of the West Coast usually also participate in the Alaska pollock seasons, allowing the vessels and crews to spend a greater percentage of the year at work on the ocean. Commercial fisheries landings for species other than groundfish vary along the length of the coast. Dungeness crab landings are particularly high in Washington state, squid, anchovies, and other coastal pelagics figure heavily in California commercial landings, with salmon, shrimp, and highly migratory species like albacore more widely distributed, and varying from year to year.

Whiting has been processed into surimi, sold in headed and gutted form, filleted, and converted to meal and oil. Other, higher quality fish like Petrale sole are dressed and rushed to fresh, local markets as quickly as possible, while most sablefish is frozen and sent to foreign markets. The quantity of groundfish caught off of the West Coast is just a small percent of the amount of groundfish caught in federal waters off Alaska, so West Coast groundfish moves through many of the same markets as Alaska groundfish, taking prices set by the northern fleet.

Recreational Fishery

All three states and NMFS collect data on marine recreational fisheries for groundfish, but information from four sources has not yet been calibrated into a unified database that will allow accurate comparison of recreational landings and fishery participation levels. The available information provides some characterization of the recreational groundfish fishery off the Pacific Coast. NMFS data collection on Pacific Coast marine recreational fishing surveys four separate modes of marine recreational fishing: (1) fishing from piers, docks, and jetties; (2) fishing from beaches and banks; (3) fishing from party and charter boats; and (4) fishing from private and rental boats. According to NMFS data from 1998, California recreational groundfish catch is moderately higher than in Oregon, and Washington recreational groundfish catch is significantly lower than in either of the other two states. Rockfish are caught in higher numbers than any other type of fish, with the strongest catch levels in nearshore species such as black rockfish and blue rockfish. Marine recreational fisheries also have relatively strong landings of lingcod and cabezon. Recreational fishing is generally managed by the states, although federal regulations are implemented for lingcod and rockfish, including species-specific bag limits, boat limits, and size limits. (Recreational fisheries data is collected through the Recreational Fishery Information Network, managed for the Pacific Coast by the Pacific States Marine Fisheries Commission -- online, see www.psmfc.org/recfin)

3.3 Background on Pacific Coast Groundfish Fishery Management to Account for and Minimize Bycatch (Issue 3)

When the FMP went into effect in 1982, winter weather was the only obstacle to a year-round groundfish fishery, and the FMP set the fishing year at January 1 through December 31. One of the original objectives of the FMP was to, "Provide a favorable climate for existing domestic commercial and recreational groundfish fisheries within the limitations of other objectives and guidelines. When change is necessary, institute the regulation which accomplishes the change while minimizing disruption of current domestic fishing practices, marketing procedures and environment." This objective of "minimizing disruption of current domestic fishing practices" has remained a management objective through various iterations of the FMP, and has been combined with current objectives to ". . . promote year round availability of quality seafood to the consumer," and ". . . promote year round marketing opportunities and establish management policies that extend those sectors (for which year round marketing is beneficial) fishing and marketing opportunities as long as practicable during the fishing year" (PFMC, 1982.) Taken together, these objectives have resulted in the Council's enduring policy of year-round trip limit management for most groundfish fisheries.

Active groundfish management essentially began in 1983, when the Council introduced the first numerical OYs for several managed species, and trip limits for widow rockfish, the *Sebastes* complex, and sablefish. The first landings limits the Council used were "per trip" limits, which were intended to slow landings

somewhat so that the fleet would not achieve species' annual harvest guidelines early in the year. Almost all domestic discards in the early years of groundfish management were market-induced discards, where fishers were throwing away unmarketable species or unmarketable sizes of targeted species. Domestic fisheries management did not account for these discards; targets for landed catch were set equal to ABC. For the foreign and joint venture fisheries, the Council set incidental catch allowances for non-target species.

Incidental catch allowances for foreign and joint venture fisheries, as percentages of target species harvested, through 1993					
Sablefish	POP	rockfish excluding POP	flatfish	jack mackerel	other
0.173%	0.062%	0.738%	0.1%	3.0%	0.5%

Over time, foreign and joint venture fisheries dwindled, and the Council introduced trip limits for a greater number of species taken in the domestic fisheries. Effort increased in the domestic fishery, and trip limits became more restrictive to control harvest rates. The Council realized that managing a variety of species under trip limits could lead to increased rates of discards for some species. Bycatch and discards can result from a regime of multiple trip limits because a fisher might target gear on a complex of species, and then find that in order to catch the full limit on one species, he has to exceed the limit on other species, and then discard that excess. To address this issue, the Council shifted away from per trip limits for most species and towards monthly cumulative limits. Cumulative limits were preferable to per trip limits because a fisher could accumulate species at different rates over different trips, without having to discard fish each trip because of exceeding per trip limits. Once the Council had seen that monthly landings limits would continue to allow a year-round fishery, it introduced two-month cumulative limits to again reduce the likelihood that fishermen would have to discard overages of particular species within a multi-species complex fishery.

In addition to these efforts to craft the cumulative landings limit regime to reduce discards, the Council used several regulatory measures to reduce incidental catch of juvenile fish that would be discarded as unmarketable, and to reduce bycatch of protected salmon species. In the early 1990s, the Council experimented with different combinations of gear regulations, first requiring larger trawl mesh sizes in net codends, and then moving to requirements for larger mesh sizes throughout trawl nets. By 1995, bottom trawl nets were required to have a minimum of 4.5 inch mesh, double-walled (lined) codends were prohibited, and the use of chafing gear was restricted (60 FR 13377, March 13, 1995, codified at 50 CFR 660.322.) All of these measures were intended to give smaller-size fish the opportunity to escape from the trawl net, reducing the likelihood that those fish would be caught and then discarded unused.

Beyond measures to protect small and juvenile groundfish, the Council brought salmon and whiting fishers together to address salmon bycatch in the whiting fishery. Reducing bycatch of threatened and endangered salmon species was particularly important to the Council as it looked for ways to reduce at sea catch and interception of protected salmon stocks to soften management restrictions for the directed salmon fisheries. In 1993, the Council established Klamath River and Columbia River salmon conservation zones and Eureka area trip limit restrictions to prohibit or reduce whiting fishing in areas of high salmon interception rates (58 FR 21261, codified at 50 CFR 660.323.) The whiting fleets now also work to keep their chinook salmon interception below a voluntary threshold of 0.05 chinook salmon per metric ton of whiting.

At the same time that the Council was experimenting with more flexible cumulative landings limit regimes, gear restrictions, and closed areas to reduce bycatch, domestic fishing capacity in the groundfish fleet was growing and outstripping resource productivity. We now also know that stock assessment information in the 1980s and early 1990s was not adequate to draw a clear picture of west coast rockfish productivity. Harvest rates that had seemed reasonable given then-current scientific information are now proving to have been too aggressive for sustainable harvest on the very low productivity west coast rockfish stocks (Myers, et al, 1999; Ralston et al, PFMC, 2000.) The combination of increasing fishing capacity and decreasing OYs led to ever more restrictive cumulative landings limits. The Council's Groundfish Management Team (GMT) became concerned about the effects of a restrictive cumulative landings limit regime on rates of bycatch and discard, and announced in April 1990 its plans to begin to factor discards into setting Acceptable Biological Catches (ABCs) for the 1991 fishing year (PFMC GMT, 1990.) In August 1990, the Council finalized Amendment 4 to the FMP, which introduced the practice of distinguishing between ABCs and harvest

guidelines to, among other things, account for fishing mortality beyond landed catch numbers (PFMC, August 1990.)

In 1991 and 1992, the Council's bycatch accounting policies took shape. For 1991, the Council recommended ABCs that accounted for discards for sablefish, Dover sole, and widow rockfish. The widow rockfish coastwide ABC of 7,000 mt was set equal to the landed catch OY, but in setting the ABC, 1,000-1,200 mt discard was assumed above the 7,000 mt landed catch. The sablefish coastwide ABC was reduced by 12.7% to account for discards, and the OY was set equal to landed catch. Although Dover sole was managed under a coastwide ABC in 1991, only the contributing ABCs for the Eureka and Columbia areas were reduced for discards, with Eureka's ABC reduced by 5.7% and Columbia's ABC reduced by 13% (56 FR 465, January 8, 1991.)

In 1992, the Council expanded its list of species with ABCs set to account for discard to include yellowtail rockfish. Widow rockfish again had a coastwide ABC/landed catch of 7,000 mt, with a 1,000-1,200 mt discard assumed above the ABC (14-17%). Similarly, the 1991 sablefish landed catch was the same amount that it had been in 1991 (8,900 mt), with no change to the 12.7% reduction for discards. Dover sole in the Eureka area was reassessed in 1991, resulting in a change in the Eureka area ABC, and a change in the discard reduction for Eureka area Dover sole from 5.7% in 1991 to 9.6% in 1992. Dover sole ABCs for other statistical areas were unchanged. Yellowtail rockfish discards were assumed to be 16% of the ABC, and were factored inseason, as the fisheries progressed. The assumption that yellowtail rockfish was discarded at a rate of 16% of the ABC was based on a 1988 study (Pikitch, et al, "An evaluation of the effectiveness of trip limits as a management tool,") which had estimated the widow rockfish discard rate at 16% (57 FR1654, January 15, 1992.)

Discard rates for the years 1993-2000 are described in a table, below. In addition to the discard reductions described in the table, discarded bycatch in the at-sea Pacific whiting fishery is measured by observers and is counted towards the harvest guidelines of the incidentally-caught species inseason. Inseason accounting for groundfish discards in the whiting fishery began in 1994 (*Federal Register* citations for annual specifications 1993-2000 cited in Section 9.0.)

Table 1: Discard rates and inseason bycatch accounting, 1993-2000

	2000	1999	1998	1997	1996	1995	1994	1993
Widow rockfish	300 mt subtracted from LE allocation for bycatch in whiting fishery, then 16% subtracted from what remains	16% of LE allocation	16% of total catch HG	16% of ABC	16% of ABC	16% of ABC	Discards factored into setting ABC, ABC=landed catch	Discards factored into setting ABC, ABC=landed catch
Yellowtail rockfish	600 mt subtracted from LE allocation for bycatch in whiting fishery, then 16% subtracted from what remains	600 mt subtracted from LE allocation for bycatch in whiting fishery, then 16% subtracted from what remains	16% of total catch HG	16% factored inseason	16% of ABC from north of Cape Lookout	HG = TC, discards factored inseason, 16% assumed	HG = TC, discards factored inseason, 16% assumed	HG = TC, discards factored inseason, 16% assumed
Canary rockfish	**Entire ABC/ OY lowered to rebuild depleted stock.**	16% of LE allocation	16% of total catch HG	220 mt subtracted from Van/Col ABC (~18%)	150 mt subtracted from Van/Col ABC (~15%)	150 mt subtracted from Van/Col ABC (~15%)	HG = TC, discards factored inseason, 16% assumed	N/A
Bocaccio rockfish	**Entire ABC/ OY lowered to rebuild overfished stock.**	N/A -- After 1994, the policy of assuming discards of bocaccio was discontinued.					Discards factored into setting ABC, ABC=landed catch, 16% assumed	Discards factored into setting ABC, ABC=landed catch, 16% assumed
Pacific ocean perch	16% of total catch OY	16% of total catch OY	ABC = 0, LC=TC-16% LC=650 mt	ABC = 0, LC=TC-16% LC=750 mt	ABC = 0, LC=TC-16% LC=750 mt	ABC = 0, LC=TC-16% LC=1300 mt	ABC = 0, LC=TC-16% LC=1300 mt	ABC = 0 LC = 1,550 mt, discards factored inseason
Splitnose rockfish	**Entire ABC/ OY lowered to account for less rigorous stock assessment.**	16% of total catch OY	N/A -- Before 1999, the splitnose rockfish ABC and HG/OY were included in the overall <i>Sebastes</i> ABC and HG/OY					

	2000	1999	1998	1997	1996	1995	1994	1993
Longspine thorny-heads	9% of OY	9% of total catch HG	9% of total catch HG	HG(LC) = ABC -1000 mt, to reduce SSTH bycatch	HG(LC) = ABC -1000 mt, to reduce SSTH bycatch	HG(LC) = ABC -1000 mt, to reduce SSTH bycatch	Both thornyhead spp. in one LC HG, 1994 HG derived by subtracting 8% from 1993 HG for discards	Both thornyhead spp. in one LC HG, expecting that SSTH landings will exceed ABC and that LSTH landings will fall short of ABC
Shortspine thorny-heads	30% of LE allocation	30% of LE allocation	30% of total catch HG	8% of total catch HG, but landed catch HG exceeded ABC by 38%	HG(LC) exceeds ABC by 50%, to allow greater harvest of LSTH	HG(LC) exceeds ABC by 50%, to allow greater harvest of LSTH		
Dover sole	5% of total catch OY	5% of total catch OY	5% of total catch HG	5% of total catch HG	5% of ABC	5% of Col. ABC	Discards factored into setting ABC, ABC=landed catch	Discards factored into setting ABC, ABC=landed catch
Sablefish	10% of ABC, north of 36°	10% of ABC, north of 36°	10% of ABC, north of 36°	10% of ABC, north of 36°	10% of ABC, north of 36°	10% of ABC, north of 36°	Discards factored into setting ABC, ABC=landed catch	Discards factored into setting ABC, ABC=landed catch
Lingcod	**Entire ABC/ OY lowered to rebuild overfished stock.**	19% of LE allocation	25% of assumed trawl catch, applied inseason	N/A -- Discard reduction not applied for lingcod before 1998				

In addition to measures taken to account for bycatch and discards in the setting of ABCs and OYs, annual management measures have incorporated a variety of strategies to reduce bycatch in the groundfish fishery. For trawl vessels, cumulative landings limits for the "DTS complex" have been based on catch ratios between the four species in the complex -- Dover sole, thornyheads (shortspine and longspine), and sablefish. Often, harvest of the more abundant species in the DTS complex (longspine thornyhead, Dover sole) is curtailed to prevent overharvest of the less abundant species (shortspine thornyhead.) Similar species complex management was used for *Sebastes* complex species prior to 2000, with some particular *Sebastes* species managed by harvest and trip limits within the overall *Sebastes* complex harvest and trip limits. As described above, the Council also set two-month cumulative landings limit periods for some species, which reduced the number of cumulative limit periods in the year as well as the number of opportunities for meeting and exceeding landings limits.

Management measures for 2000 include new and creative ways of particularly reducing the interception of overfished species (65 FR 221, January 4, 2000.) The Council has acknowledged that simply lowering the overall harvest limits of overfished and depleted species is not adequate to protect and rebuild those species.

Landings of lingcod, are prohibited for the months of January through April and November through December. These closures are expected to protect lingcod during the spawning and nesting period. When lingcod are caught by hook-and-line methods, they can often be released alive. Complete prohibition of landings is a reasonable management measure for lingcod, because it discourages directed targeting and requires release of fish that may still be viable after having been caught.

Other overfished and depleted species are rockfish, which generally cannot be released alive, regardless of the method of catch. Thus, the Council's challenge with these species has been to reduce fisher incentives to target depleted species and to reduce opportunities where fishers might incidentally catch large amounts of depleted species, while still allowing small landings of these species when they are caught incidentally. Rockfish landings limits were set to minimize discards by distributing species cumulative landings limits at levels that encourage fishers to direct fishing effort on healthy species when those species are most concentrated, or when bycatch of other species is expected to be relatively low. In particular, cumulative landings limits are set to move fishing effort away from the continental shelf, which is the primary habitat of several of the overfished species. Rockfish cumulative landings limits have also been set higher in the summer months, when directed targeting on healthy stocks is less likely to result in incidental harvest of depleted and overfished stocks. South of Cape Mendocino, open access, limited entry non-trawl, and recreational fisheries were closed for two months in 2000, allowing higher commercial landings limits and recreational bag limits for the remaining ten months in the fishing season. The Council expected that a shorter season and higher landings and bag limits would reduce incidental take of overfished and depleted species.

The 2000 management measures also introduce differential landings limits for limited entry trawlers operating with different trawl gear configurations (bottom trawling with footropes greater than 8 inches in diameter, bottom trawling with footropes smaller than 8 inches in diameter, and midwater or pelagic trawling.) Trawling with footropes that have roller gear or other devices designed to bounce over rough rockpiles tends to allow those vessels greater access to prime rockfish and lingcod habitat. Therefore, landings of shelf rockfish have been prohibited if large footrope trawls (roller gear) are used; small amounts of shelf rockfish bycatch are allowed to be landed if small footrope trawls are used, and; targeting healthy shelf rockfish stocks is encouraged only if midwater trawls are used. These gear requirements have not been tested for whether they will reduce directed and incidental harvest of overfished species. There are no discard records for historic fishing practices, and new management changes not been tested through scientific observation.

Finally, at the GMT's recommendation, the Council revised its historical practice of managing the *Sebastes* complex as simply northern and southern units. In recent years, rockfish species without assessments and those with less rigorous assessments were managed under generic *Sebastes* complex landings limits. The GMT had been concerned that this approach provided opportunity to harvest lower-abundance, higher-valued species at unsustainable rates. In response to these concerns, the Council separated the ABCs/OYs for chilipepper and splitnose rockfishes from the Southern *Sebastes* complex for the 1999 fishery. Conversely, concerns also developed that rebuilding plans for overfished species could result in unnecessarily severe restrictions for the entire complex than would be the case if sub-groups of these species could be developed.

For 2000, the GMT developed species lists for three sub-groups of rockfish -- Nearshore, Shelf, and

Slope--for the Northern (U.S. Vancouver, Columbia and Eureka subareas combined) and Southern (Monterey and Conception subareas combined) areas. Organizing *Sebastes* species into groups based on the most common catch associations is expected to equalize the harvest rates for most rockfish stocks, and to reduce the likelihood of overharvesting both overfished and depleted species, and species for which there is relatively little stock assessment information.

All of the new measures taken in 2000, and measures taken in prior years to manage for multi-species interactions, illustrate that regulatory efforts to reduce bycatch tend to have multiple management goals -- from protecting overfished and depleted species, to preventing overharvest of species of unknown abundance, to acknowledging that vessels using different gear types require different harvest strategies, to matching within-year harvest rates to within-year abundance and congregation habits of managed species. For a multi-species fishery, the catching of species other than the particularly targeted species is not necessarily a problem. Discard of non-targeted species, whether for economic or regulatory reasons, is a problem, and one that the Council has worked to reduce in its ongoing efforts to address a wide range of management issues. There is, however, no scientific confirmation for the effectiveness of these management activities in meeting the Council's policy goals.

3.4 Background on Annual Management Measures Process and Changes for 2000 Fisheries (Issue 4)

The FMP specifies how changes to groundfish management policies and regulations are to be made in Section 6.0, "Management Measures." Policy-making processes are tiered, with some policy and regulatory changes requiring at least two Council meetings and a regulatory amendment, and other regulatory changes requiring discussion at just a single meeting followed by notification in the Federal Register. Major policy changes usually require FMP amendments, while the shortest rulemaking process is generally only available for inseason changes to cumulative landings limits. In between the two extremes of the FMP amendment and the single meeting and notice action, lies the full rulemaking and the abbreviated rulemaking process. The abbreviated rulemaking process allows the Council to take certain actions needing swift implementation by discussing those actions with the public and with their advisory entities over two Council meetings, with the results recommended for publication by NMFS in the Federal Register.

Each year at its September and November meetings, the Council uses the abbreviated rulemaking process to develop its recommendations for groundfish specifications and management measures. Once the Council has formalized its recommendations, NMFS evaluates and publishes the recommendations as the "annual specifications and management measures." These measures are published in a single Federal Register notice at the beginning of every January. Annual specifications provide ABCs, OYs, and harvest guidelines for managed species, and management measures are the specific landings limits, size limits, and time/area closures that are set in place for one calendar year. As the fishing year progresses, the Council tracks harvest rates for each sector of the commercial fishery, and may recommend adjusting management measures to either allow more access to, or to restrict harvest of, a particular species or species group. For the recreational fisheries, the Council sets aside a portion of the available harvest of recreationally-targeted species and sets recreational fishery management provisions in place at the beginning of the year.

While a framework allows the Council to publish annual specifications and management measures through a two-meeting process and a single Federal Register notice, adding to the list of measures that are considered "routine" requires a longer process of consideration and development. Management measures are designated as routine in the federal groundfish regulations through the federal rulemaking process, which requires two or more Council meetings.

In the federal regulations, routine management measures are divided into those affecting the commercial fisheries (both limited entry and open access) and those affecting the recreational fisheries. For both commercial and recreational fisheries, routine management measures are intended to keep groundfish landings within annual harvest levels. In the commercial fisheries, trip landing and frequency limits may also be applied as routine management measures for the following reasons: to extend the fishing season; to minimize disruption of traditional fishing and marketing patterns; to reduce discards; to discourage target fishing while allowing small incidental catches to be landed; to allow small fisheries to operate outside the normal season; and, for the open access fishery only, to keep landings at the historical proportions of the

1984-88 window period. Size limits may also be applied as routine management measures in the commercial fisheries, either to protect juvenile fish or to extend the fishing season.

Routine management measures for commercial fisheries include (by species and gear):

- (A) Widow rockfish--all gear--trip landing and frequency limits.
- (B) Sebastes complex--all gear--trip landing and frequency limits.
- (C) Yellowtail rockfish--all gear--trip landing and frequency limits.
- (D) Pacific ocean perch--all gear--trip landing and frequency limits.
- (E) Sablefish--all gear--trip landing, frequency, and size limits.
- (F) Dover sole--all gear--trip landing and frequency limits.
- (G) Thornyheads (shortspine thornyheads or longspine thornyheads, separately or combined) --all gear--trip landing and frequency limits.
- (H) Bocaccio--all gear--trip landing and frequency limits.
- (I) Pacific whiting--all gear--trip landing and frequency limits.
- (J) Lingcod--all gear--trip landing and frequency limits; size limits.
- (K) Canary rockfish--all gear--trip landing and frequency limits.
- (L) All groundfish, separately or in any combination--any legal open access gear (including non-groundfish trawl gear used to harvest pink shrimp, spot or ridgeback prawns, California halibut or sea cucumbers in accordance with the regulations in this subpart)--trip landing and frequency limits.

For the recreational fisheries, bag limits may be applied as routine management measures to spread the available catch over a large number of anglers, to avoid waste, or for consistency with state regulations. Size limits may also be applied as routine management measures in the recreational fisheries, either to protect juvenile fish, to enhance the quality of the recreational fishing experience, or for consistency with state regulations.

Routine management measures for recreational fisheries (by species and gear):

- (A) Lingcod -- all gear -- bag and size limits.
- (B) Rockfish -- all gear -- bag limits.

In September and November 1999, the Council faced the challenge of crafting the 2000 management measures to incorporate protective regulations for harvest activities affecting overfished and depleted fish stocks. While the Council does not usually need to work outside of the management measures already designated as "routine" in federal groundfish regulations, protecting overfished and depleted stocks spurred some creative thinking on the parts of the Council, its advisory entities, and the public. To protect overfished and depleted stocks, the Council recommended several measures for 2000 that were not part of the established list of "routine" management measures, and asked NMFS to use its emergency rulemaking authority to implement those recommendations. Because the new measures were in keeping with the goals and objectives of the FMP, NMFS agreed to the emergency use of these new measures for six months from the date of the publication of the Federal Register notice of 2000 specifications and management measures (January 4 through July 3, 2000.) Measures set in place under emergency authority for the commercial fisheries include limited entry cumulative landings limits that may be different based on type of gear used and closed seasons for lingcod and rockfish. Measures set in place under emergency authority for the recreational fisheries include: size limits for canary rockfish, bocaccio, cabezon, kelp greenling, sculpin; closures for rockfish and lingcod; boat limits for cowcod; a requirement to keep the skin on rockfish; and a prohibition on filleting cabezon; and hook limits. Regulatory measures implemented through emergency authority may be used for a single six-month period, and reauthorized for a second six-month period if it is understood that the Council will be working on an FMP or regulatory amendment to formalize the emergency measures during that time. Federal agencies may not indefinitely renew actions taken on an "emergency" basis.

In addition to the three species that have been designated as overfished, and for which the Council has prepared rebuilding plans (lingcod, POP, bocaccio,) NMFS has notified the Council that canary rockfish and cowcod also meet the FMP definition of overfished species. Given the need to protect these five species, and the further possibility of other groundfish species being designated as overfished, the Council may wish to adjust for additional flexibility in the annual management measures process. If the list of routine management measures were so amended, the reasons for using those measures would include: for the purposes of achieving the rebuilding plans, reducing bycatch, preventing overfishing, allowing the harvest of

healthy stocks as much as possible while protecting and rebuilding overfished and depleted stocks, and equitably distributing the burdens of rebuilding among the sectors.

4.0 CONSEQUENCES OF PROPOSED ACTION AND ALTERNATIVES

4.1 Issue 1 -- Definition of the term "bycatch" in the FMP -- Alternative 2 Preferred

Issue 1	environmental effects	socio-economic effects
Alternative 1	none	none
Alternative 2	none	none

Alternative 1 (status quo - no action). The FMP defines "bycatch" as follows: "Bycatch means fish which are harvested in a fishery, but which are not sold or kept for personal use and includes economic discards and regulatory discards."

Alternative 2 (Magnuson-Stevens Act definition). The Magnuson-Stevens Act defines "bycatch" as follows: "The term 'bycatch' means fish which are harvested in a fishery, but which are not sold or kept for personal use, and includes economic discards and regulatory discards. Such term does not include fish released alive under a recreational catch and release fishery management program."

DISCUSSION. When first addressing the 1996 Sustainable Fisheries Act requirements, the Council recommended amending the FMP's definition of bycatch to: "Bycatch means fish which are harvested in a fishery, but which are not sold or kept for personal use *or donated to a charitable organization* and includes economic discards and regulatory discards." NMFS rejected this definition because it went beyond the scope of the Magnuson-Stevens definition of "bycatch" to include fish donated to a charitable organization.

The status quo FMP definition conforms with but does not exactly match the definition of "bycatch" in the Magnuson-Stevens Act, as it does not include the reference to a recreational catch and release fishery management program. The status quo definition is reasonable for the Pacific Coast groundfish fishery because the FMP does not include a recreational catch and release fishery management program. However, the Council may wish to amend the FMP definition of "bycatch" to match the definition in the Magnuson-Stevens Act, so that this definition does not have to be amended if a future Council implements a recreational catch and release fishery management program. It should be noted that the Magnuson-Stevens Act definitions excludes only fish released *alive*, not all fish released under a catch and release fishery management program.

The effects on the environment and on the fishing community of choosing either of these definitions for the FMP is the same. Only the status quo definition is relevant to Pacific coast groundfish fisheries, so the effect of choosing Alternative 2 would be neither greater nor lesser than the effect of retaining the status quo definition. It is interesting to note that the Magnuson-Stevens Act's definition of bycatch emphasizes *use* of harvested resources, which means that if particular species are caught in a fishery incidentally to the catch of target species, the incidentally caught species are only considered "bycatch" if they are not retained and used. With this emphasis, the Magnuson-Stevens Act must rely on proper catch and bycatch accounting to ensure that activities that follow out of the Act do not have a negative effect on the environment.

4.2 Issue 2 -- Standardized Reporting Methodologies for Catch and Bycatch Accounting -- Alternative 3 Preferred

Issue 2	environmental effects	socio-economic effects
Alternative 1	+(whiting)/- (non-whiting)	- (long-term)
Alternative 2	+(whiting)/- (non-whiting)	-- (long-term)
Alternative 3	++	+/-

Issue 2	environmental effects	socio-economic effects
Alternative 4	++	+(long-term)/--(near-term)

Alternative 1 (status quo - no action). Under this alternative, the current standardized reporting methodologies would remain in place: a voluntary observer program and a voluntary logbook in the at-sea whiting fisheries; incidental groundfish landings reported in a marine mammal directed observer program for the California halibut setnet fishery, and; some dockside observer coverage in the shoreside whiting fishery, as associated with EFPs. The regulatory framework approved by the Council to require at least one observer per vessel in the at-sea whiting fishery would still be implemented for future whiting seasons.

This alternative would have a positive effect on the environment affected by the at-sea whiting fisheries, but an otherwise negative effect on the environment, and could have a consequent negative effect on the fishing community. Under this alternative, observer coverage in the at-sea whiting fleet would still become mandatory and dockside observer coverage would continue. However, this alternative would not provide any bycatch or discard reporting for the non-whiting groundfish fleets. Because the whiting fleets have been under fairly consistent observation for several years, observer programs have measured catch and bycatch rates in these fisheries. Bycatch and discard rates in the non-whiting fleets are unknown, and the groundfish management would likely require continued extrapolation of discard data from the 1988 Pikitch study mentioned above in Section 3.3. Unmeasured discard mortality could have a profound effect on the health of managed fish stocks. If discard mortality is higher than what the Council extrapolates from the Pikitch study, then overall fishing mortality rates (catch mortality + discard mortality) may be at higher than sustainable levels. Continued, unseen overfishing will lead to stock declines, and may lead to stock collapses. When fish stocks are depleted, the fishing community suffers, because rebuilding depleted stocks requires the Council to lower directed harvest rates. Directed harvest rate reductions for 2000 were severe enough to warrant a Secretary of Commerce determination of a "commercial fishery failure due to a fishery resource disaster."

Under status quo, the standardized reporting methodologies used in the whiting fisheries would include the following programs:

At-Sea Whiting Fishery Observer Program. Since 1991, the domestic at-sea whiting processors have voluntarily carried NMFS-trained observers to provide data for estimating total landed catch and discards; monitoring the attainment of annual groundfish allocations; estimating catch rates of prohibited species; and assessing stock conditions. Under this voluntary system, vessel owners work directly with an observer contracting company of their choice that is certified for federal fisheries off Alaska and enter into private negotiations for observer services. In 1999, each processing vessel voluntarily carried at least one NMFS-trained observer while participating in the whiting fishery. Observer data is used by NMFS and the industry for inseason catch monitoring, by scientists for stock assessments of whiting and other groundfish, and by the industry to monitor and avoid areas of high bycatch while fishing, particularly to avoid salmon stocks. This program provides observer monitoring of 43% of the whiting hauls delivered to mothership processors, and 98% of the hauls of catcher-processors (NMFS, March 2000.)

Maintaining voluntary observer coverage in the domestic at-sea whiting fishery has been the result of shared efforts between the NMFS Northwest Region, the North Pacific Groundfish Observer Program (NPGOP), a division of the NMFS Alaska Fisheries Science Center, independent observer contractors, and the fishing industry. The Northwest Region monitors the fishery and interacts with the industry; the NPGOP provides for the pre-hire screening, field training, debriefing interviews, at-sea support, sampling equipment, and data management services; companies that are certified as observer contractors for the Alaskan program provide hiring and support services; and individual processing vessels pay the direct costs associated with carrying the observers.

For the most part, the at-sea whiting fishery has been satisfactorily managed as a voluntary program. However, NMFS's ability to ensure the integrity and availability of observer data in the future is constrained by the lack of regulatory requirements defining the needs of an observer program and mandatory coverage levels. Under the current voluntary observer system, there are no regulatory requirements defining the roles

and responsibilities of observers, of observer contracting companies, or of industry vessels participating in an observer-covered fleet. Participants in the voluntary program use regulations pertaining to observer-covered fisheries in Alaska as guidelines for behavior, but the voluntary program hampers the agency's ability to respond to actions taken in the West Coast fleet that may be contrary to Alaska-based policies. The voluntary nature of the program also risks loss of data essential to a variety of scientific and management efforts, from inseason fishery monitoring to stock assessments of whiting and other species. For these reasons, NMFS presented a draft proposed rule to the Council in April 1999, in which the agency planned to propose making observer coverage of the at-sea whiting fleet mandatory. The Council took action to express its support for mandatory observer coverage of the at-sea whiting fleet, requiring at least one observer per vessel.

The proposed regulations drafted by NMFS and supported by the Council are moving forward and should be published in 2000. NMFS will continue to work toward mandatory observer coverage for the at-sea whiting fleet, and regulatory standards for all parties participating in the observer-covered fishery. During the process of proposing and eventually codifying these observer regulations, the at-sea whiting industry has indicated its intent to continue with the voluntary observer program. NMFS anticipates that this program will continue to support the fishery's inseason management efforts as well as the inseason and post-season bycatch monitoring efforts.

At-Sea Whiting Fishery Logbook Program. This logbook program is also a voluntary program used in the at-sea whiting fleet to monitor catch rates inseason. Logbooks are used in conjunction with observers and provide real-time information to NMFS and to fleet participants for starting and ending the seasons for each sector of the at-sea fleet. Logbooks primarily serve to verify information collected by observers, and to fill in data gaps where observers were unable to collect information.

Under this voluntary program, catcher/processors maintain a Daily Fishing and Cumulative Production Log (DFCPL,) and motherships maintain a Daily Report of Fish Received and Cumulative Production Log (DRCPL.) These logs are identical, except that the DFCPL combines the production log with a fishing log, and the DRCPL combines the production log with a record of fish received from other vessels. Harvesting vessels delivering to processing vessels maintain the fishing log section of the DFCPL.

The daily fishing portion of the logbooks include: 1) vessel and gear specifications; 2) haul-by-haul information; 3) daily information on discards; and 4) information on daily vessel activity. Haul-by-haul information includes the date, time, location, sea depth, trawl depth, haul weight, duration of haul. Discard information logs Pacific whiting, other groundfish, and prohibited species (salmon, halibut, Dungeness crab) discards, with estimated daily discards of prohibited species recorded in numbers of individuals. All other species discard estimates are recorded by weight. Catch and effort information is used for inseason monitoring and for biological and economic evaluations of existing and proposed fishery management measures. Fishing log information is available to observers as it is recorded, and observers collect effort data and use other information in the logs to meet their data collection responsibilities.

Monterey Bay Halibut Set Gillnet Observer Program. This observer program covers the setnet fishery for California halibut and angel shark in Monterey Bay. Although the program is supported by Marine Mammal Protection Act (MMPA) funds and is designed to monitor marine mammal bycatch and bycatch mortality in this fishery, incidental groundfish bycatch and discard is also monitored. The objectives of this project are to: (1) observe a sufficient level of fishing effort to provide statistically reliable estimates of harbor porpoise mortality and serious injury; (2) record other target and non-target catch information (e.g., sea otter and seabird bycatch); (3) collect biological samples when possible (Enriquez (NMFS/SWR,) pers.comm.) This program was first implemented in 1999, with observation of 30% of the fishing days of all participating vessels.

Scientists at the Southwest Fisheries Science Center (SWFSC) will use data collected in this study, along with an estimate of annual set gillnet fishing effort provided through a cooperative agreement with CDFG, to estimate the annual incidental mortality and serious injury of harbor porpoises by the fishery. The results from this study will be used to determine whether the incidental take of central California harbor porpoise exceeds the stock's potential biological removal (PBR) level. If the new take estimates indicate PBR levels are being exceeded, NMFS may require the fishery to institute strategies to reduce the incidental take of

harbor porpoise and may convene a take reduction team to help prepare a plan to reduce taking. This type of marine mammal bycatch monitoring is not required for the Pacific coast groundfish fisheries, because those fisheries are listed as Category III fisheries under the MMPA, meaning that annual mortality and serious injury to marine mammals in those fisheries is less than or equal to 1 percent of the PBR level of regional marine mammal stocks.

Shoreside Whiting Fishery Exempted Fishing Permits. For each year since 1992, NMFS has issued Experimental/Exempted Fishing Permits (EFPs) to whiting catcher vessels delivering to shorebased processing plants during the regular whiting season. The intent of the 1992 pilot EFP was to allow catcher vessels to bring their whiting catch to shore without having to sort and discard incidentally-caught salmon. A percentage of the participating vessels carried observers to monitor bycatch rates at sea, with catch offloading monitored by a separate contingent of shorebased observers. This EFP program was formalized in 1993 as an ongoing salmon bycatch monitoring program. Also in 1993, NMFS implemented regulations to prohibit or restrict fishing for whiting in times and areas where the whiting fleet was most likely to incidentally catch depleted salmon stocks.

In addition to allowing landings of incidentally-caught salmon, the 1993 EFP program introduced provisions to allow whiting catcher boats to land incidentally-caught groundfish in excess of groundfish landings limits. As with salmon bycatch, the bycatch of non-whiting groundfish was monitored when participating catcher vessels offloaded their whiting catch to shorebased processing plants. Results from the 1992 through 1994 EFP programs indicated that salmon bycatch rates on observed and unobserved vessels were the same, and that those rates had been reduced through the time/area salmon conservation closures. The program was revised for 1995, shifting the monitoring focus from monitoring at-sea salmon bycatch to monitoring shoreside groundfish overages. Bycatch of salmon and other prohibited species continues to be monitored through the EFP program, but sampling efforts on incidentally caught groundfish have increased. In this program, 13% of the whiting shoreside landings are monitored by observers. This EFP program has continued, with occasional refinements, until today.

	1992	1993	1994	1995	1996	1997	1998	1999
Catcher vessels that actually delivered whiting to shoreside processing plants	29	25	33	34	39	40	38	36
Catcher vessels issued EFPs to deliver whiting to shoreside processing plants	18	21	31	35	40	45	38	50

In the early years of the EFP program, not all vessels delivering whiting to shoreside processing plants took advantage of the EFPs. By 1995, however, the number of EFPs issued was exceeding the number of vessels participating in the fishery. Vessel owners might apply for and receive EFPs in anticipation of participating in the whiting fishery, but then might decide to forego the whiting season for other opportunities and leave the issued EFP unused.

ODFW manages and monitors the shoreside observation program for the three states because the majority of whiting delivered to shoreside processing plants is landed in Oregon. During and after the season, ODFW tracks rates and quantities of prohibited species and non-whiting groundfish bycatch by vessel. In 1999, dockside observers monitored whiting deliveries in 7 ports, observing 10-30% of deliveries in those ports (Saelens, pers. comm.)

Alternative 2 (Mandatory logbook reporting of discarded catch). This alternative would include all of Alternative 1, plus the Council would either: (a) ask the three states (Washington, Oregon, California) to revise their logbooks to allow for reporting of total catch, instead of just retained catch, or (b) bring logbooks under federal authority, with required bycatch and discard reporting.

This alternative may not provide changes from the effect of Alternative 1, and would likely have an increased negative effect on the fishing community. As in Alternative 1, observer coverage in the at-sea whiting fleet would still become mandatory and dockside observer coverage would continue. Logbook reporting is

controversial for two primary reasons: (1) without verification systems, fisheries scientists are generally skeptical about the accuracy of logbook reports, and (2) fishers are generally skeptical about whether and to what purpose the information they provide is used. Logbook reporting programs that are not compared with observer data for the same fishery cannot be tested for logbook verity, which means that information collected in such logbook programs may be unusable for bycatch and discard estimates. Historically, the most effective comparison agent for mandatory logbook requirements has been a simultaneous observer program, such as in the at-sea whiting fishery. A combined logbook/observer program relies on the observer program to provide a point of comparison for information collected on unobserved trips, and uses the logbook program to fill in observer program data gaps. Alternative 2 could result in the same stock depletions as those envisioned under Alternative 1, but it would have the added irritation for fishers of having to comply with a reporting burden that does not result in improved fishery information.

In the current state logbook reporting program, Washington, Oregon, and California require trawl vessels to maintain logbooks to record estimates of retained catch, catch location, and other basic information. Logbook records may be checked against fish tickets, which provide a more accurate accounting of landed catch. There are no state requirements to record discarded catch. Alternative 2 would require all vessels landing groundfish to report total catch, separated into retained and discarded categories. Under such a program, fish tickets could still provide a useful comparison for retained catch records. A major shortcoming of the current logbook program is that it depends on paper, rather than electronic reporting. Under a paper reporting system, the vessel operator fills out the paper logbook, which is then collected by the state of landing. The state of landing must then employ data entry personnel to enter logbook information into a computerized database before that information can be used and compared with landings receipts or information from other vessels. An electronic logbook program would bring fishing data directly from the vessel to users in the scientific community, potentially improving the efficiency and useability of gathered data. As with any logbook system, an electronic logbook system should be coupled with observer coverage for comparison of data gathered on observed and unobserved fishing trips.

During the 1995 through 1998 fishing years, ODFW experimented with an enhanced logbook program that was designed to test supplementing information already collected in the state logbook programs (ODFW, 1997.) This Enhanced Data Collection Program (EDCP) was conducted in cooperation with the Washington Department of Fish and Wildlife, California Department of Fish and Game, and others to combine a collection of expanded logbook information with an observer program for West Coast groundfish non-whiting trawl fisheries.

EDCP goals included:

- Estimate trip limit induced discard rates for primary groundfish species
- Estimate discard rates for other groundfish species
- Estimate bycatch rates of prohibited species (salmon, Pacific halibut)
- Estimate Pacific halibut survival rate
- Allow salmon to be distributed to hunger-relief agencies
- Allow utilization of fish otherwise discarded

Trawl catcher vessels participated in this program on a voluntary basis, carrying observers and/or logbooks, as well as NMFS EFPs. Two types of EFPs were used in this program. A "Class A" EFP required the permit holder to collect discard information in an enhanced logbook while continuing to record landed catch, and allowed the vessel to retain prohibited salmon species for distribution to hunger relief agencies. A "Class B" EFP imposed the same responsibilities as the "Class A" permit, but included a requirement to carry an observer. EDCP observers monitored quantities and rates of discards, species composition of discards, halibut viability information, and conducted some biological sampling. A third class of permits planned for the EDCP would have required permit holders to retain all of the groundfish taken above groundfish cumulative landings limits (overages,) but no vessels volunteered for this permit class. The EDCP was a limited-duration project and data gathered has not been made available for Council or public use. NMFS is now assessing whether information collected under the EDCP could be useful to groundfish management.

Alternative 3 (Implement observer program as soon as funding becomes available). This alternative would include all of Alternative 1, plus allow the Council to amend the FMP to provide general provisions for developing an observer coverage plan. In April 2000, the Council endorsed a provision for a regulatory

framework for a catcher vessel observer program in the groundfish fisheries. Implementation of an observer program under this alternative would require federal and/or state funding to pay observer costs, while program and infrastructure costs would be borne by NMFS. A list of technological supplements to this program would include, but not be limited to:

- *Electronic/paper logbooks with bycatch reporting*
- *Catch monitoring by camera*
- *VMS monitoring*

This alternative could have positive effects on the environment, and positive as well as negative effects on the fishing community. Alternative 3 would amend the FMP with general provisions for an observer coverage plan under the regulatory framework for a future observer program for the shore-based groundfish fisheries. Given the current economic health of the fishing community, the Council would not require observer coverage unless funding became available from sources outside of the fishing community. Depending on the funding mechanism, the cost of this alternative to participating vessels might be limited to providing food and bunk space to the observer. Although the Council's ultimate goal should be a healthy, appropriately-capitalized fishery where the average participant can afford full observer costs, that scenario does not apply to the current state of groundfish fisheries. If funding is secured and observers are deployed, this alternative would have the positive effect of finally providing real information about bycatch and discard rates in the non-whiting groundfish fisheries. This desperately needed information could be used in stock assessments and in setting harvest rates, to ensure that total fishing mortality is appropriate to stock abundance. Ultimately, improved fishing mortality information will have a cascade effect of giving fishery scientists and managers the tools they need to allow sustainable future groundfish harvests. Healthy fish stocks with sustainable harvest levels benefit fishing communities. On the other hand, some fishers believe that observers are an undesirable intrusion and might resent having to carry observers even if they are not paying for those observers.

Observer Program, Draft Observer Rules Framework, and Observer-Supplementing Technologies.

Observers are a uniformly trained group of scientists who gather independent data necessary for conservation and management of fisheries. They are stationed aboard vessels to observe fishing activities to gather data that is too burdensome for vessel personnel to collect, and which would otherwise not be available to fishery managers and scientists. Since the early 1990s, the Council has regarded at-sea observers as a viable means to collect much-needed data on at-sea discards. The GMT has continually stressed the need for an on-board observer program to accurately assess total catch.*

To address deficiencies in total catch data for catcher vessels, the Council proposed development of an on-board observer program at its April 1999 meeting. The Council created an Observer Program Implementation Committee to design a statistically sound sampling program, to be consistent with the Council's goals for a total catch data gathering program. The committee's June 1999 report to the Council included the following goals for an observer program:

- estimate total annual groundfish catch for all west coast fisheries that take groundfish
- estimate discard rates by species (for all species, including prohibited species)
- collect biological information on depressed species and on the primary species needed to define harvest populations for stock assessments
- establish a system for efficient collection, storage, and use of information

This committee met again in June and September 1999 to discuss program design, coverage strategies, data priorities, program infrastructure, and the supporting regulatory package. At the Council's September and November 1999 meetings, NMFS distributed early draft regulations designed to support observer placement

* In a March 1991 statement to the Council, the GMT wrote, "The GMT has frequently expressed the need for an observer program in order to improve our management ability. Some of the gaps, in approximate order of priority, that could be filled by observer data are: (1) the magnitude of discarding for each species; (2) the sex and age composition of discarded fish; (3) the sex and age of fish dressed at sea (primarily sablefish); (4) tow-by-tow information on the species composition (especially rockfish) of the catch to be landed; and (5) the distribution of fishing effort by depth and area to verify logbook data."

in accordance with a statistically sound coverage plan, to permit observers to collect data according to scientific sampling protocols, and to promote observer safety. These regulations would not specify observer coverage requirements for individual vessels, but instead provide the regulatory support necessary to start up an observer program. At its April 2000 meeting, the Council adopted this regulatory package; Amendment 13 would give the Council the opportunity to add observer coverage plan language to the FMP.

To supplement an observer program, the Council might consider a simultaneous paper or electronic logbook program. Used with observer programs, logbooks can fill information gaps and confirm observer data. Logbooks are discussed above under Alternative 2. In addition to or as a substitute for logbooks, the Council might combine an observer program with camera catch monitoring or a vessel monitoring system (VMS.)

In the seamount sablefish fishery off British Columbia, Canadian fishers have been working with new video technology to test the use of cameras in lieu of human observers. Observer coverage is required in groundfish fisheries of British Columbia, and fishers are investigating ways to reduce the cost of carrying observers. The video-surveillance system tested in the sablefish longline fishery consists of a Global Positioning System (GPS) indicator, a camera positioned to view the fishing deck, and a battery/back-up power source to provide power to the camera system in case the vessel's electric system fails. An independent contractor (Archipelago Marine Research) provides the cameras, sets up the video surveillance systems on contracting vessels, collects the tape recordings of retrieved longline sets, and monitors the tapes once the vessel has returned to shore (McElderry, et al, 1999.)

Video surveillance systems connected to GPS indicators are useful in tracking catch by area fished, and new digital camera technology is improving resolution to provide some species-specific catch information. These systems may be more useful in fisheries that target particular species (like fixed gear sablefish fisheries), rather than in multi-species fisheries. Video observation is generally considered supplemental to an observer program, so that a fishery with less than 100% human observer coverage may be monitored by cameras when direct human observation is not available.

VMS uses GPS technology to track vessel locations for a variety of fishing fleets around the world. In the U.S., VMS is used in U.S. fisheries that are managed in part by areal restrictions. For example, in the Hawaiian pelagic longline fishery, VMS is used to monitor vessel locations to ensure that pelagic longliners are not fishing in areas that have been closed to longlining to protect Hawaiian monk seals and to prevent gear conflicts with nearshore fisheries (implementing regulations at 50 CFR 660, Subpart C.) While VMS cannot by itself provide bycatch monitoring, it can allow fishery managers to enforce closed area regulations designed to reduce bycatch rates, and can provide information about where and when individual vessels fish for groundfish.

Alternative 4 (Implement observer program, with requirement that vessels pay for observers). Similar to Alternative 3, this alternative would include all of Alternative 1, plus allow the Council to amend the FMP to provide general provisions for developing an observer coverage plan. However, under this alternative, vessels would pay observer costs, while program and infrastructure costs would be borne by NMFS. A list of technological supplements to this program would include, but not be limited to:

- *Electronic/paper logbooks with bycatch reporting*
- *Catch monitoring by camera*
- *VMS monitoring*

This alternative would have positive effects on the environment and negative effects on the fishing community that would probably outweigh expected long-term benefits for the fishing community. As described above at Alternative 3, an observer program can provide invaluable information on catch and discard rates in the groundfish fisheries. In spite of the expected benefits to the environment, the Council has been reluctant to implement an observer program due to the cost of such a program to participating vessels. Groundfish harvest rates and trip limits have declined in recent years, with a particularly steep drop in 2000. Depending on method of estimation, revenues for the 2000 commercial groundfish fishery are expected to be \$9 million to \$11 million lower than in 1999. With this precipitous change, many vessel owners and captains are not

able to hire a full complement of crew. Given an approximate observer cost of \$300 per observed fishing day, the cost of a fisher-pays observer program might drive some fishery participants out of business.

4.3a Issue 3 -- Management Measures to Reduce Bycatch and Bycatch Mortality -- Alternative 4 Preferred

Issue 3	environmental effects	socio-economic effects
Alternative 1	--	-- (long-term)
Alternative 2	+(potential)	+(potential)/-(potential)
Alternative 3	+(potential)	+(potential)/-(potential)
Alternative 4	++	+(long-term)/ -(potential, near-term)

Alternative 1 (status quo - no action). Under this alternative, the Council would neither amend the FMP, nor take any further actions to reduce bycatch rates in the groundfish fisheries. In all likelihood, excess capacity in the groundfish fishery and consequent bycatch rates would be unaffected, and could increase.

This alternative would have negative effects on the environment and on the fishing community. The current management regime of trip and cumulative landings limits is based on the Council's desire to maintain a year round groundfish fishery. The priority of managing for a year round fishery is described in one of the overall goals of the FMP, and in one of the FMP's economic objectives:

Goal -- Utilization. Achieve the maximum biological yield of the overall groundfish fishery, promote year-round availability of quality seafood to the consumer, and promote recreational fishing opportunities.

Economic Objective. Identify those sectors of the groundfish fishery for which it is beneficial to promote year-round marketing opportunities and establish management policies that extend those sectors fishing and marketing opportunities as long as practicable during the fishing year.

Fishers and processors have historically used groundfish operations during times when fisheries for other species are closed. Alternatives to groundfish, such as salmon, crab, shrimp, and tuna, are shorter seasonal fisheries. Fishing vessel owners rely on year round fishing opportunities to keep their vessels staffed with experienced captains and crew, and to keep markets open for their catch. Processing plants rely on receiving year round fish landings to keep their trained staff employed, and to keep marketing opportunities open for their products. If the vessels or plants must cease operation for a significant period, they will lose their trained workers and then need to hire and train new workers when the fishery reopens.

This management practice of using landings limits to maintain a year round fishery was reasonable and prudent when it was first used in 1983. However, since that time, the coastal fleet's fishing capacity has increased, stock viability for many managed species has decreased, and there are "too many boats chasing after too few fish." With overcapacity and lower overall harvest levels, cumulative period limits have also dropped. While low landings limits are needed to ensure both a year round fishery and sustainable harvest rates, they may also induce regulatory discards.

Alternative 1 is not expected to lead to a more biologically and economically stable fishery. The Council has enough experience with status quo management to predict where a continuation of current policies would lead in the future. Over time, these policies have resulted in unknown and possibly not sustainable discard rates, an overcapitalized fishery, ever-decreasing landings limits, and an economic "death by a thousand cuts" for many participating fishers and fishing communities. Bycatch is only one of several major and conjoining issues of concern before the Council. Council efforts to move beyond the status quo to address

problems of bycatch will only complement its efforts in addressing other concerns in management of this fishery.

Alternative 2 (framework bycatch reduction goals). Under this alternative, the Council would amend the FMP to indicate its intent to deal with overfishing and overcapacity issues through its adoption and implementation of its strategic plan, and when taking measures to deal with those issues, choose management options likely to reduce bycatch. Capacity reduction appears to be the most promising avenue for rationalizing the fishery. However, implementing such a program would require a longer process than this plan amendment process. The Council will examine capacity reduction measures through its developing strategic plan.

This alternative could have positive effects on both the environment and on the fishing community, if the strategic plan results in changes to status quo management. As discussed above for Alternative 1, the major problems of the groundfish fishery are interwoven. Solutions to overfishing and overcapacity will also likely reduce bycatch and bycatch mortality. Under Alternative 2, the Council would specify in the FMP its intent to particularly address bycatch as it crafts management changes to deal with overfishing and overcapacity. These efforts should lead to more stable stock health and harvest rates, and to more economic stability for participating fishers. However, if Alternative 2 is chosen and measures are not taken to address overfishing and overcapacity, the effects of this alternative would be the same as those for Alternative 1.

Alternative 3 (framework bycatch reduction goals, plus add full retention options.) This alternative would include all of Alternative 2, plus it would allow: (a) full retention of incidental catch in the at-sea whiting fleet for those processing vessels that carry more than one observer, and (b) full retention of landings limits overages for appropriately monitored vessels (via on-board observers, camera catch recording, etc.) delivering to shorebased processing plants.

Depending on how it is implemented, this alternative could have either positive or negative effects for the environment and the fishing community. Allowing full retention in the at-sea whiting fishery would have positive effects for the environment and for the fishing communities associated with the at-sea whiting fishery.

Alternative 3 could be expected to reduce bycatch in the at-sea whiting fishery, increase utilization of incidentally harvested species, and improve species-specific incidental catch information for that fishery. Because the non-whiting shore-based groundfish fisheries are managed with landings limits rather than as open competition fisheries, full-retention in these fisheries could have either positive or negative effects on the environment and the fishing community.

Full-retention option for offshore whiting processors. The at-sea processing component of the Pacific whiting fishery consists of catcher/processors, motherships (vessels that receive and process fish at sea but do not catch fish), and catcher vessels that deliver to motherships. Each at-sea processing vessel in the whiting fishery has carried at least one NMFS-trained observer since the beginning of operations in the whiting fishery in the early 1990's. In recent years, the catcher/processors and one of the motherships have carried two observers. Catcher/processors and catcher vessels delivering to motherships are subject to the same groundfish landings limits as the rest of the limited entry fleet. For species with landings limits, motherships are allowed to retain no more than the landings limit amount from each delivering catcher vessel.

Incidental catch rates in the offshore whiting fishery are generally low (less than 5 percent of total catch,) but the magnitude of the whiting fishery is so large that the tonnage of incidental catch may be considerable, particularly of yellowtail and widow rockfish. In order to comply with landings limit regulations, at-sea processors may need to discard substantial amounts of incidental species after a landing limit amount is reached.

At-sea whiting processors do not offload their catch as frequently as shore-based vessels. A catcher/processor or mothership may operate during a period that spans several cumulative landings limit periods, without offloading. These at-sea processors are not allowed to exceed the cumulative limit that applies for the period in which offloading occurs, which means that the vessel may not combine the cumulative landings limit amounts for more than one period. This puts the at-sea processors and catcher vessels delivering to motherships at greater risk of exceeding the cumulative limits, and can result in greater discards at sea than a shore-based vessel subject to the same limits. The offshore whiting fishery is not

prohibited from retaining incidentally caught species within landings limit levels, but they generally neither target nor desire these species. Rockfish are spiny, get tangled in the nets, and damage the whiting. The offshore whiting fleet does not routinely process or sell incidentally-caught species, and those that are retained generally are made into fish meal. These conditions and the desire of industry to minimize regulatory discards, along with food bank interest in collecting bycatch for use in hunger programs, make the at-sea whiting fleet a viable candidate for a full-retention management option.

Under this alternative, if a catcher/processor or mothership in the whiting fishery carries more than one NMFS-approved observer for 90 percent of the days on the grounds during a cumulative trip limit period, then groundfish trip limits could be exceeded without penalty for that cumulative trip limit period. All species would be made available for sampling by the observers before sorting. Any trip limit overage could not enter or otherwise compete in normal markets for that species, and overages would either be: (1) converted to meal, mince, or oil products, which could then be sold, or (2) donated to an approved food bank distributor. This option would not apply to prohibited species (salmon, Pacific halibut, Dungeness crab.) If a vessel were to choose to deliver to a food bank distributor, provisions would be made such that state or federal enforcement representatives would have the opportunity to monitor any such offloading. The vessel could not receive compensation or otherwise benefit from any overage amounts unless the overage were converted to meal, mince or oil products.

The number of observers required for a vessel to participate in the overage program would be evaluated periodically, and changes generally would be announced concurrent with the annual specifications and management measures, and at least prior to the start of the fishery. In its first year, this provision would apply to an at-sea processor that carries at least 2 observers. In the future, a higher level of observer coverage might be needed on some high-capacity vessels. The number of days on the grounds would be determined from information routinely submitted by the observer onboard the vessel. A vessel would not be obliged to operate under this program. Some at-sea processing vessels could choose to continue to carry only one observer, the minimum amount recommended by the Council, in which case current trip limits would continue to apply as for the rest of the limited entry fleet.

To the extent that vessels choose to participate in this program, this full-retention option would eliminate regulatory discards in the offshore whiting fishery, give offshore fishery participants an incentive to carry more than one observer, and improve catch data without changing the rates of incidental catch in this fishery. Further, this program could provide fish for food banks, and the processed incidental catch would not compete in or affect pricing in traditional markets for food fish. Weaknesses of this option include: unprocessed fish may not be suitable for human consumption and processing costs for donated fish could be burdensome; the incentive to avoid incidental species would not change from incentives under status quo management; the program may require additional monitoring and enforcement at offloading. An additional concern is that competition with Alaska fisheries for qualified observers is increasing and may mean that few observers would be available for this fishery.

Full retention option for shore-based groundfish fisheries: Two full retention programs have been available to the shore-based groundfish fisheries: the shore-based whiting fishery EFPs, which allow whiting trawlers to land non-whiting trip limit overages to ease whiting deliveries; and an EFP option in ODFW's Enhanced Data Collection Project. Both of these programs are described more fully above in Section 4.2. The shore-based whiting EFP program allows catcher vessels targeting whiting to land unsorted catch directly with the shoreside processing plant. In whiting fisheries, rapid post-catch refrigeration is necessary to keep the whiting flesh from deteriorating. A full retention program was available under the EDCP, but no vessels volunteered to participate in this portion of the project, which would have allowed vessels carrying observers to retain any groundfish taken above groundfish landings limits.

In 1998 and 1999, the Council explored allowing retention of trip limit overages in the non-whiting groundfish trawl fishery. Under traditional full retention management, everything that is caught is kept, catches are monitored by observers, and the fishery closes when harvest limits on particular species are met. When the Council initially reviewed an industry proposal to allow the retention of trip limit overages, the intent was to allow trawlers to choose whether, how much, and which species overages they would retain. Retained overages were to be landed at designated processors, and the proceeds from the sale of the overages were to go into a scientific research fund. Subsequent versions of this program would have set a cap on the

amounts of overages that could be landed by each vessel and by the fleet, and considered deployment of observers.

An overage retention program must be monitored to provide information about directed and incidental catch. There are a number of other potential problems with an unmonitored overage retention program. A significant issue is that processors would profit from the sale of overages as processed product, which might give processors an incentive to bargain with fishers to target and land overages of regularly marketed species. Large and persistent overages by some fleet participants would have allocative effects on the whole fleet by reducing fleet-wide opportunities for compensated landings. If the program were to encourage fishers to change their fishing strategies from targeting landings limits to targeting overage limits, the overages retained plus the discard associated with the program could have actually increased the amount of discards. Finally, given the decline in harvestable biomass of managed species, this particular program was unlikely to generate enough revenue from the sale of landed overages to support new research programs. Although the Council endorsed a pilot version of this program at its April 1999 meeting, it has never been implemented due to Council workload priorities.

While the trip limit overages program discussed by the Council in 1998 and 1999 had several operational and scientific problems, a different kind of full retention program could reduce bycatch over the current landings limit program. Under such a program, vessels could retain all of the fish that they catch, and catch accounting would be monitored by human observers or by statistically sound observation technology. Observer data from such a program could provide much-needed information on species-to-species distribution ratios within species complexes, and on the catch ratios between marketable and unmarketable fish species and sizes. Overages landed under such a program could be brought to shore for donation to food bank programs. As an alternative to a full retention program, the Council could introduce an increased utilization program, wherein only marketable fish are retained, and unmarketable fish are discarded and recorded by observers as bycatch. Inseason harvest monitoring could take account of all species caught and adjust season lengths accordingly. In crafting such a program, the Council would have to weigh the advantage of freeing fishers from the restrictions of landings limits against the potential that such freedom could ultimately create derby fisheries and a new race for fish.

The Magnuson-Stevens Act defines "bycatch" as, "fish that are harvested in a fishery, but which are not sold or kept for personal use, and includes economic and regulatory discards." Full retention programs can reduce bycatch and can be enforceable when they require observer coverage for participants and prohibit at-sea discards. Without such precautions, allowing the retention of trip limit overages could not provide accurate information about the interception and retention of incidentally-caught species. Large and persistent overages by some fleet participants could also have allocative effects on the whole fleet by reducing fleet-wide opportunities for compensated landings. Conversely, observer data from a monitored full-retention program could provide much-needed information on species-to-species distribution ratios within species complexes, and of the catch ratios between marketable and unmarketable fish species and sizes.

Alternative 4 (implement currently practicable changes to management measures). This alternative could include all of either Alternative 2 or 3, plus it would require implementation of management measure changes to reduce bycatch in the shore-based groundfish fisheries. Management measures that are not now practicable are described below at 4.3b. The list of management measures that could be implemented reasonably soon might include:

- *Shorter fishing season and higher cumulative landings limits*
- *Allow permit stacking in the limited entry fleet*
- *Gear modification requirements*
- *Catch allocation to, or gear flexibility for, gear types with lower bycatch rates*
- *Re-examine/improve species-to-species landings limit ratios*
- *Time/area closures (closed "hot spots")*

The effects that Alternative 4 would have on the environment and fishing community beyond those described above for Alternatives 2 and 3 would depend up on the additional management measures chosen. Those effects are described below within the discussion for each management measure strategy.

Shorter fishing season and higher trip limits. This management alternative could have a positive effect on the environment, and could have both positive and negative effects on the fishing community. Under this alternative to a year round groundfish fishery, the fishing season would be shortened in duration, perhaps to 6-8 months, and cumulative landings limits would increase. To the extent that higher landings limits and fewer cumulative limit periods would reduce opportunities to exceed landings limits, this alternative should reduce bycatch and discard mortality. For fishers who need to make groundfish landings during every month of the year, this alternative would be undesirable. For fishers who prefer access to higher limits as a trade-off for a year-round season, this alternative might be preferable to the current management strategy. The fish processing sector, often proponents of the year-round fishery, could benefit most from this alternative if there were flexibility for fishers in choosing their own open and closed periods. Under this alternative, higher trip limits could more closely match individual vessel capacity within the fleet, possibly reducing regulatory discards.

Over the past few years, the GMT has recommended on several occasions that the Council shorten the fishing season to allow for higher trip limits. The Council could arrange for a shorter fishing season in a variety of ways:

- Mandatory groundfish closure for all vessels during a specified period, applicable coastwide.
- Time/area closures, with groundfish landings prohibited for certain parts of the coast at differing times of the year (similar to the 2000 rockfish/lingcod closure for southern hook-and-line fisheries.)
- Divide the fishing year into quarters (or thirds, sixths, etc.) and require vessel owners to choose which 3 out of 4 fishing quarters they will participate in the groundfish fishery.

Under any of these options, the Council could set higher trip limits than are now available to groundfish fishery participants, which theoretically should reduce discards compared to those associated with the current low landings limits. The first two options would require that the Council work with the fishing industry to reach agreement on optimal times and/or areas for closure. Flexibility for closing times and areas could be built into the annual specifications and management measures process, as detailed under Issue 4 of this draft amendment. Alternatively, the Council could revise their management priorities and amend the FMP to shorten the year-round groundfish fishery.

The third option for a shorter fishing season, where participants would choose their times of operation would require amending the FMP and/or regulations to allow an annual season choice process. This process could be modeled on the current platoon choice system used by limited entry trawlers. Each autumn, when limited entry trawlers renew their permits for the coming year, they choose whether the renewed permit will be used in the "A" or "B" platoon. Once the permit owner has made his choice of platoon and NMFS has issued a renewed permit with platoon choice, that choice is fixed for the year. Using a similar once-per-year designation of season choice would ensure that each permit would only be used for the appropriate fraction of the year. Alternatively, the choice could be based on when landings are made, meaning that a vessel would declare its intent to fish in one of its allowed 3 out of 4 periods by simply making landings during that period.

Although higher trip limits combined with fishing closures could be expected to reduce bycatch and bycatch mortality, it might also become a "placeholder" regime that would itself eventually lead back to lower trip limits and increasing discard rates. A shortened fishing season with higher trip limits might not be a viable long-term management alternative without concurrent reduction in fleet capacity.

Permit Stacking. This management alternative has the potential for both positive and negative effects on the environment and fishing community. As discussed above, a management measure that allows vessels access to higher landings limits may reduce individual vessel opportunities to exceed those limits. Depending on how a permit stacking program is structured, however, such a program could achieve only absorption of latent capacity with no resultant reduction in bycatch and discard levels. Permit stacking unaccompanied by an access limitation for the open access fleet could also squeeze capacity from the limited entry fleet into the open access fleet. Moving capacity from one fleet to another would fail to reduce the total number of vessels fishing toward, and potentially exceeding, cumulative landings limits. For limited

entry fishers who want a way to receive compensation for moving out of the fishery, and for fishers with the capital to invest in permit stacking, this program would be a positive opportunity. For others without the ability to purchase another permit for stacking, this program would put them at a disadvantage relative to their wealthier counterparts. In permit stacking programs, the first permits purchased for stacking are generally unused or less-used permits, which means that accommodating the effects of fully-capitalized vessels buying up this latent capacity would likely require lower per permit landings limit levels than under the status quo.

The Council has discussed permit stacking on several different occasions since the implementation of the limited entry program. Most recently, the Strategic Plan Development Committee has been considering permit stacking as a future management tool. Currently, trip and cumulative limits are associated with individual vessels, so that each vessel has the opportunity to fish towards the species-specific limits appropriate to that vessel's limited entry permit gear and species endorsements. If changes were made to associate limits with permits and to allow permit stacking, vessel owners could stack permits to give themselves access to limits appropriate to individual vessel capacity. Where allowed landings levels more closely match vessel catch capability, vessels are less likely to need to make regulatory discards. A permit stacking program could not be expected to reduce economic discards.

Vessel stacking provisions in a limited entry program may be designed with several variations:

- Permit stacking may be voluntary or mandatory. That is, permit owners may be allowed to purchase and stack additional permits if they so choose, or they may be required to stack permits to ensure that a pre-determined amount of capacity is absorbed through permit stacking.
- Permit stacking may be permanent or temporary. Once a permit has been stacked on to a base permit, the stacked permit may either become an inseparable part of the base permit, or "unstacking" may be allowed so that the stacked permit could be transferred to stack on to a different base permit or become a base permit itself.
- Stacked permits may have the same landings limit values as base permits, or some greater or lesser fractional value. Placing greater landings limit values on stacked permits than on base permits would encourage stacking. Placing lesser landings limit values on stacked permits than on base permits might benefit vessel owners who do not stack, in that it might constrain the drop in landings limits that would result from a stacking program.

In a voluntary program, limited entry permit holders would be allowed to use more than one permit on a single boat. A vessel owner participating in the limited entry fishery could be required to have a "base" permit with appropriate length and gear endorsements for that vessel, but could then be allowed to stack permits of any length to add to that vessel's allowable cumulative landings limits. The current sablefish allocation and management system would accommodate stacking between longline and pot permits, but not between trawl and nontrawl permits. While it is impossible to predict how many vessel owners would stack permits under a voluntary program, 53 people currently hold more than one of the 500 limited entry permits and stacking would be relatively simple for those people.

If stacking were mandatory, the Council could require vessels participating in the limited entry fishery to have at least two permits per vessel, thereby cutting the number of limited entry permits in half. Under a mandatory program, stacking might be made easier for participants if the stacked permit were not required to match the base permit in length. Stacking across gear types would have the same difficulties as in a voluntary program in that trawl/nontrawl stacking would not be compatible with the current sablefish management system. If stacking were required, allowing stacking between longline and pot endorsed permits would be helpful to the pot fleet, which now has a pool of just 27 pot permits and 5 dual gear endorsed permits in which pot is one of the gears.

If permit stacking is voluntary, the Council will have to decide whether a stacked permit must remain permanently stacked, or if it may be "unstacked," with the component permits distributed according to the permit owner's wishes. If permits are allowed to be unstacked, then the Council cannot ensure any long-term reduction in number of fleet participants. By allowing unstacking, stacked permits can be reduced to their component permits at any time and the number of fleet participants would continue to hover around

500. Conversely, if permits must remain stacked, then a permit stacking program would essentially create a voluntary tiered permit system. Over the long-term, the stacked permits would allow higher tier landings throughout the fishing season and would have more value on the permit market.

Initially, a permit stacking program would encourage vessel owners capable of meeting and exceeding current landings limits to purchase less active permits. If only less active and inactive permits are purchased, permit stacking would reduce the number of vessels participating in the fisheries, but would allow overcapitalized vessels greater access to groundfish quotas. Base cumulative limit levels would have to be reduced to account for the increased access to quotas by vessels with stacked permits, placing vessels with single permits at a disadvantage relative to the rest of the fleet. Alternatively, the Council could craft a stacking program wherein a stacked permit would allow its owner some fraction of a cumulative limit, rather than another whole cumulative limit. For example, if each stacked permit provided the permit owner to harvest up to one-half of the base cumulative limit amount, a vessel with a base permit and a single stacked permit would have the opportunity to harvest one + one-half cumulative limits for a given species. Under this scenario, cumulative landings limits would remain higher for vessels without stacked permits, and more permits would be "bought out" by vessels wishing to target significantly higher cumulative landings limits. A third alternative would be to set the cumulative landings limit for stacked permits at some greater level than for base permits. Under such a scenario, a vessel with a base permit and a single stacked permit might have the opportunity to harvest a single cumulative limit with the base permit, plus one + one-half cumulative limits with the stacked permit. If the stacked permits are made greater in cumulative limit value than the base permits, the cumulative limits associated with the base permits will have to drop to prevent overharvest. Single permit owners would have the strongest incentive to stack under this scenario.

About 25% of the limited entry permits (124 permits) are currently owned by a person or corporation that owns more than one permit. Of those, 36 permits are owned by a person or corporation that owns more than two permits. If the Council decides to support a permit stacking program, one aspect of that program might be a limit on the number of permits that may be held by a single person or corporation, or a limit on the number of permits that may be stacked on a single vessel. For vessel owners who do not now own more than one permit, permit stacking could become expensive if they decide that they need to purchase a second or third permit. Alternatively, two or more permit owners could join together in a small corporation, in which a single stacked permit is owned cooperatively and shared between vessels as needed. This scenario could be allowed if the once-per-year permit transfer rule were eased to allow transfers only at the beginning of cumulative limit periods, but at any frequency per year desired by the permit holder.

Gear modification requirements. This management alternative could have a positive effect on the environment, but may have no effect whatsoever on the environment. To the extent that this management alternative would require fishers to invest in new gear, this management alternative could have minor negative effects on the fishing community. Gear regulations are usually designed to preclude particular fishing activities. Restrictions on or requirements for gear design must be crafted very carefully to achieve the desired changes to fishing activities. In general, fishers can find ways to engage in the particular fishing activity that regulators wish to control, while still complying with the gear regulations initially designed to control that activity. Given these circumstances, gear restrictions and requirements may not be the most effective management alternative for reducing bycatch and discard mortality.

As described above in the discussion of historical efforts to reduce bycatch, the Council has used gear modification requirements in the trawl sector to reduce interception of small and juvenile fish. Trawl gear mesh size requirements were first introduced into federal regulations in early 1992, but the Council was not able to work out implementation problems with those regulations until late 1995. Gear requirements must usually be very specifically worded to be enforceable, but that specificity of wording often leaves loopholes that allow fishers to get around the intent of the regulation without disobeying it. Trawl gear restrictions of the early 1990s were designed to reduce trawl interception of small and juvenile fish. Implementing regulations began with a change in mesh size requirements, followed by a requirement for single-walled codends, clarification of where and how chafing gear may be used on the trawl net, a distinction between trawl and pelagic trawl nets, and clarification of where and how mesh sizes would be measured to determine legality.

In 1999, the Council convened an ad-hoc Legal Gear Committee to look at trawl gear and determine whether there might be further gear regulations that could reduce bycatch rates in the groundfish trawl fishery. The

committee reviewed current gear regulations and discussed a number of features of trawl gear that affect its catch of both retained and discarded catch: mesh size and type, meshes around the fishing circle, proportion/amount of net covered by chafing gear, sweep length, ground gear design, tickler chains, how much of the net is attached to the footrope, and other gear elements. In general, the committee felt that mandating trawl gear modifications may not be the most effective means of reducing discard. Gear rigging and deployment likely has more effect on directed catch, bycatch, and escapement than the type of net being fished. The committee stated that it would be difficult to craft regulations to address the necessary intricacies of "tuning" the gear to reduce bycatch, and that fishers could possibly circumvent the intent of any regulation by changing the way in which the gear is fished. Committee conclusions on alternatives to gear regulations that could be better expected to reduce discard in the groundfish trawl fisheries included: reduce trawl fleet capacity to better match fishing capacity to available harvest; poll trawlers along length of coast for suggestions on discard reduction and share information between fleet members through education efforts; map habitat areas of overfished stocks under rebuilding plans and compare to mapped trawling areas to determine effectiveness of areal management. (PFMC LGC, April 1999)

Catch allocation to, or gear flexibility for, gear types with lower bycatch rates. This management alternative could have positive effects on the environment, and could have both positive and negative effects on the fishing community. By allocating harvest to gear types with lower bycatch rates, or by allowing flexibility for vessels to transition to gear with lower bycatch rates, this alternative could reduce the number of vessels with higher bycatch and discard rates. Catch allocation could be expected to have a negative effect on fishers using gear types targeted for reduced allocation. Allowing gear flexibility, however, would give fishers the chance to choose a more bycatch-clean gear type, benefiting the environment without harming fishery participants. Allowing gear flexibility could also change fishers' groundfish targeting strategies in ways that may or may not be compatible with the Council's management goals. The major impediments to this management alternative would be: (1) the lack of data on bycatch rates by gear type, and (2) if allocation is chosen, the long and arduous allocation process.

For the 2000 groundfish fisheries, the Council took emergency management measures to protect overfished and depleted species (lingcod, bocaccio, POP, canary rockfish, cowcod.) Among other measures, the Council recommended higher trawl trip limits for vessels using small footrope gear (less than 8" diameter) or mid-water trawl gear. These gear regulations were designed to keep trawlers from fishing rockpiles, where they would be more likely to intercept the overfished and depleted species. Differential trip limits for different gear types are a form of allocation. The Council may wish to consider whether it wants to make long-term allocations to gear types with lower bycatch rates.

The effectiveness of small footrope and mid-water trawl gear in avoiding overfished and depleted stocks has not been tested. Anecdotal information from trawlers who have fished under these regulations indicates that the requirements are keeping trawlers away from rockpiles, as intended. NMFS and/or the states need to test the bycatch difference between these gear types and between the different gear types used in the limited entry and open access fisheries. Without gear testing, discussions about bycatch and discard rates are likely to become accusatory and ineffective. However, if scientific studies can show lower bycatch rates in particular gear types, the Council might consider catch allocations to the more bycatch-clean gear types.

Alternatively, the Council could improve flexibility for vessels wishing to transition to more bycatch-clean gear.

For several years, some members of the limited entry longline fleet have asserted that vertical hook-and-line gear is more selective than bottom longline gear, and that they would like to be able to take their landings limits with vertical hook-and-line gear. However, vertical hook-and-line gear is considered an open access gear type, and as such, cannot be used to fish up to the limited entry limits for targeted species. If vertical hook-and-line gear is more selective than bottom longline gear, then easing the restrictions on use of vertical gear might reduce discard rates in the longline fishery. Similarly, there have been limited entry trawlers who have come before the Council to suggest that they would like to fish their limited entry limits with longline gear. If bottom longline gear has lower bycatch and discard rates than trawl gear, flexibility for trawlers in switching between gear types might also achieve bycatch reductions. Of course, if the Council were to endorse such flexibility, it would need to be careful to not allow flexibility for vessels wishing to move from more bycatch-clean gear to less bycatch-clean gear.

Re-examine/improve species-to-species landings limit ratios within stock complexes. This management alternative would have positive effects on the environment, and could have short-term negative effects on the

fishing community, but long-term positive effects if it helps rebuild the fisheries. The Council would set a priority for managing the multi-species fisheries with harvest ratios appropriate to natural abundance ratios. Making harvest rates more closely mirror natural abundance ratios could be expected to reduce bycatch by limiting opportunities for fishers to exceed the landing limit of one species while in pursuit of a second, associated species. To the extent that harvest of some species would be curtailed to prevent overfishing of co-occurring species, this management alternative could reduce fisher revenues. The major impediment to this management alternative would be the lack of information on species-to-species abundance ratios. One caution with this alternative is that improved species-to-species ratio management will necessarily require more area-specific management as well. There would be no point to comparing abundance of POP off the Washington coast with abundance of bocaccio off southern California.

With an FMP that covers 82 species of fish, the Council has faced some particularly challenging questions about the appropriateness of single-species versus multi-species management. One of these challenges has been that the species-to-species ratio at which fish are caught does not necessarily reflect the species-to-species ratio of their abundance. For the DTS complex, Council management has evolved over time, moving away from its harvest strategy where shortspine thornyhead was harvested above its ABC so that the entire longspine thornyhead harvest guideline could be taken. Council practice is now more sustainable and shortspine thornyhead are harvested at their harvest guideline while some of the longspine thornyhead harvest guideline goes unharvested to protect the less abundant, co-occurring shortspine. The tool that the Council uses to maintain this balance is a ratio between shortspine and longspine thornyhead landings limits that is intended to reflect the ratio of abundance between these two species.

This practice of managing harvest through ratios appropriate to assumed abundance and catch rates minimizes dead discards of the less abundant species. Fishers are given a reduced opportunity to take the more abundant species (longspine,) so they are less likely to meet and exceed the landings limits for the less abundant species (shortspine.) Abundance information about many of the FMP species is rather limited. However, for actively managed species with species-specific harvest guidelines, the Council might consider whether it is managing those species at sustainable catch ratios. Regardless of whether the Council continues to manage the fishery with year-round landings limit opportunities, the health of all managed species would be better protected by a multi-species approach that considers abundance ratios between species that are harvested simultaneously. To properly implement a policy of harvest management through species-to-species ratios, the Council would need an analysis of which species could most benefit from such management, and a comparison between harvest ratios and assumed abundance ratios.

Time/area closures, such as closed "hot spots" to reduce bycatch of species with known areas of aggregation, or like the 2000 lingcod spawning closure. This management alternative could have positive effects on the environment, and depending on closure size, could be either an inconvenience for or have negative effects on the fishing community. If "hot spot" closures can be designed to encompass abundance areas for particular species, incidental harvest and mortality of those species will be reduced. Small "hot spot" closures, such as those for the Washington recreational halibut fishery, may be only an inconvenience for those who have to fish around the closures. Larger closed areas might limit harvest opportunity to a degree that negatively affects the fishing community.

In the sport fisheries for halibut off the coast of Washington State, there are two halibut "hot spots" that may be open or closed to sport halibut fishing, depending on the desired rate of fishing each year. These "hot spot" are zone of known halibut abundance, where halibut may be caught quite easily. When fishing outside a "hot spot" seems slow, halibut managers can open those waters to fishing to speed up the fishery and improve access to halibut. Conversely, if harvest rates outside the "hot spot" are high, managers can keep that spot closed to ensure that fishers do not take their halibut allocation quickly and close out the fishery early. A similar tool might be used for other species to reduce incidental interception rates

There may be other species besides halibut that have contained zones of high abundance. If the Council has particular species it wishes to protect from overharvest or from the effects of incidental catch and discard, it could close those areas to fishing. This approach would not be particularly useful for species that migrate a great deal, but it could provide targeted protection for the more sedentary species. Although salmon are hardly sedentary, the Council has used this closed area tool in the whiting trawl fishery to exclude whiting fishing in the Klamath River and Columbia River conservation zones. The Council also used time/area

closures in its 2000 management measures to close lingcod fishing during the winter spawning and nesting months. These lingcod closures do not prohibit all fishing in lingcod nesting areas, so they do not necessarily provide protection against lingcod interception, but they do provide fisher an incentive to avoid areas of known lingcod abundance. Species-specific area closures would be more difficult to enforce than all-fishing closures designed to protect particular species.

4.3b Management Measures that May Reduce Bycatch and Bycatch Mortality, and which are Impracticable at this Time

Derby fisheries. This management alternative may be technically possible, but it is extraordinarily inconsistent with long-term Council management policies.

Under the landings limit program, each landings limit for each species is a target that fishers may meet, and which they often exceed. When a fisher exceeds that target, he must discard the remainder of his catch of that species. In a fishery with monthly landings limits for many species, a fisher may make regulatory discards every month. An alternative to the landings limit regime might be to throw open fishing opportunities for the entire annual harvest guidelines of a complex of species, such as the Dover sole-thornyheads-sablefish complex (DTS complex). After opening on a set date, the DTS complex fishery would remain open until the first of the four harvest guidelines within that complex had been achieved. The bycatch advantage of such a system would be that fishers could keep as much catch as they desire for the duration of the fishery. Regulatory discards associated with landings limits would not occur in a derby system. However, derbies might encourage targeting on the most valuable species within the complex and encourage discard of associated species to allocate hold space to the more valuable species. Depending on the species, derby management might result in economic discard rates equal to current regulatory discard rates. Derby fisheries could also increase bycatch of overfished and depleted species, because fishers would not have time or opportunity to fish selectively. A derby fishery for a larger complex of species, such as one of the rockfish complexes, would be even more difficult to manage for harvest rates that are sustainable for all species in the complex without leaving great quantities of fish "on the table."

Derby management would run contrary to long-standing Council preferences for spreading groundfish landings out for as long as possible during the year. Traditionally, open competition derby management has also been viewed as encouraging individual fishery participants to increase the fishing capabilities of their vessels. With all fishery participants encouraged by open competition derby management to increase their individual vessel capacities so as to better compete against other fishers, the overall fleet capacity can skyrocket. The Council has a very vivid example of both the capitalization and decreased safety effects of derby management in its fixed gear sablefish fishery, which went from 9 months in duration to 5 days in duration over a 10 year period. Derby fisheries can also reduce the quality of fish harvested because they promote fast, rather than careful, fishing methods. Lower quality product would reduce price per pound received by fishers and processors. Market glut from derbies also tends to keep prices low. Many fishers off this coast rely on opportunities to create the highest quality product from low-volume fisheries.

Individual Quota Programs. This management alternative is impracticable because new individual fishing quota programs are currently prohibited by the Magnuson-Stevens Act until October 2000 and individual effort quota programs are not compatible with characteristics of a multi-species, multi-gear fishery.

An individual quota program, whether individual fishing quota (IFQ) or individual effort quota (IEQ,) is a management tool that can give fleet participants the time and opportunity to fully harvest their assigned quotas without landings limits or time limits. Under an IFQ program, each fleet participant holds an individualized number of quota shares per year and is permitted to fish toward the total poundage represented by those shares during the year. Generally, quota shares may be traded during the year to ensure that vessel owners either have enough allowable quota shares to cover the fish that they have caught, or to ensure that vessel owners who cannot catch enough fish to meet their quota shares may provide those excess shares to other fleet participants. In general, IFQ programs are expected to reduce or restrain fleet capacity by eliminating the race for fish. Vessel owners do not have to continually upgrade the speed and catching capacity of their vessels to compete with other fleet participants. Individual vessel capacity levels out when the vessel is fully capable of catching its associated quota shares.

IFQ programs may reduce discard because quota share holders can take their allowed fish at any time during the year, without the constraint of landings limits. An IFQ program would also assuage the Council's concern about maintaining a year round fishery. Under the current system, fishers deliver their catch according to the cumulative limit period schedule. With the more open schedule of an IFQ program, fishers can schedule deliveries with processors so that both parties can take better advantage of marketing opportunities.

IFQ programs have a bycatch hazard, highgrading. When fishers have more time to take their harvest, they can pick and choose which of the caught fish they will retain and fish are discarded for economic reasons. For example, fishers targeting sablefish may catch and dress small sablefish in the early part of a fishing trip, but later discard those small sablefish when the following hauls bring up an abundance of the larger, high-value sablefish. Thus, while regulatory discards would likely be reduced under an IFQ program, there would still be opportunities for economic discards. An IFQ program could also be combined with full-retention and observer requirements for landing quota species.

An IEQ program focuses on fishing effort expended (input control,) rather than on fish landed (output control.)

Examples of tradeable effort quota programs might include limits on the number of pots or hooks fished, or limits on the number of allowed fishing days or weeks. Effort limitation programs have been used successfully in crustacean pot fisheries, where a fishery participant is limited to a certain number of pots and all pots must conform to a standardized design. A pots-per-participant limitation program may be expanded to an IEQ program simply by allowing trading of pot allowances. In the groundfish fishery, an IEQ program might be based on the number of days fished, where participants could trade fishing days with each other to fill out their fishing schedules according to their needs.

Building an IEQ program based on fishing days could resolve bycatch problems if fishers were allowed to keep any of their desirable catch. Highgrading might still occur, but regulatory discards would be limited. The disadvantage of an IEQ program for the groundfish fishery is that it would not allow controls on individual species harvests. With the highly varied mix of species in the groundfish complex, an IEQ program could easily lead to overharvest of some of the minor species. Minor species harvest might be controlled in an IEQ fishery through landings limits for those species, but we would then find ourselves returned to our current management system. A fishing days IEQ program also would not control capacity, because it would give fishers the incentive to get the most out of each fishing day through vessel improvements and other capacity increasing measures.

Regardless of the efficacy of IFQ programs at reducing bycatch, development of any individual quota programs is under Magnuson-Stevens Act moratorium until October 1, 2000. Should the Council decide after October 2000 to develop an IFQ program, it will need to consider whether there are any sectors of the groundfish fishery that would be more appropriately monitored through an IFQ program. The Council must address bycatch in the groundfish fisheries regardless of whether individual quota programs are an available management tool. If the Council believes that an individual quota program is a desirable future management option, it could begin its work to address bycatch by using other management tools now, and then draft an individual quota program when that tool becomes available.

Capacity reduction through reduced fleet size. This management alternative is currently impracticable because implementation would require Council discussion and exploration beyond the scope of this draft amendment. Capacity reduction measures are under discussion for implementation following the adoption of the strategic plan and could ultimately be the result of any of Alternatives 2-4 under Section 4.3.

Overcapacity in the groundfish fishery is at the base of many other problems in the fishery. Reducing capacity within a fishery is a form of social engineering and as such, is bound to be controversial. When the Council first designed its limited entry program, it dealt with controversiality by setting a fairly low threshold for initial issuance of limited entry permits. Low threshold qualification requirements meant that the program could not reduce capacity to a level compatible with available harvest. Retaining an open access sector to allow continued participation by small harvesters, and to ease controversiality further compounded the fishery's overcapacity problem by leaving room for an unlimited number of new entrants. If the Council wishes to retain its policy of year-round landings limit management, it will need to reduce fleet size to reduce bycatch. Each cumulative limit period, there may be up to 2,000 vessels working to meet landings limits, and often exceeding them. Reducing the number of vessels targeting and exceeding landings limits is one way

to reduce discard.

In 1997 and 1998, the Council discussed how and whether to develop a buyback program for the limited entry trawl fleet. Permit buyback is a socially "soft" management option that allows fleet participants to exit the fishery with some financial compensation. While there was agreement within the Council that reduction of trawl fleet capacity would be desirable for addressing myriad problems in the fishery, buyback discussions stalled because of delays in NMFS guidance on requirements for crafting buyback programs, and because the Council was reluctant to deal with the controversial necessity of allocating groundfish between gear groups before setting up a "taxation" program to pay for the trawl buyback. Unfortunately, the buyback program that the Council contemplated just two years ago is now an impossibility under current harvest levels. If the trawl fleet were to borrow money from the federal government to start up a buyback program, it could not repay that loan under current and expected future harvest conditions.

During buyback discussions and the simultaneous development of Amendment 11 to the FMP, the Council recognized that it might have to allocate certain groundfish species between different sectors of the fishery to better craft rebuilding measures for those stocks. At the Council's request, NMFS published a notice of control date of April 9, 1998, as the date after which groundfish landings in the limited entry fishery and in the recreational fisheries would not be considered during discussions for either allocation between commercial and recreational fisheries or for further access limitation programs in the limited entry fishery (63 FR 53636, October 6, 1998.) The Council later decided that it might also need to consider access limitation for the open access fishery. NMFS published a notice of control date of November 5, 1999 to announce that landings made after that date in the open access fishery would not be considered by the Council in any future deliberations on access limitation programs for that fishery sector (65 FR 6577, February 10, 2000.) Thus, the Council has served notice of its intent to reduce fleet size in the commercial fisheries and to possibly constrain harvest in the recreational fisheries. These notices of control dates will be more effective if the Council acts swiftly on the programs contemplated.

In 1999, the Council hired an outside facilitator to bring the Council through a strategic planning process that would coalesce the problems of the groundfish fishery, and foster collective brainstorming on solutions to those problems. At the September 1999 Council meeting, the consultant engaged the Council, the GMT, the Groundfish Advisory Subpanel (GAP,) the Scientific and Statistical Committee (SSC,) the Habitat Steering Group (HSG,) and the Enforcement Consultants (EC) in discussions about major issues in groundfish fishery management. The consultant, Debra Nudelman of RESOLVE, Inc., reported on these discussions at the Council's November 1999 meeting. In her report, overcapacity was cited as the biggest challenge facing effective groundfish management.

Fleet reduction may be the most effective way to deal with overcapacity, but developing and implementing policies to do so would certainly be difficult and controversial. While limiting controversiality would help to smooth the transition from open access and open competition fisheries, the Council will need to consider whether to make difficult choices in the present or to face further fleet reduction needs in the future. If the Council takes the route of a less controversial access limitation program, it may wish to consider building buyback mechanisms into those programs at the start.

Incentives for vessels with lower bycatch rates, such as higher landings limits or fishing in certain areas (requires observer verification) This management alternative is impracticable without an observer program.

Vessel incentives to reduce bycatch is not a stand-alone management option. However, it does offer some interesting possibilities for encouraging the entire fleet to reduce bycatch rates. If the Council were to institute an observer program, it could monitor individual vessel bycatch rates, rank those vessels by degree of "clean" or "dirty" fishing, and then reward the cleanest fishers with further harvest opportunities. For example, if there were an observer program in the 2000 groundfish fisheries, vessel bycatch rankings could be tallied at the end of 2000. Also at the end of 2000, the Council could reserve 10% of managed species 2001 harvest guidelines for the top 10% of bycatch-clean vessels in the fishery. In 2001, the top bycatch-clean vessels of 2000 would have the opportunity to fish against the 10% reserve. Alternatively, the Council could reserve fishing opportunities in certain areas for only those vessels with the cleanest bycatch records.

Discard caps -- entire fishery closes when discard cap of particular species is achieved. This management alternative is impracticable without an observer program.

A discard cap is designed to protect a particular species within a fish complex, such as halibut bycatch caps in the Alaskan trawl fisheries. If the Council wished to target bycatch protection for a particular species within the groundfish complex, it could set a level of acceptable bycatch/discard for that species, after which all groundfish fishing would close. Over the past several years, the Council has had a policy of building assumed discards into total catch levels for many managed species. This practice is somewhat the reverse of the discard cap, which subtracts discards inseason. The advantage of managing with discard caps is that they draw a firm line beyond which no more of a particular species will be taken. Disadvantages of discard cap management are that they are more effective for protecting single species than for managing entire complexes, and that they tend to constrain entire fishing fleets for what may be the dirty fishing practices of just a few vessels. There are no individual vessel incentives to fish cleanly, just to fish as quickly as possible. Ironically, encouraging vessels to fish quickly so that they may take as much of the target harvest before the fleet reaches its discard cap may actually result in an increase in overall fleet discard rates.

Complete closures (marine reserves) for areas of interception of species designated for protection. This management alternative is currently impracticable because implementation would require Council discussion and exploration beyond the scope of this draft amendment. Marine reserve design and potential siting is now under discussion by the Council's Marine Reserves Committee.

Designating marine reserves to protect particular species or habitat would differ from closing "hot spots" in that the associated fishing closures would be permanent. In 1999, the Council convened a Marine Reserves Committee (MRC) to determine whether marine reserves might be a useful management tool for groundfish management. Thus far, the MRC has recommended that if the Council decides to use marine reserves, the design of those reserves should focus first on the protection of overfished species. Marine reserves are a rather simple tool -- if no fishing occurs in a particular area, then directed and incidental harvest cannot occur in that area. It is doubtful that marine reserves alone can protect against overfishing or mitigate bycatch problems, unless the reserves in question are large enough to encompass the entire habitat of a particular species or species group. However, marine reserves can be used as insurance against overharvest or high rates of incidental catch by banking a certain portion of managed species population in unfished waters.

4.4 Issue 4 -- Annual Management Measures Framework Provisions -- Alternative 3 Preferred

Issue 4	environmental effects	socio-economic effects
Alternative 1	-	--
Alternative 2	+/-	+/-
Alternative 3	+	+/-

Alternative 1 (status quo - no action). Under this alternative, the current list of frameworked "routine" management measures would not change. The Council asked NMFS to use its emergency management authority to take management actions outside of the routine measures framework for 2000. Emergency measures are viable for six months, and may be renewed for the second half of 2000. However, emergency regulatory measures may not be renewed more than once, which would mean that, for 2001 and beyond, the status quo option would leave the Council with only the frameworked routine management measures that were available for the 1999 fishery.

This alternative would have negative effects on both the environment and the fishing community. The emergency measures that the Council recommended for the 2000 fishing season provided management flexibility designed to protect overfished and depleted stocks while also allowing the harvest of healthy stocks.

Without this flexibility, the Council's current routine management measures provide only a blunt instrument to perform an intricate task.

The Council is required by the Magnuson-Stevens Act to rebuild overfished species. By November 1999,

three groundfish species had been declared overfished (lingcod, bocaccio, POP) and two more species were expected to qualify as overfished (canary rockfish and cowcod.) Of these five species, all but POP are caught in both the commercial and recreational fisheries; POP is generally only caught in commercial trawl fisheries. Recreational fisheries occur mostly inside state waters and are primarily managed by the three states, in cooperation with the Council and NMFS to ensure the application of consistent regulations to groundfish fisheries both inside and outside of three nautical miles. Commercial groundfish fisheries are managed by a cooperative state-tribe-federal effort at the Council level, with Council recommendations then implemented as federal, state, and tribal regulations. This difference in management protocol for the two types of fisheries means that, in general, the Council is more able to control and curtail commercial fishing than recreational fishing.

Although there are no formal groundfish allocations between commercial and recreational fisheries, historic Council practice has been to estimate the amounts of managed species that would be taken in recreational fisheries, and to then manage the remainder for commercial fisheries harvest. Over time, the recreational fishery has expanded, but the overall amount of available groundfish harvest has declined. This practice has allocative effects that the Council cannot ignore. State participants in the Council process took significant steps to rein in the recreational fisheries in 1999, with new and lower bag limits for lingcod and rockfish.

For the 2000 fisheries, the Council recognized that the frameworked management measures for the recreational and commercial fisheries were not adequate to allow protection for overfished and depleted stocks. Each of the three states had agreed to craft measures with their recreational constituencies that would reduce harvest of overfished species. These proposed new recreational measures, particularly for California fisheries, were outside of the "routine" management measures. Further, the Council wished to prohibit commercial lingcod landings during lingcod spawning and nesting season, as well as provide differential trip limits for different commercial gear types. Both of these new commercial fisheries management measures were also outside of the "routine" management measures.

Under Alternative 1, the creative management measures in 2000 would not be available in 2001 and beyond. This alternative could have negative environmental effects, particularly for lingcod, because complete fishery closure during spawning and nesting season is an integral part of lingcod rebuilding efforts. Regardless of which of the alternatives is chosen to address this issue, the Council will have to implement measures to rebuild overfished stocks. To achieve the same savings expected from the 2000 measures, the Council would have to dramatically lower the recreational fisheries bag limits and commercial fisheries landings limits. These harvest savings would come at a cost of negative socio-economic effects for both recreational and commercial fisheries. In other words, while this alternative may allow protection of overfished and depleted stocks, it would probably not allow fisheries access to healthy stocks. This alternative sacrifices flexibility in addressing the needs of overfished stocks and fishing communities for the convenience of not having to make changes to the FMP and implementing regulations.

Alternative 2 (amend federal groundfish regulations and the FMP to incorporate the emergency measures taken in 2000 as "routine" management measures -- listed at 6.2.1 in the FMP, and at §660.323(b) in the federal groundfish regulations.)

- *List of frameworked "routine" management measures for the commercial fisheries would include: limited entry cumulative landings limits that may be different based on type of gear used, and closed seasons for lingcod and rockfish.*
- *List of frameworked "routine" management measures for the recreational fisheries would include: size limits for canary rockfish, bocaccio, cabezon, kelp greenling, sculpin; closures for rockfish and lingcod; boat limits for cowcod; a requirement to keep the skin on rockfish; a prohibition on filleting cabezon; and hook limits.*

The purposes of this alternative would include: achieving the rebuilding plans, reducing bycatch, preventing overfishing, allowing the harvest of healthy stocks as much as possible while protecting and rebuilding overfished and depleted stocks, and equitably distributing the burdens of rebuilding among the sectors.

This alternative could have either positive or negative effects on both the environment and the fishing

community. As described above under Alternative 1, measures taken for the 2000 fishery were intended to provide management flexibility to protect overfished and depleted stocks while still allowing harvest of healthy stocks. These measures were very specific, as is particularly illustrated in the above list of "routine" management measures for recreational fisheries.

As the Council addresses the needs of overfished and depleted species over time, it may wish to take different measures in 2001 and beyond than those measures it used for 2000. While this alternative would make the boundaries of Council authority very clear, it might not truly provide management flexibility. If the range of management measures available to the Council is expanded only to include those listed under Alternative 2, the Council may find itself at a loss if it needs to move outside of that list.

If the Council decides in the future that it needs to use management measures different from those on the "routine" management measures list and those listed under Alternative 2, it may not be able to adequately protect overfished and depleted species in the future. Additionally, restricting itself to the measures of Alternative 2 could have socio-economic effects similar to but less dramatic than those described above for Alternative 1. Again, the Council will continue to be obliged to rebuild and protect overfished species; it can best meet this requirement while providing flexibility on the socio-economic effect of this action if it broadens its list of available management tools.

Alternative 3 (frameworking variation) Under this option, commercial and recreational management measures would become part of a framework for routine management measures.

- *List of frameworked "routine" management measures for the commercial fisheries would include: in cases where protection of an overfished or depleted stock is required: limited entry cumulative landings limits that may be different based on type of gear used, and closed seasons for any groundfish species.*
- *List of frameworked "routine" management measures for the recreational fisheries would model the more broad framework for open access fisheries, so that all recreational fisheries for groundfish could be managed with bag limits, size limits, time/area closures, boat limits, hook limits, and dressing requirements.*

Further, this option would amend Section 6.2 of the FMP so that the first time any new measure were used (first time for a size limit, for limits on a particular species, first time for a closed season, etc.) it could only be implemented during the two-meeting pre-season process. Once adopted under an annual management measures cycle, the new measure could be adjusted as routine during the year. Management measures would continue to be established annually through the two-meeting pre-season process, with adjustments to those measures allowable through the Council's meetings during the year.

The purposes of this alternative would include: achieving the rebuilding plans, reducing bycatch, preventing overfishing, allowing the harvest of healthy stocks as much as possible while protecting and rebuilding overfished and depleted stocks, and equitably distributing the burdens of rebuilding among the sectors.

This alternative could have positive effects on the environment and both negative and positive effects on the fishing community. Clearly, Alternative 3 provides the most flexibility for the Council. Under this alternative, the Council could craft management measures targeted at protecting particular species, rather than having to take broad measures that limit all fishing to achieve that protection. With this flexibility, however, the way that management measures are crafted results in a de facto allocation between commercial and recreational fisheries and between different gear groups. To provide long-term socio-economic stability in the fisheries, the Council should consider a more formalized allocation for the future.

As described above under Alternative 1, the result of Council action has been to give harvest priority to the recreational fishery, in part because recreational fisheries have historically taken the smaller portion of the available groundfish harvest. As the overall amount of harvestable groundfish has declined, the recreational fishery harvest has remained fairly constant, thereby increasing the percent of the whole taken in the recreational fisheries. In 1999, the Council lowered some of the recreational bag limits to try to reduce the amount of groundfish taken recreationally. While each individual recreational fisher may not take many fish, the cumulative effect on groundfish stocks of the many thousands of recreational fishers is significant. This

same phenomenon happens on a smaller scale in the open access commercial fisheries, where many small-scale fishers were long accustomed to cumulative landings limits far above their catching ability. As the amount of groundfish available to the commercial fishery has dropped, hundreds of open access fishers have also begun to feel the pinch of smaller limits. Limited entry fishers, accustomed as they have become to limits inappropriate to their catching ability, are also understandably reluctant to give up their hold on a historical portion of groundfish landings.

Under this Alternative, the Council would have the flexibility to craft management measures that would annually distribute available harvest between commercial and recreational fisheries. Allocations between different sectors of the commercial fishery are more formalized, but there could be some allocative effects between gear groups under the flexibility of Alternative 3. If the Council selects Alternative 3 it will need to either annually assess and analyze the allocative effects of its annual management measures, or, in a future action, set more formal allocation goals and standards that it will follow each year in the annual management measures process.

4.5 Issue 5 -- Removing Limited Entry Permit Endorsements Other than "A" Endorsement (Housekeeping Measure) -- No Preferred Alternative Chosen

Issue 3	environmental effects	socio-economic effects
Alternative 1	none	none
Alternative 2	+ (minor)	none
Alternative 3	+ (minor)	none

Alternative 1 (status quo - no action). The FMP provides for four different gear endorsements, the "A" endorsement, the provisional "A" endorsement, the "B" endorsement, and the designated species "B" endorsement. Of those, only the "A" endorsement is currently in use.

This alternative is unlikely to have any effects on the environment or fishing community. However, under this alternative, all endorsements, including provisional "A" endorsements, would continue to be available. Most provisional "A" endorsements are obsolete, but one type of provisional "A" endorsement allows vessels that landed sufficient groundfish during the window period with a gear that has been subsequently prohibited by a state or the Secretary of Commerce to receive limited entry permits. Should a state or the Secretary of Commerce ban a particular gear at some future time, provisional "A" endorsements would still be available to the affected vessels under this alternative. If, in the future, new vessels are able to use the provisional "A" endorsement, it could have the effect of introducing new fishing effort into an already overcapitalized fishery.

Neither retaining nor removing the "B" endorsement will have any effect on the environment, as that endorsement has expired and its removal would be a housekeeping measure. Retaining the designated species "B" endorsement under this option could only have the potential effect of allowing shortbelly rockfish harvest outside of the limited entry fishery. Shortbelly rockfish can be caught in association with other shelf rockfish, some of which species are or will be protected under rebuilding plans. If shortbelly rockfish were landed at their full harvest guideline, such fishing could have a negative effect on rebuilding plans for overfished and depleted species.

The activities described above in which this alternative would have a negative effect on the environment are unlikely to occur. Thus, retaining all three unused endorsements would have a negligible, if any, effect on the environment. The primary results of this alternative would be that it would require NMFS and Council staff to continue to waste time on outdated and unnecessary paperwork, and it would leave outdated material in the FMP and regulations, which could be confusing to the public.

Alternative 2 (remove all of the limited entry permit endorsements other than the "A" endorsement from FMP.) Under this alternative, the three unused gear endorsements (provisional "A," "B," and designated species "B") would be removed from the FMP.

This alternative is unlikely to have any effect on the environment or fishing community. As described above under Alternative 1, removing provisional "A" endorsements would remove obsolete materials and would remove the opportunity for new vessels to enter the limited entry fishery through provisional "A" qualifications.

While removing this possibility would have the positive environmental effect of closing one avenue of limited entry capacity expansion, it could also have the negative social effect of denying fishery participation for a group of fishers who might have otherwise have been granted a permit. Given that the qualification window period was 1984-1988, the effects, if any, of removing this type of provisional "A" endorsement from the FMP should be minimal.

Neither retaining nor removing the "B" endorsement will have any effect on the environment, as that endorsement has expired and its removal would be a housekeeping measure. Removing the designated species "B" endorsement under this option would ensure that species associated with shortbelly rockfish would be protected from incidental catch, should a future fishery outside of the limited entry fishery develop for shortbelly rockfish.

Removing all three unused endorsements would have a negligible, if any, effect on the environment. The primary results of this alternative would be that it would save NMFS and Council staff time by removing a requirement for outdated and unnecessary paperwork, it would eliminate a possible avenue for future new entry into the limited entry fishery, and it would remove outdated material in the FMP and regulations, which could be confusing to the public.

Alternative 3 (remove "B" and designated species "B" endorsements, update provisional "A" endorsement.) Under this alternative, the provisional "A" endorsement would be updated so that it is only available in the future to vessels that used gear during the window period that is now prohibited by either a state or the federal government and with that gear, made sufficient landings to meet the minimum landing requirements for legal gears.

This alternative is unlikely to have any effect on the environment or fishing community. The expected positive environmental effects of removing "B" and designated species "B" endorsements are described above under Alternative 2. The expected positive environmental effects of removing provisional "A" endorsements is described above under Alternatives 1 and 2. Retaining one type of provisional "A" endorsements may have the positive social effect of allowing an avenue for future fishery participation for fishers who might have otherwise have been granted a permit. The designated species "B" endorsement is the endorsement that requires outdated and unnecessary annual paperwork, thus Alternative 3 would also save NMFS and Council staff time.

** None of the above alternatives would preclude the design of future gear or other permit endorsements, or of other access limitation programs.

BACKGROUND. Amendment 6 was adopted by the Council in 1991 to introduce a limited entry permit program for the Pacific coast groundfish fishery. In order to smooth the controversial transition from an entirely open access fishery to the restrictions of limited entry, the Council recommended creation of four different permit endorsements to provide four different levels of fishery access. Only one of those permit endorsements is in use today, the "A" endorsement; this FMP amendment offers an opportunity for the Council to examine the necessity of keeping the other three endorsements in the FMP. Removing these endorsements from the FMP would save staff time for both the Council and NMFS, as staff currently must meet the annual regulatory requirements of maintaining these endorsements.

"A" Endorsements. All 499 current limited entry permits have "A" endorsements. "A" endorsements were originally intended for those vessel owners with a significant level of historical participation in and dependence on the fishery. When the limited entry program began, vessel owners qualified for "A" endorsements by ownership of vessels that met the minimum landing requirements (MLRs) during the window period, or that qualified for and upgraded a provisional "A" endorsement, or that were incorporated into the limited entry program under small fleet provisions.

Gear	Minimum Landing Requirement (for window period 7/11/84 through 8/1/88)
Trawl	At least 9 days in which over 500 lb of any groundfish species caught with groundfish trawl gear except Pacific whiting are landed or delivered, or 450 mt of landings or deliveries of any groundfish species caught with groundfish trawl gear except Pacific whiting, or 17 days in which over 500 lb of Pacific whiting caught with groundfish trawl gear are landed or delivered, or 3,750 mt of landings or deliveries of Pacific whiting caught with groundfish trawl gear.
Longline	At least 6 days in which over 500 lb of any groundfish species caught with longline gear are landed or delivered, or 37.5 mt of landings or deliveries of any groundfish species caught with longline gear.
Fishpot	At least 5 days in which over 500 lb of any groundfish species caught with fishpot gear are landed or delivered, or 150 mt of landings or deliveries of any groundfish species caught with fishpot gear.

"A" endorsements were designed to be long-term endorsements, integral to the permit, and transferable upon any transfer of the permit by sale, lease, or other agreement. By the time that the limited entry program was implemented for the 1994 fishing season, approximately 660 vessels had received limited entry permits. That number has been reduced over the 6-year life of the program through permit combinations by permit buyers.

Provisional "A" Endorsements. There are no current provisional "A" endorsement holders. Provisional "A" endorsements were developed for vessel owners who had purchased a vessel part way through the window period, or who had a vessel under construction or conversion during the window period. The provisional "A" endorsement required that, for the first three years after the new vessel purchase or after completion of the vessel upgrade, vessel owners meet minimum groundfish landings requirements. If in any of the years in the three year trial period the vessel did not meet the landings requirements, the provisional "A" endorsement permit would be terminated. Provisional "A" endorsement permits had a maximum duration of 3 years. However, if the landings requirements were met for all three years, the provisional "A" endorsement could be converted to an "A" endorsement. The annual minimum landings requirements for the provisional "A" endorsements were equal to the annualized MLR for vessels receiving "A" endorsements. Vessels with provisional "A" endorsement limited entry permits operated under the same management measures and specifications as the "A" endorsed limited entry fleet. Provisional "A" endorsement permits were not transferable.

When the limited entry program went into effect, three vessels qualified for and were issued provisional "A" endorsements. All three vessels met the annualized landing requirements and were issued "A" endorsements by 1997. NMFS has received no further applications for provisional "A" endorsed limited entry permits. Because of the passage of time, most types of provisional "A" endorsements are obsolete.

Provisional "A" endorsements have also been available to owners of vessels that landed sufficient groundfish during the window period, but that used a gear type that has been subsequently prohibited by a state (Washington, Oregon, or California) or the Secretary of Commerce. Use of this provision has never been triggered. However, the Council may wish to either retain provisional "A" endorsements altogether, or revise the qualifications for provisional "A" endorsements so that only vessels qualifying under this prohibited gear provision would qualify for provisional "A" limited entry permits.

"B" Endorsements. "B" endorsements were developed to allow vessel owners who had participated in the fishery at a low level during the window period to continue in the fishery for a three-year adjustment period before being required to have an "A" endorsed limited entry permit for participation in the limited entry fishery. To qualify for a "B" endorsement, a vessel needed at least 500 lb of groundfish landings on at least three separate days at any time before August 1, 1988. The vessel owner had to have continuously owned the vessel since the date of the first of the three qualifying landings. "B" endorsements could not be upgraded to "A" endorsements, and permits with "B" endorsements were not transferable. Vessels with "B" endorsement limited entry permits operated under the same management measures and specifications as

the "A" endorsed limited entry fleet.

Twenty vessels initially qualified for and received "B" endorsed limited entry permits. In accordance with the FMP, those permits and the "B" endorsement opportunity expired on December 31, 1996. Of those vessels initially issued "B" endorsements, two are now participating in the fishery with "A" endorsement permits. The "B" endorsement is now obsolete.

Designated Species "B" Endorsements. These endorsements were developed to allow domestic harvesters to particularly target species that were "underutilized." When Amendment 6 was approved, the three species designated as underutilized were Pacific whiting, shortbelly rockfish, and jack mackerel.

When the FMP was approved in 1982, Pacific coast domestic harvesters and processors did not have the capacity to fully utilize the harvestable surplus of all managed species. The Fishery Conservation and Management Act of 1976 provided for foreign fishing in U.S. waters for " . . . that portion of the optimum yield of [any] fishery which will not be harvested by vessels of the United States . . ." (201(d)) In its groundfish FMP, the Council divided groundfish species into two categories, those species that could not be discretely harvested without bycatch of other species, and those species that could be harvested with the expectation of minimal bycatch of other managed species. The FMP acknowledged that there were several species that were harvested at rates below maximum sustainable yield (MSY), but determined that most of those species could not be selectively harvested without bycatch of other species that were already fully utilized by domestic fisheries. Pacific whiting, sablefish, shortbelly rockfish, widow rockfish, and jack mackerel were categorized as harvestable without significant bycatch of other species, and therefore were subject to annual evaluations of domestic harvest needs and availability for foreign utilization.

By 1991, when the limited entry program was approved, only Pacific whiting, shortbelly rockfish, and jack mackerel were considered harvestable without significant bycatch and subject to evaluation of availability for foreign harvest and/or processing. Pacific whiting was fully used by the domestic fleet in 1991, and small joint venture processing levels were allowed for shortbelly rockfish and jack mackerel, as well as a small amount of directed foreign fishing for jack mackerel. From 1992 onward, all Council-managed species were considered fully utilized and there were no allocations to either the joint-venture processing interests or to directed foreign fishing.

The limited entry program and designated species "B" permits were implemented for the 1994 fishing year. Under the designated species "B" program, any Pacific whiting, shortbelly rockfish, and jack mackerel that would not be used by the limited entry fleet could be made available to vessels outside of the limited entry fleet by providing those vessels with designated species "B" endorsed permits. NMFS conducted annual surveys of the limited entry fleet to determine whether limited entry permit holders would fully use those species. After 1998, NMFS no longer surveyed the fleet about its Pacific whiting harvest, as that species was clearly fully utilized by the limited entry fleet. With the approval of Amendment 8 to the Coastal Pelagic Species FMP, jack mackerel was formally removed from the list of groundfish species managed under the groundfish FMP. Shortbelly rockfish are part of the shelf rockfish complex and as such, are associated with overfished and depleted species under the protection of rebuilding measures. Furthermore, since shortbelly rockfish are taken predominantly with trawl gear, there is little reason to expect future interest in harvesting shortbelly rockfish by vessels outside of the limited entry fleet.

NMFS has never issued any designated species "B" endorsed permits. NMFS has also never received any requests or applications for designated species "B" permits.

5.0 SUMMARY OF ENVIRONMENTAL IMPACTS, CONSISTENCY WITH THE FMP AND OTHER APPLICABLE LAW

An EA is required by the National Environmental Policy Act (NEPA) to determine whether the action considered will result in significant impact on the human environment. If the action is determined not to be significant based on an analysis of relevant considerations, the EA and resulting finding of no significant impact would be the final environmental documents required by NEPA. An environmental impact statement (EIS) need only be prepared for major federal actions significantly affecting the human environment. An EA

must include a brief discussion of the need for the proposal, the alternatives considered, a list of document preparers, and the impacts of the alternatives on the human environment. The purpose and need for the proposed action was discussed in section 1.0 of this document, the management alternatives and the potential environmental and socio-economic effects of those alternatives were discussed in section 4.0, and the list of preparers is provided in section 8.0. Further discussions of biological and social effects of the actions that could be taken through Amendment 13 are provided below in discussions of the compatibility of draft Amendment 13 with the FMP and other applicable law, and in the Regulatory Impact Review (RIR.) In addition to testing a proposed action for compatibility with the laws discussed below, determining whether a proposed action will have a significant impact on the human environment requires testing against the following factors:

Table 2: NEPA Tests of Significance

"Significant" Impact Factor	Draft Amendment 13 Proposed Actions
Beneficial and adverse effects of action	Expected beneficial and adverse effects of the proposed actions are discussed above in section 4.0. In general, draft Amendment 13 would provide beneficial effects for the environment while mitigating the potentially adverse economic effects of that protection.
Degree to which public health or safety is affected?	Proposed actions are not expected to adversely affect public health or safety.
Effects on unique characteristics of area?	Proposed actions are not expected to adversely affect unique characteristics of the managed area, such as historic or cultural resources, park lands, wetlands, or ecologically critical areas.
Degree to which effects are likely to be controversial?	Although proposed actions are not likely to be controversial with the broader public, some of the proposed actions may be controversial with fishery participants or the environmental community. Issues 1, 4, and 5 are unlikely to be controversial with either community. Proposed action on Issue 2, standardized reporting methodologies, represents a compromise between the positions of these two communities, and thus may be controversial. Proposed action on Issue 3, bycatch reduction measures, may be controversial depending on its implementation. Further actions to implement the programs that would be allowed under proposed action for this issue would be assessed for controversiality during their development.
Degree to which effects are highly uncertain or involve unknown risks?	Proposed actions are not expected to have significant effects on the environment that are highly uncertain or involve unknown risks.
Establishment of a precedent for future actions?	Proposed actions are not expected to establish precedents for future actions, or otherwise constrain future actions.
Individually insignificant but cumulatively significant impacts of action?	Proposed actions are not expected to have cumulatively significant adverse effects on the fishery or other related resource.
Adverse effects on historic, scientific or cultural resources?	No significant effects on historic, scientific, or cultural resources.
Degree to which endangered or threatened species or their habitat is affected?	No change in degree to which endangered or threatened species or their habitats are affected. See discussion below under Endangered Species Act.

"Significant" Impact Factor	Draft Amendment 13 Proposed Actions
Violation of a Federal, State, or local law for environmental protection?	Proposed actions are not expected to violate Federal, State, or local laws or requirements imposed for environmental protection.

5.1 Consistency with the FMP

An FMP amendment is designed in part to change some function or intent of the FMP, which means that the amendment may not necessarily be consistent with the existing FMP. However, the FMP contains several basic goals and objectives that provide guidance for the entire structure of the FMP and implementing measures. Issues 2 through 5, described above, are examined here for consistency with those goals and objectives. Where a preferred alternative may require amendment of one of the goals or objectives, that alternative is examined for its consistency with the FMP as a whole. Both of the alternatives to address Issue 1, definition of the term “bycatch” are consistent with the FMP and would not change the intent or the implementation of the FMP.

The preferred alternative for Issue 2, standardized reporting methodologies, would provide the Council with much-needed incidental catch information. The FMP’s first management goal concerns conservation, “Prevent overfishing by managing for appropriate harvest levels, and prevent any net loss of the habitat of living marine resources.” Implementing an observer program would allow the Council and other managing entities to better quantify total catch and discards, providing a more accurate measure of fishing mortality rates. Further, under the FMP’s Conservation Objectives, Objective 1 is to, “Maintain an information flow on the status of the fishery and the fishery resource which allows for informed management decisions as the fishery occurs.” Information flows would be improved under the preferred alternative for Issue 2. Although the preferred alternative would be consistent with the FMP’s conservation goals and objectives, it may conflict with Objective 15 under Social Factors, “When considering alternative management measures to resolve an issue, choose the measure that best accomplishes the change with the least disruption to fishing practices, marketing procedures, and environment.” If a funding source is secured and an observer program implemented, bringing observers into the shorebased groundfish fleet would clearly be a disruption to fishing practices. In implementing an observer program, the Council will have to balance its information needs with measures to ease the implementation burden for fishers.

Under Issue 3, the preferred alternative would implement an increased utilization program in the at-sea whiting fisheries and allow future development of an increased utilization program in the shore-based groundfish fisheries, as well as several other possible future measures. As with Issue 2, increased utilization accompanied by appropriate monitoring would improve information flow. Increased utilization or retention of landings limit overages without monitoring would not improve information and could prove harmful to the resource, as discussed above in section 4.3a. These management changes would also meet Objective 11 under Utilization, “Strive to reduce the economic incentives and regulatory measures that lead to wastage of fish.” The preferred alternative for Issue 3 would additionally allow future development of the following management measures: shorter fishing seasons and higher cumulative landings limits; permit stacking; gear modification requirements; catch allocation to, or gear flexibility for, gear types with lower bycatch rates; re-examination and improvement of species-to-species landings limit ratios; and, time/area closures. Of these, gear modification requirements, setting species-to-species landings limit ratios, and time/area closures are already allowed under the FMP and have already been determined as consistent with the goals and objectives of the FMP.

Setting a shorter fishing season could conflict with FMP Goal 3, Utilization, “Achieve the maximum biological yield of the overall groundfish fishery, promote year round availability of quality seafood to the consumer, and promote recreational fishing opportunities.” If a shortened fishing season is not structured to allow different fishers and different fishing sectors to make landings at varying times of the year, the shortened season would not meet the goal of “promoting year round availability of quality seafood to the consumer.” The Council has long interpreted this goal to mean that all fisheries except the whiting and fixed gear sablefish fisheries should be open to all fishers at all times of the year. This interpretation has kept the Council from

exploring different ways of meeting that goal, such as allowing fishers to choose perhaps 8 months of desired fishing months per year, scheduling those months around other non-groundfish fishing activities and non-fishing activities.

While permit stacking is not specifically prohibited in the FMP, the cumulative landings limit fisheries have traditionally been managed so that limit restrictions are applied per vessel rather than per permit. When the FMP was first implemented in 1983, there were no federal fisheries permits and the practice of applying limits to vessels was codified in the FMP's implementing regulations. Although permit stacking may not be inconsistent with the FMP, it would be a significant shift in the Council's historic management practices.

Catch allocation to, or gear flexibility for, gear types with lower bycatch rates would be consistent with Conservation Objective 2, "Adopt harvest specifications and management measures consistent with resource stewardship responsibilities, for each groundfish species or species group." Management measures to either allocate catch to gears with lower bycatch rates or to provide flexibility for more use of lower-bycatch gears would be supported under this objective. However, catch allocation in particular may be inconsistent with Social Objectives: "(13) When conservation actions are necessary to protect a stock or stock assemblage, attempt to develop management measures that will affect users equitably; and (14) Minimize gear conflicts among resource users." The Council has allocated harvestable resources between different user groups on several different occasions. Perhaps the most significant is the overall groundfish allocation between limited entry and open access fisheries, which was based historic landings levels for the gear groups within each category. Although historic landings levels are often used for fisheries allocations, the Council has used other criteria as the bases for its allocations. For example, the whiting shorebased/offshore allocation was based in part on social considerations and on a negotiated compromise between industry participants, rather than exclusively on historic participation. Providing gear flexibility to encourage fishers to use gear types with lower bycatch rates may be preferable to allocation as a way of meeting both conservation and social objectives.

For Issue 4, the preferred alternative would increase the FMP's flexibility for setting annual management measures. Over time, the FMP has evolved to allow the Council increasing flexibility with the annual management measure process, so new and further increases in flexibility would likely be consistent with this evolution. Allowing a flexible management framework is also generally consistent with the Council's historic emphasis on using management frameworks to provide flexible authority for a broad range of its customary activities. Nonetheless, when actions are taken under that more flexible authority, those actions must also be examined for their consistency with FMP goals and objectives.

Alternatives under Issue 5 that would amend the FMP to remove unused limited entry permit endorsements would essentially be FMP housekeeping measures. Although portions of FMP Section 14 would be removed by these alternatives, that removal would neither support nor run counter to the goals and objectives of the FMP. These unused endorsements may not be necessary in part because the Council has met its Utilization Objective 9, "Develop management measures and policies that foster and encourage full utilization (harvesting and processing) of the Pacific coast groundfish resources by domestic fisheries."

5.2 Magnuson-Stevens Fishery Conservation and Management Act

With respect to Issues 1-3, the purpose of Amendment 13 is to bring the FMP into compliance with Magnuson-Stevens Act requirements for standardized bycatch reporting methodologies and bycatch reduction requirements.

National Standard 9 for fishery conservation and management, at 16 U.S.C. 1851(a)(9), states that, "Conservation and management measures shall, to the extent practicable, (A) minimize bycatch and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch."

At 16 U.S.C. 1853(a)(11), the Magnuson-Stevens Act requires that fishery management plans, "establish a standardized reporting methodology to assess the amount and type of bycatch occurring in the fishery, and include conservation and management measures that, to the extent practicable and in the following priority -- (A) minimize bycatch; and (B) minimize the mortality of bycatch which cannot be avoided."

Both Alternatives 3 and 4 for Issue 3, bycatch reduction measures, could be expected to minimize bycatch and bycatch mortality, although Alternative 4 (preferred) would provide more options for doing so. Under both Alternatives 3 and 4, a full-retention program for the at-sea whiting fishery could be implemented fairly quickly. The possible bycatch-reduction effects of this program and of the Alternative 4 sub-options are described above in section 4.3.

Each of the alternatives under Issue 2, including status quo, would in some degree address the Magnuson-Stevens Act standardized reporting methodology requirement. The effectiveness of each of these alternatives is discussed above in section 4.2. Alternative 3, the preferred alternative, would amend the FMP to facilitate the set up a regulatory framework that the Council approved in April for an observer program aimed at collecting total catch data, including at-sea discards. The difficult question to ask concerning Alternative 3 is, "If an observer program is not required unless funding is made available, have Magnuson-Stevens Act requirements on standardize reporting methodology been met?"

West Coast groundfish fisheries are at a difficult juncture, and Council policies must meet a broad range of requirements, including the requirement to establish a standardized reporting methodology. The groundfish fisheries were recently declared a federal fishery failure. In considering how to deal with a fishery failure, the Council, NMFS, and Congress must craft long-term protection measures for depleted fish stocks. National Standard 1 states that, "Conservation and management measures shall prevent overfishing while achieving on a continuing basis, the optimum yield from each fishery for the United States fishing industry." Further, section 304(e) requires Councils and NMFS to rebuild overfished fish stocks, which inevitably means harvest cuts. Within the past two years, NMFS has designated five groundfish species as overfished and the Council has completed rebuilding plans for three of those species, with the fishery-reduction effects of those plans being felt coastwide. In addition to rebuilding requirements, scientific information available to the Council has improved in recent years and has indicated that historic harvest policies that had seemed sustainable and sometimes conservative, should now be considered too aggressive. Revising harvest policies to decrease fishing rates on healthy stocks will provide better future protection for those stocks, but will also strike another blow to the fishing fleets.

National Standard 8 provides protection to fishing communities: "Conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks,) take into account the importance of fishery resources to fishing communities in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities." There are two components that need protection in a federal fishery failure, the depleted fish stocks and the fishing communities that have traditionally depended on those stocks. For fishing communities to survive and thrive, West Coast groundfish stocks must be healthy. Where fish stocks are not healthy, the Council must consider even more carefully the economic burdens created by its policies.

There are not enough individual fishers participating in the West Coast groundfish fisheries who can afford to carry observers to provide statistically sound sampling of fleet behavior. (NMFS, May 2000) Further, the Magnuson-Stevens Act does not allow the Council to disperse the economic effects of an observer program by funding the program through fleet-wide landings taxation. While a mandatory logbook program could meet the standardized reporting methodology requirement, the information provided through such a program would also not be considered statistically sound. Given the current economic condition of the fleet, meeting the standardized reporting methodology requirement in a manner that provides useable scientific information is essentially an unfunded mandate. Providing a regulatory framework for an observer program opens new avenues for the Council and NMFS to encourage funding that mandate for the West Coast groundfish fisheries. For these reasons, the Council's preferred alternative may be the best answer that the Council can give to the standardized reporting methodology requirement while still meeting other requirements of the Magnuson-Stevens Act.

With respect to Issue 4, the annual management measures framework provisions, each of the alternatives provides a certain level of flexibility in setting annual fishery management measures. As these measures are implemented on an annual basis, they are tested for compliance with the Magnuson-Stevens Act. The reason that the Council is considering this issue is so that it can have more flexibility in addressing requirements to protect and rebuild overfished and depleted species, while still taking into account the needs

of fishing communities. Some of the measures taken in 2000 provide an example of how increased flexibility can allow protection of overfished and depleted stocks while also allowing fisheries access to healthy stocks. For example, several species have either very low or no landings limits allowed for vessels using bottom trawl, but targeting opportunities are provided for vessels using mid-water trawl gear. Several of the overfished species are more easily taken with bottom trawling gear, while mid-water trawl gear can be configured to target the more abundant species. The Council's preferred alternative is expected to give the Council flexibility to create management measures that balance the varied and sometimes conflicting mandates of the Magnuson-Stevens Act.

Issue 5 is a housekeeping measure in which the Council considers whether to remove outdated and unused limited entry permit endorsements other than the "A" endorsement. The "B" endorsement has expired and its removal has no relevancy to the Magnuson-Stevens Act. Removal of the designated species "B" endorsement would acknowledge that the FMP manages no underutilized species. In particular, declaring shortbelly rockfish as fully utilized would provide protection to overfished species that may be caught incidentally to shortbelly rockfish harvest. If provisional "A" endorsements were retained, the FMP would provide some protection to vessels currently using open access gear that becomes subject to a future ban by a state (Washington, Oregon, California) or the Secretary of Commerce. Retaining provisional "A" endorsements might provide future insurance for fishing communities dependent on gear types under public scrutiny for harmful fishing effects, allowing users of those gear types to transition to limited entry gear. Alternatively, removing provisional "A" endorsements would eliminate a loophole for future entry into the limited entry fishery. Fishery effort expansion is addressed in part at National Standard 5, "Conservation and management measures shall, where practicable, consider efficiency in the utilization of fishery resources; except that no such measure shall have economic allocation as its sole purpose." In an overcapitalized fishery, management efforts generally tend toward restricting effort expansion, rather than allowing continued effort expansion flexibility.

Essential Fish Habitat (EFH) The Magnuson-Stevens Act requires that "each Federal agency shall consult with the Secretary of Commerce with respect to any action authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken, by such agency that may adversely affect any essential fish habitat identified under this Act." EFH is defined as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." EFH for Pacific coast groundfish is further defined in Amendment 11 as "the entire EEZ and marine coastal waters inshore of the EEZ." NMFS guidelines (62 FR 66553, December 19, 1997) state that "adverse effects from fishing may include physical, chemical, or biological alternations of the substrate, and loss of, or injury to, benthic organisms, prey species and their habitat, and other components of the ecosystem. . ."

Issues 3 and 4 contain alternatives that may affect EFH. Under Issue 3, bycatch reduction measures, some of the sub-options for Alternative 4 could affect EFH. A shorter fishing season and higher cumulative landings limits could reduce the collective amount of time that vessels spend on the fishing grounds, which would result in fewer gear interceptions with habitat. Allowing permit stacking would either result in no change, or may reduce gear interceptions with habitat, depending on which permits are consolidated and on whether persons who sell their permits continue to fish. Gear modification requirements and catch allocations or gear flexibility to reduce bycatch may or may not reduce the effect of the fisheries on EFH, depending on the particular gear modifications required, or on the how the gear types with lower bycatch rates affect EFH as compared to other gear types. Re-examining species-to-species landings ratios would likely have no effect on EFH. Time/area closures to protect certain species from incidental interception would protect EFH from gear interception during times and in areas where fishing is closed.

Because Issue 4 deals with framework provisions, none of the alternatives are expected to have a direct effect on EFH. However, depending on how those frameworks are used on an annual basis, implementing measures may affect EFH. As with annual specifications and management measures for 2000, measures taken in 2001 and beyond will be assessed for effects on EFH when they are developed for public review.

5.3 Paperwork Reduction Act (PRA)

Under Issue 2, standardized reporting methodologies, Alternatives 2-4 would contain collection-of-information burdens subject to the PRA. A description of information required would be submitted to the Office of

Management and Budget (OMB) for review and approval. Under Alternative 2, vessels that do not currently carry logbooks (nontrawl commercial vessels and recreational vessels) might be required to use logbooks for retained and discarded catch reporting, and trawl vessels would be required to report new information. For either Alternatives 3 or 4, vessels would be required to submit information that would be used to coordinate and conduct effective and efficient deployment of observers.

Under Issue 5, the housekeeping measure to remove unused limited entry permit endorsements, Alternatives 2 and 3 would result in a reduction of collection-of-information burdens subject to the PRA. Each year, information is collected from the limited entry fleet to assess the amount of expected harvest of underutilized species. Either of these alternatives would eliminate this requirement and its consequent collection-of-information burden.

Notwithstanding any other provision of law, no person is required to respond to nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the PRA unless that collection of information displays a currently valid OMB Control Number.

5.4 Endangered Species Act

NMFS issued Biological Opinions under the ESA on August 10, 1990, November 26, 1991, August 28, 1992, September 27, 1993, May 14, 1996, and December 15, 1999 pertaining to the effects of the groundfish fishery on Sacramento River winter chinook, Snake River fall chinook, Snake River spring/summer chinook, Central Valley spring chinook, California coastal chinook, Puget Sound chinook, lower Columbia River chinook, upper Willamette River chinook, Upper Columbia River Spring chinook, Hood Canal summer run chum, Columbia River Chum, Central California coastal coho, Oregon coastal coho, Snake River sockeye, Ozette Lake sockeye, southern California steelhead, south-central California steelhead, central California coast steelhead, upper Columbia River steelhead, Snake River Basin steelhead, lower Columbia River steelhead, California Central Valley steelhead, upper Willamette River steelhead, middle Columbia River steelhead, Umpqua river cutthroat trout, and the southwest Washington/Columbia cutthroat trout. The opinions concluded that implementation of the FMP for the Pacific Coast Groundfish Fishery is not expected to jeopardize the continued existence of any endangered or threatened species under the jurisdiction of NMFS, or result in the destruction or adverse modification of critical habitat. Amendment 13 would not have effects that fall outside of the scope of effects considered in these Biological Opinions; therefore, additional consultations on these species are not required for this action.

None of the alternatives for any of the issues discussed above are expected to effect the incidental mortality levels of listed salmon species. It is reasonable to expect that adding new standardized reporting methodologies (Issue 2) would provide additional information on endangered species bycatch.

5.5 Marine Mammal Protection Act (MMPA)

Section 118 of the MMPA requires that NMFS publish, at least annually, a list of fisheries placing all U.S. commercial fisheries into one of three categories describing the level of incidental serious injury and mortality of marine mammals in each fishery. Definitions of the fishery classification criteria for Categories I, II, and III fisheries are found in the implementing regulations for section 118 of the MMPA (50 CFR part 229.) Pacific Coast groundfish fisheries are considered Category III fisheries, where the annual mortality and serious injury of a stock by the fishery is less than or equal to 1 percent of the PBR level.

Under the MMPA, marine mammals whose abundance falls below the optimum sustainable population level (usually regarded as 60% of carrying capacity or maximum population size) can be listed as "depleted". Populations listed as threatened or endangered under the ESA are automatically depleted under the terms of the MMPA. Currently the Stellar sea lion population off Washington, Oregon, and California is listed as threatened under the ESA and the fur seal population is listed as depleted under the MMPA. Incidental takes of these species in the Pacific coast fisheries are well under their annual Potential Biological Removal (PBR) levels. None of the alternatives under any of the issues discussed above are likely to affect the incidental mortality levels of species protected under the MMPA.

5.6 Seabirds

Human activities affect seabirds through direct mortality from: 1) collisions with vessels, 2) entanglement with fishing gear, 3) entanglement with discarded plastics and other debris, and 4) shooting. Indirect effects include: 1) competition with fisheries for food, 2) alteration of the food web dynamics due to commercial and recreational removals, 3) disruption of avian feeding habits resulting from dependency on fish wastes, 4) fish-waste related increases in gull populations that prey of other bird species, and marine pollution and changes in water quality.

Seabirds are caught incidentally to all types of fishing operations, but the vulnerability of bird species to gear types differ with feeding ecology. Fishing gear used in the groundfish fishery includes trawl, hook-and-line, pot, and setnet. Hook-and-line gear occasionally catches surface-feeding seabirds that are attempting to capture bait as the line is being set; some birds are caught on hooks and drown. Trawl gear appears to catch surface-feeding and diving birds that are feeding and scavenging while the net is being hauled. Pot gear does not commonly catch birds, though rare reports of dead diving and surface-feeding birds exist in pot gear. Setnet gear, which is legal only in southern California waters, has documented effects on seabirds as well (Wohl, 1998.) None of the alternatives under any of the issues discussed above are likely to affect the incidental mortality of seabirds.

5.7 Coastal Zone Management Act

All of the preferred alternatives for each of the issues are consistent to the maximum extent practicable with applicable State coastal zone management programs. NMFS will correspond with the responsible state agencies under Section 307 of the Coastal Zone Management Act to obtain their concurrence in this finding.

5.8 Executive Orders 12866 and 13132

None of the proposed changes to the FMP would be a significant action according to E.O. 12866. This action will not have a cumulative effect on the economy of \$100 million or more nor will it result in a major increase in costs to consumers, industries, government agencies, or geographical regions. No significant adverse impacts are anticipated on competition, employment, investments, productivity, innovation, or competitiveness of U.S.-based enterprises. (See RIR below at 6.1)

None of the proposed changes to the FMP would have federalism implications subject to E.O. 13132.

6.0 Regulatory Impact Review (RIR) and Small Business/Entity Issues Analysis

The purpose of an RIR is to determine whether any of the proposed actions could be considered "significant regulatory actions" according to E.O. 12866. This analysis has many aspects in common with an EA. Much of the information required for RIR analysis is provided above in the EA. The following table gives references for those required elements of RIR analysis that have already been addressed above. The Small Business/Entities Analysis addresses requirements of the Regulatory Flexibility Act.

Table 3: RIR Elements of Analysis

RIR Elements of Analysis	Corresponding Section in EA
Description of management objectives	3.3, 3.4, 4.0
Description of the fishery	3.2
Statement of the problem	1.0, 3.3, 3.4, 4.0
Description of each selected alternative	4.0

In addition to the information provided in the EA, above, a basic economic profile of the fisheries is provided annually in the Council's SAFE document.

6.1 Regulatory Impact Review (Elements Beyond Those Considered in the EA)

All of the key elements of an RIR have been fully considered in the EA, except for an economic analysis of

the expected effects of each selected alternative relative to the status quo. Some discussion of the expected economic effects of the alternatives for each of the issues is provided above in Section 4.0. From that discussion, we know that only alternatives chosen for Issues 2, 3 and 4 could have potentially significant economic effects.

Issue 2: For Issue 2, standardized reporting methodologies, the expected socio-economic effects of implementing an observer program via a funding resource other than direct vessel payment for observers is fully analyzed in the EA/RIR/IRFA for "An Observer Program for Catcher Vessels in the Pacific Coast Groundfish Fishery" (NMFS, May 2000). Conclusions from that document are summarized as follows:

The costs to deploy observers under Issue 2, Alternative 3, consists of seven components: 1) logistical information, 2) liability insurance, 3) food and living accommodations on the vessel, 4) safety requirements, 5) a pre-trip meeting for observer and vessel owner/captain, 6) adequate sample space and time on the observed vessel, and 7) liability insurance. The total costs to the individual vessel and to the fleet would vary depending on the coverage strategy that was used, as would the number of vessels affected. The sum of these costs is estimated to range between \$157 and \$3334 (\$11,044 if a vessel fished every day of the year) for the individual vessel and \$113,040 and \$193,086 for the fleet. The lowest costs to the individual vessel occurs when each observer samples only one limited entry vessel over an entire cumulative trip limit period and the highest cost to the individual vessel occurs when observers samples vessel trips at random and no vessel is sampled more than once. Conversely, the highest costs to the fleet occur under random sampling, and the lowest costs to the fleet occur when each observer samples only one limited entry vessel.

Among the vessels in the open access and limited entry groundfish fisheries that could be selected to carry an observer, there are substantial differences in terms of the annual ex-vessel value of their groundfish and total catch. Coastwide in 1999 (see below at Table 3,) approximately 9% of the limited entry trawl fleet, which includes the shore-based whiting vessels, had annual groundfish revenues less than \$25,000 and 4% had annual total fishery revenues that were less than \$25,000. This is compared to the limited entry fixed gear fleet in which 30% had annual groundfish revenues less than \$25,000 and 15% had annual total fishery revenues that were less than \$25,000. The open access fleet, which is comprised of many small vessels that have fewer and shorter trips, in which 97% had annual groundfish revenues less than \$25,000 and 71% had annual total fishery revenues that were less than \$25,000. It is expected that catch reduction in 2000 will lead to a large portion of the fleet having revenues less than \$25,000 annually. With respect to the federal costs and workload increases, it is expected that the benefits of an on-board observer program would outweigh those increases.

Table 3: Percentage of Vessels in Revenue Categories, by Fishery/Gear Category and State, 1999 Groundfish (thousands of dollars)

	<\$5	\$5-\$25	\$25-50	\$50-\$100	\$100-\$200	>200
	Percent	Percent	Percent	Percent	Percent	Percent
WASHINGTON:						
Limited Entry						
Trawl	0	0	0	20	32	48
Non-trawl	5	18	33	42	2	0
Open Access	85	15	0	0	0	0
OREGON:						
Limited Entry						
Trawl	2	3	9	9	34	44
Non-trawl	3	7	37	36	17	0
Open Access	83	15	1	0	0	0
CALIFORNIA:						
Limited Entry						
Trawl	10	6	9	28	33	15
Non-trawl	24	26	24	18	6	1
Open Access	80	16	3	1	0	0
COASTWIDE:						
Limited Entry						
Trawl	5	4	8	18	33	32

Non-trawl	12	18	31	30	8	1
Open Access	81	16	2	1	0	0

Note: A vessel having a permit at any time during the year was treated as LE for the year. Any permitted vessel with a trawl endorsement was assigned to the LE trawl group. Only vessels that earned groundfish revenue during 1999 were included. Catch from vessels landed in multiple states was attributed to the state in which the groundfish revenue was greatest.

Table 4: Percentage of Vessels in Revenue Categories, by Fishery/Gear Category and State, 1999 All Species
(thousands of dollars)

	<\$5	\$5-\$25	\$25-50	\$50-\$100	\$100-\$200	>200
	Percent	Percent	Percent	Percent	Percent	Percent
WASHINGTON:						
Limited Entry						
Trawl	0	0	0	16	32	52
Non-trawl	2	15	30	48	5	0
Open Access	40	27	10	10	9	4
OREGON:						
Limited Entry						
Trawl	1	1	4	4	25	65
Non-trawl	0	0	12	17	37	34
Open Access	35	34	11	8	7	5
CALIFORNIA:						
Limited Entry						
Trawl	4	3	2	14	41	36
Non-trawl	5	18	24	35	14	4
Open Access	42	30	12	10	5	1
COASTWIDE:						
Limited Entry						
Trawl	2	2	3	10	33	51
Non-trawl	3	12	22	34	18	12
Open Access	40	31	12	10	6	3

Note: A vessel having a permit at any time during the year was treated as LE for the year. Any permitted vessel with a trawl endorsement was assigned to the LE trawl group. Only vessels that earned groundfish revenue during 1999 were included. Catch from vessels landed in multiple states was attributed to the state in which the groundfish revenue was greatest.

Issue 3 For the preferred alternative under Issue 3, the only measure that is developed enough to be implemented immediately following Council approval of Amendment 13 is the program for full retention of landings limit overages in the at-sea whiting fleet. All of the other sub-options under the preferred alternative will need further development and analysis before implementation. This would be a voluntary program, providing an incentive to those vessels that choose to carry more than observer in the form of modest revenue from fish meal. The revenue generated from selling fish meal from non-whiting incidental catch is expected to cover the cost of additional observers, making this program essentially revenue neutral for participants.

Catcher-processors now voluntarily carry two observers per vessel, while motherships generally carry one observer. Vessels participating in this voluntary overages retention program may be able to recoup the costs of the second observer through sale of fishmeal made from retained non-whiting groundfish and whiting viscera. The cost to at-sea processors of carrying an additional observer, at \$250 per day for a 17-day season as occurred in 1999, would be \$4,250 per vessel. Training and debriefing costs would require approximately \$1,250 per vessel for the additional individual, bringing the per vessel total to approximately \$5,500.

In 1999, the total of retained and discarded non-whiting groundfish for both catcher-processor and mothership sectors was 1142 mt, 94% of which was discarded. Product recovery rates for processed groundfish taken off Alaska provide a point of comparison for the expected fish meal product recovery rate from rockfish and other groundfish. At 50 CFR 679, Table 3, NMFS provides a 0.17 product recovery rate for fish meal from groundfish. Under this program, fish meal would be produced from incidentally-caught non-whiting groundfish and discarded whiting. In 1999, 985 mt of whiting was discarded, but that figure

includes whiting processing waste as well as whole whiting of a size unsuitable for processing. Because observer data does not differentiate between whole discarded whiting and whiting waste, the fish meal product recovery rate could not be usefully applied to whiting discards. Thus, revenues realized from processing non-whiting groundfish into fish meal would be modestly supplemented by unquantifiable revenues from whiting discard and waste processed into fish meal.

At 1999 rates of 1142 mt of non-whiting retained and incidental catch, and a product recovery ratio of 0.17, approximately 194 mt of fish meal could have been produced for sale. Fish meal is usually exported for foreign markets, with prices per metric ton varying by importing country. Based on total exports, fish meal prices in 1999 were about \$590 per metric ton (NMFS FTI, 2000). Depending on where the fish meal generated by this program is sold, 194 mt of fish meal could be expected to generate about \$114,460 for the fleet. Six catcher-processors and six motherships participated in the 1999 whiting fisheries, setting the expected per vessel revenue from this program at about \$9,540. While observer costs per vessel are relatively fixed, revenue generated by this program would vary between vessels according to the rates at which they intercept non-whiting groundfish. On the whole, however, it appears that this program would cover the per vessel cost of carrying an additional observer without generating revenues high enough to give at-sea fleet participants an incentive to target non-whiting groundfish.

Vessels participating in this program would also have the option of donating non-whiting incidental catch to charitable organizations. If a vessel were to donate its non-whiting trip limit overages to food banks under this program, it would not recover the cost of the additional observer needed to participate. Some at-sea processing vessels also may not be equipped to process non-whiting groundfish into fillets and other useable forms, and food banks may be reluctant to accept donations of whole fish. In 1999, 99% (by volume) of the total groundfish catch of non-tribal motherships and catcher-processors was whiting. It may not be efficient for an at-sea processor to reserve on-board space and time to process 1% of its catch. However, vessels that participate in a food bank donation program likely have reasons other than efficiency for their participation.

Issue 4 For Issue 4, all of the alternatives, including status quo, will have some economic effect. Given that these alternatives are frameworking variations, it would be difficult to provide a quantitative assessment of the expected economic effects of each alternative. Nonetheless, some qualitative conclusions may be made about how the preferred alternative could affect the fisheries.

For the 2000 fisheries, the Council asked NMFS to take some emergency regulatory actions to allow more flexibility in the annual management measures process. In general, those emergency measures were needed because the status quo framework was not flexible enough for the Council to provide adequate protection for overfished and depleted species while also allowing fisheries access to healthy stocks. Even with this flexibility, some amounts of healthy stocks will not be fully harvested because their harvest will be constrained by regulations designed to protect co-occurring overfished species. Management measures to protect overfished and depleted species were drastic enough in 2000 to induce the governors of California, Oregon, and Washington to ask that the Secretary of Commerce declare the West Coast groundfish fishery a federal disaster. The management flexibility provided by the emergency measures allowed the Council to protect overfished and depleted species without also severely constraining fishing on healthy and abundant stocks.

The preferred alternative under Issue 4 would build annual management measures flexibility into the FMP for the purpose of providing protection to overfished and depleted species. This increased flexibility will allow the Council to craft management measures that protect stocks through fishery- and gear-specific regulations for both protected species and species that associate with protected species. Increased flexibility will also allow sustainable harvest of healthy stocks. In general, a future of more flexible management under the preferred alternative is expected to be more economically positive than under status quo.

Table 5: RIR Tests of "Significant Regulatory Actions"

E.O. 12866 test of "significant regulatory actions"	Issue 1	Issue 2	Issue 3	Issue 4	Issue 5
Have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs or the environment, public health or safety, or State, local, or tribal governments or communities?	NO	NO	NO	NO	NO
Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency?	NO	NO	NO	NO	NO
Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof?	NO	NO	NO	NO	NO
Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in E.O. 12866?	NO	NO	NO	NO	NO

6.2 Small Business/Entity Issues

The Regulatory Flexibility Act (RFA) requires government agencies to assess the effects that various regulatory alternatives would have on small entities, including small businesses, and to determine ways to minimize those effects. A fish-harvesting business is considered a "small" business by the Small Business Administration (SBA) if it has annual receipts not in excess of \$3.0 million. For related fish-processing businesses, a small business is one that employs 500 or fewer persons. For marinas and charter/party boats, a small business is one with annual receipts not in excess of \$5.0 million. While there are some fishing vessels and processors operating in the West Coast groundfish fisheries that would not be considered small businesses, the vast majority of groundfish fishery participants are considered small businesses under SBA standards.

If the Council adopts Amendment 13 with the preferred alternatives discussed above, many of the regulatory changes taken under the amendment would be frameworking changes. Issue 1, definition of the term "bycatch," is expected to have no effect on small businesses. Issue 2, where the preferred alternative is for a framework to set up an observer program once funds become available, has been discussed for its potential effects on small businesses at the EA/RIR/IRFA for an observer program for catcher vessels in the groundfish fishery (NMFS, May 2000.) The Council's preferred alternative under Issue 2 was chosen primarily because it has significantly lower potential negative economic effects than an observer program paid for by the fishing fleet,

Of the regulatory actions that could evolve from adoption of Amendment 13, the management change that could be adopted most quickly would be the increased utilization program for the at-sea whiting fishery described under Issue 3. This program would primarily affect catcher/processors and motherships, which do not qualify as small businesses. Additionally, the program is expected to have either neutral or slightly positive economic effects for participants (describe above at the RIR) and positive environmental effects. Because the whiting resource has been allocated between three different non-tribal sectors (catcher/processors, motherships receiving catcher boat deliveries, shorebased processing plants) providing increased flexibility for these large businesses is not expected to place small businesses in the whiting fishery (most catcher boats, some shoreside processing plants) at a disadvantage relative to the larger businesses.

As discussed above under Issue 3, the preferred alternative could also include a future program of increased utilization for the shore-based non-whiting groundfish trip limit fishery. This program would need analysis

and development in the Council forum beyond Amendment 13, however it is worth noting here that such a program could have both positive and negative economic effects on small businesses. Although the structure of the increased utilization program would shape the effects of the program on small businesses, it is reasonable to expect that such a program would encourage vessels to exceed landings limits so that they could be assured of fully achieving those limits. Any landings limit overages would not provide revenue for the catcher vessel, but would be deducted from that year's ABC for the species landed. The quantity of incidental catch would likely increase under this program because vessels would be targeting beyond landings limits rather than at landings limits, but unlike the current system, that incidental catch would be monitored and processed. Increased incidental catch monitoring is certainly better for the resource, but landed limit overages would have to be deducted from either assumed bycatch set-asides or from landed catch allocations, perhaps both. Higher incidental catch levels coupled with direct bycatch deduction from either bycatch set-asides and/or landed catch allocations would have the effect of the fishery as a whole using the available resources more quickly during the fishing year. Thus, one of the hazards of this program would be the potential effects on small businesses of a shortened fishing season without higher landings limits or a mid-year season closure.

In addition to the increased utilization programs proposed under Issue 3, the FMP could also be amended to allow: shorter fishing seasons and higher cumulative landings limits; permit stacking; gear modification requirements; catch allocation to, or gear flexibility for, gear types with lower bycatch rates; re-examination and improvement of species-to-species landings limit ratios; and, time/area closures. Potential economic effects of each of these management changes are discussed above in the EA at section 4.3. These are FMP framework changes, which means that the Council will have to draft more detailed change to the management structure in order to implement any of these programs. If these programs are implemented at some later time, analysis specific to the design of the management changes would provide more detailed information on the economic effects of those changes on the fisheries.

Similarly, all of the alternatives for Issue 4 provide some measure of flexibility in the framework for the process to set annual management measures. The Council has been using this framework process for several years, and provides economic analysis during its development of annual management measures, and an EA/RIR for implementation of those measures. As discussed above in section 4.4, setting annual management measures is a balancing exercise in which the Council meets its requirements to protect overfished and depleted species, yet allows fishery access to healthy stocks. In general, increasing the flexibility in this framework process, as proposed under the preferred alternative for this issue, allows the Council to craft management measures that protect fish stocks while mitigating the economic effects of that protection.

Issue 5, which would remove unused limited entry permit endorsements from the FMP, would have no economic effect on small businesses. Either Alternative 2 or 3 would relieve a minor reporting requirement for limited entry vessels that annually reply to the NMFS survey on underutilized species.

Characteristics of the groundfish industry are provided above in Section 3.2. Details on fisheries contributions to the economic well-being of coastal communities is provided in the Council's draft "Community Descriptions" document. Further characterization of the degree to which groundfish fleet participants depend on groundfish resources and are affected by changes to groundfish regulations is provided in the following tables and figures. Distributions of participating vessels by revenue categories are provided above in Tables 3 and 4, above. Tables 6 and 7 show the number and percentage of West Coast groundfish vessels that are dependent on groundfish for a certain percentage of their total revenues from West Coast fish landings. The figures at the bottom of Table 7, show that limited entry trawlers rely most heavily on groundfish, at 59% of their total West Coast revenues being derived from groundfish, followed by limited entry nontrawl vessels at 49%, and open access vessels at 35%. Figures 1 and 2 compare this reliance on groundfish revenues for the three fleets, coastwide. Comparing the tables to the figures provides state- and fleet-specific fishery information. For example, California open access vessels seem to make up a large portion of the open access vessels that are dependent upon groundfish for a significant portion of their income. And, although the number of Washington vessels is small, the limited entry trawl and nontrawl fleets in Washington rely on groundfish to make up a very significant (87% nontrawl, 96% trawl) portion of total fishing revenues.

Table 6: NUMBER of Vessels With Some 1999 Groundfish Revenue, Grouped by the Percentage of Total 1999 Revenue Derived from Groundfish (by principal groundfish state and fleet)

	Percentage of Total Revenue Derived From Groundfish					
	<5%	5-10%	10-25%	25-50%	50-75%	75-100%
WASHINGTON:						
Limited Entry						
Trawl	0	0	0	0	1	24
Non-trawl	2	0	1	3	2	52
Open Access	54	9	3	2	2	32
OREGON:						
Limited Entry						
Trawl	1	1	6	16	19	70
Non-trawl	1	0	19	23	5	11
Open Access	195	23	24	17	21	71
CALIFORNIA:						
Limited Entry						
Trawl	5	3	7	19	21	50
Non-trawl	9	4	16	5	10	34
Open Access	366	64	68	71	50	425
COASTWIDE:						
Limited Entry						
Trawl	6	4	13	35	41	144
Non-trawl	12	4	36	31	17	97
Open Access	615	96	95	90	73	528

Note: A vessel having a permit at any time during the year was treated as LE for the year. Any permitted vessel with a trawl endorsement was assigned to the LE trawl group. Only vessels that earned groundfish revenue during 1999 were included. Catch from vessels landed in multiple states was attributed to the state in which the groundfish revenue was greatest.

Table 7: PERCENTAGE of Vessels in Each Fleet With Some 1999 Groundfish Revenue, Grouped by the Percentage of Total 1999 Revenue Derived from Groundfish (by principal groundfish state and fleet)

	Percentage of Total Revenue Derived From Groundfish					
	<5%	5-10%	10-25%	25-50%	50-75%	75-100%
WASHINGTON:						
Limited Entry						
Trawl	0%	0%	0%	0%	4%	96%
Non-trawl	3%	0%	2%	5%	3%	87%
Open Access	53%	9%	3%	2%	2%	31%
OREGON:						
Limited Entry						
Trawl	1%	1%	5%	14%	17%	62%
Non-trawl	2%	0%	32%	39%	8%	19%
Open Access	56%	7%	7%	5%	6%	20%
CALIFORNIA:						
Limited Entry						
Trawl	5%	3%	7%	18%	20%	48%
Non-trawl	12%	5%	21%	6%	13%	44%
Open Access	35%	6%	7%	7%	5%	41%
COASTWIDE:						
Limited Entry						
Trawl	2%	2%	5%	14%	17%	59%
Non-trawl	6%	2%	18%	16%	9%	49%
Open Access	41%	6%	6%	6%	5%	35%

Note: A vessel having a permit at any time during the year was treated as LE for the year. Any permitted vessel with a trawl endorsement was assigned to the LE trawl group. Only vessels that earned groundfish revenue during 1999 were included.

Figure 1: Number of West Coast Vessels (by Fleet) Deriving Some Portion of Total West Coast Revenue from Groundfish

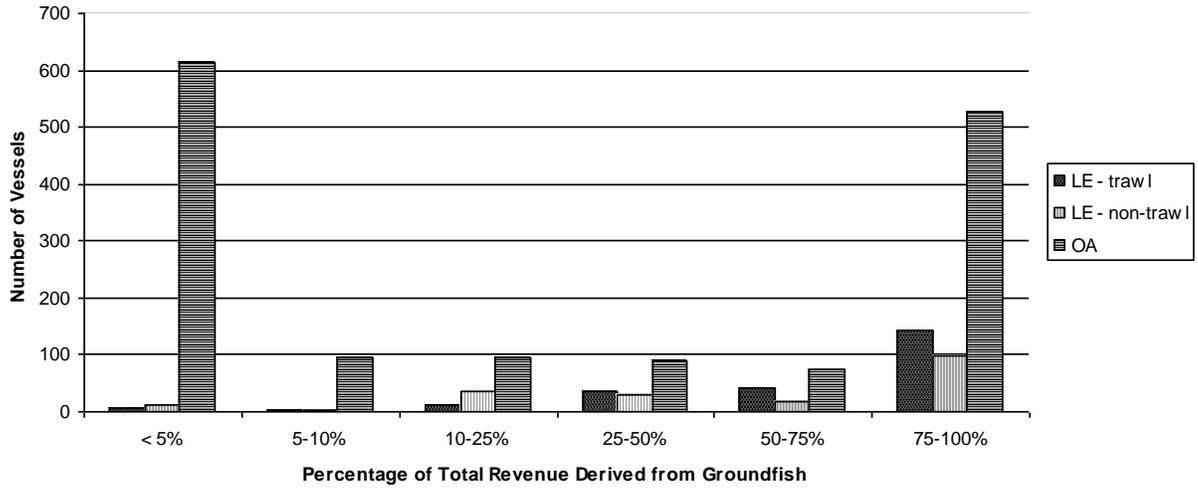
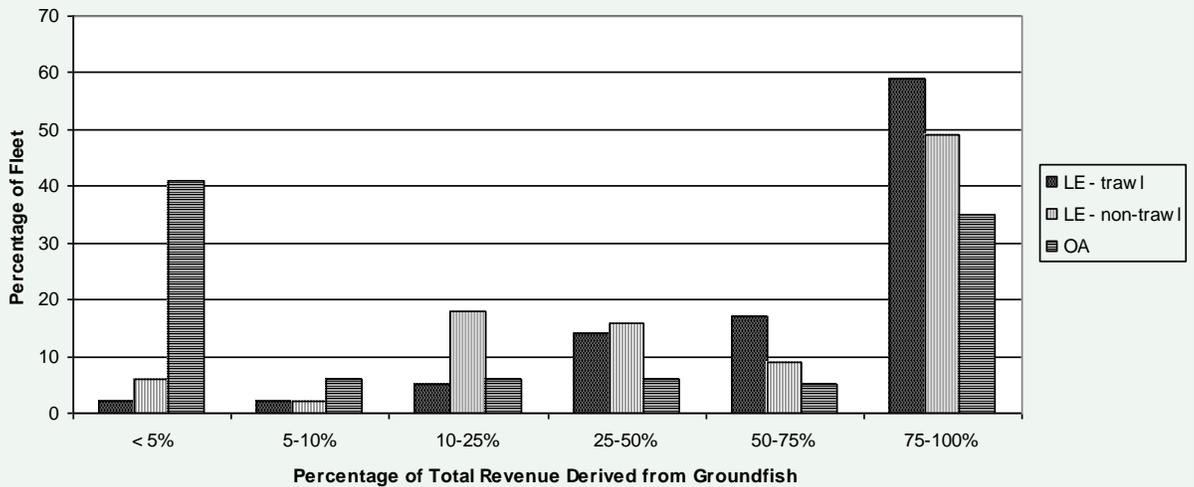


Figure 2: Percentage of West Coast Vessels (by Fleet) Deriving Some Portion of Total West Coast Revenue from Groundfish



7.0 CONCLUSIONS OR FINDING OF NO SIGNIFICANT IMPACT

Under the preferred alternatives, Amendment 13 would: 1) revise the FMP's definition of the term, "bycatch;" 2) establish a regulatory framework for an observer program in the shore-based groundfish fishery, to be implemented as soon as funds become available; 3) reduce bycatch and bycatch rates through increased utilization and other management changes; 4) increase flexibility in the annual management measures process; and 5) remove unused limited entry permit endorsements from the FMP. Preferred alternatives for Issues 1-3 would bring the FMP into compliance with Magnuson-Stevens bycatch provisions. Addressing Issue 4 would help the Council to meet its rebuilding requirements for overfished and depleted species while still allowing fisheries access to those species. Issue 5 is a housekeeping measure to removed unused portions of the FMP.

Based on the biological, physical and socio-economic effects of the preferred alternatives for each of the issues that have been assessed in this document, it has been determined that implementation of the preferred alternatives would not significantly affect the quality of the human environment. Therefore, the preparation of an environmental impact statement for the proposed action is not required by Section 102 (2) (C) of the National Environmental Policy Act or its implementing regulations.

Assistant Administrator for Fisheries, NOAA
Date

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FMP AMENDMENT LANGUAGE – AMENDMENT 13

Draft amending language is in bold; text to be removed has been crossed-out.

2.0 GOALS AND OBJECTIVES

2.1 Goals and Objectives for Managing the Pacific Coast Groundfish Fishery

The Council is committed to developing long-range plans for managing the Washington, Oregon, and California groundfish fisheries that will promote a stable planning environment for the seafood industry, including marine recreation interests, and will maintain the health of the resource and environment. In developing allocation and harvesting systems, the Council will give consideration to maximizing economic benefits to the United States, consistent with resource stewardship responsibilities for the continuing welfare of the living marine resources. Thus, management must be flexible enough to meet changing social and economic needs of the fishery as well as to address fluctuations in the marine resources supporting the fishery. The following goals have been established in order of priority for managing the West Coast groundfish fisheries, to be considered in conjunction with the national standards of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act).

* * * * *

Utilization.

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Objective 11. Strive to reduce the economic incentives and regulatory measures that lead to wastage of fish. **Develop management measures that minimize bycatch to the extent practicable and, to the extent that bycatch cannot be avoided, minimize the mortality of such bycatch. Promote and support monitoring programs to improve estimates of total fishing-related mortality and bycatch, as well as those to improve other information necessary to determine the extent to which it is practicable to reduce bycatch and bycatch mortality.**

2.2 Operational Definition of Terms

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Bycatch means fish which are harvested in a fishery, but which are not sold or kept for personal use and includes economic discards and regulatory discards. **Such term does not include fish released alive under a recreational catch and release fishery management program.**

* * * * *

5.1 SAFE Document

For the purpose of providing the best available scientific information to the Council for evaluating the status of the fisheries relative to the MSY and overfishing definition, developing ABCs, determining the need for individual species or species group management, setting and adjusting numerical harvest levels, assessing social and economic conditions in the fishery, and updating the appendices of this fishery management plan (FMP); a SAFE document is prepared annually. Not all species and species groups can be reevaluated every year due to limited state and federal resources. However, the SAFE document will in general contain the following information:

1. A report on the current status of Washington, Oregon, and California groundfish resources by major species or species group.

2. Specify and update estimates of harvest control rule parameters for those species or species groups for which information is available.
3. Estimates of MSY and ABC for major species or species groups.
4. Catch statistics (landings and value) for commercial, recreational, and charter sectors.
5. Recommendations of species or species groups for individual management by OYs.
6. A brief history of the harvesting sector of the fishery, including recreational sectors.
7. A brief history of regional groundfish management.
8. A summary of the most recent economic information available, including number of vessels and economic characteristics by gear type.
9. Other relevant biological, social, economic, ecological, and essential fish habitat information which may be useful to the Council.
10. A description of any rebuilding plans currently in effect, a summary of the information relevant to the rebuilding plans, and any management measures proposed or currently in effect to achieve rebuilding plan goals and objectives.
11. **A list of annual specifications and management measures that have been designated as routine under processes described in the FMP at Section 6.2.**

The preliminary SAFE document is normally completed late in the year, generally late October, when the most current stock assessment and fisheries performance information is available and prior to the meeting at which the Council approves its final management recommendations for the upcoming year. The Council will make the SAFE document available to the public by such means as mailing lists or newsletters and will provide copies upon request. A final SAFE may be prepared after the Council has made its final recommendations for the upcoming year and would include the final recommendations, including summaries of proposed and pre-existing rebuilding plans. The final SAFE document, if prepared, would also be made available upon request.

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6.2 General Procedures for Establishing and Adjusting Management Measures * * * * *

A. Automatic Actions * * * * *

B. "Notice" Actions Requiring at Least One Council Meeting and One *Federal Register* Notice - These include all management actions other than "automatic" actions that are either nondiscretionary or for which the scope of probable impacts has been previously analyzed.

These actions are intended to have temporary effect, and the expectation is that they will need frequent adjustment. They may be recommended at a single Council meeting (usually November), although the Council will provide as much advance information to the public as possible concerning the issues it will be considering at its decision meeting. The primary examples are those management actions defined as "routine" according to the criteria in Section 6.2.1. ~~These include trip landing and frequency limits for all gear types for widow rockfish, sablefish (including size limits), Pacific ocean perch, the Sebastes complex, nontrawl year-end trip limits for sablefish, and recreational bag limits for rockfish and lingcod.~~ **These include trip landing and frequency limits and size limits for all commercial gear types and closed seasons for any groundfish species in cases where protection of an overfished or depleted stock is required, and bag limits, size limits, time/area closures, boat limits, hook limits, and dressing requirements for all recreational fisheries.** Previous analysis must have been specific as to species and gear type before a management measure can be defined as "routine" and acted upon at a single Council meeting. If the recommendations are approved, the Secretary will waive for good cause the requirement for prior notice and comment in the *Federal Register* and will publish a single "notice" in the *Federal Register* making the action effective. This category of actions presumes the Secretary will find that the extensive notice and opportunity for comment on these types of measures along with the scope of

their impacts already provided by the Council will serve as good cause to waive the need for additional prior notice and comment in the *Federal Register*.

C. Abbreviated Rulemaking Actions Normally Requiring at Least Two Council Meetings and One *Federal Register* "Rule" or "Notice" - These include ~~all management actions~~ (1) **management actions** being classified as "routine", (2) **trip limits that vary by gear type, closed seasons or areas, and in the recreational fishery, bag limits, size limits, time/area closures, boat limits, hook limits, and dressing requirements the first time these measures are used or** (2 3) **management measures that** are intended to have permanent effect and are discretionary, and for which the impacts have not been previously analyzed. Examples include changes to or imposition of gear regulations, or imposition of **landings limits, frequency limits, or limits that are differential by gear type, or closed areas or seasons** for the first time on any species or species group, or gear type. The Council will develop and analyze the proposed management actions over the span of at least two Council meetings (usually September and November) and provide the public advance notice and opportunity to comment on both the proposals and the analysis prior to and at the second Council meeting. If the Regional Administrator approves the Council's recommendation, the Secretary will waive for good cause the requirement for prior notice and comment in the *Federal Register* and publish a "final rule" **or "notice"** in the *Federal Register* which will remain in effect until amended. If a management measure is designated as "routine" by "~~final rule~~" under this procedure, specific adjustments of that measure can subsequently be announced in the *Federal Register* by "notice" as described in the previous paragraphs. Nothing in this section prevents the Secretary from exercising the right not to waive the opportunity for prior notice and comment in the *Federal Register*, if appropriate, but presumes the Council process will adequately satisfy that requirement.

The primary purpose of the previous two categories of abbreviated notice and rulemaking procedures is to accommodate the Council's September-November meeting schedule for developing annual management recommendations, to satisfy the Secretary's responsibilities under the Administrative Procedures Act, and to address the need to implement management measures by January 1 of each fishing year.

It should be noted the two Council meeting process refers to two decision meetings. The first meeting to develop proposed management measures and their alternatives, the second meeting to make a final recommendation to the Secretary. For the Council to have adequate information to identify proposed management measures for public comment at the first meeting, the identification of issues and the development of proposals normally must begin at a prior Council meeting, usually the **July June** Council meeting.

D. Full Rulemaking Actions Normally Requiring at Least Two Council Meetings and Two *Federal Register* Rules (Regulatory Amendment) * * * * *

6.2.1 Routine Management Measures

"Routine" management measures are those the Council determines are likely to be adjusted on an annual or more frequent basis. Measures are classified as "routine" by the Council through either the full or abbreviated rulemaking process (C. or D. above). In order for a measure to be classified as "routine", the Council will determine that the measure is **appropriate of the type normally used** to address the issue at hand and may require further adjustment to achieve its purpose with accuracy.

As in the case of all proposed management measures, prior to initial implementation as "routine" measures, the Council will analyze the need for the measures, their impacts, and the rationale for their use. Once a management measure has been classified as "routine" through one of the two rulemaking procedures outlined above, it may be modified thereafter through the single meeting "notice" procedure (B. above) only if (1) the modification is proposed for the same purpose as the original measure, and (2) the impacts of the modification are within the scope of the impacts analyzed when the measure was originally classified as "routine." The analysis of impacts need not be repeated when the measure is subsequently modified if the Council determines that they do not differ substantially from those contained in the original analysis. The Council may also recommend removing a "routine" classification.

Experience gained from management of the Pacific coast groundfish fishery indicates that certain measures usually require modification on a frequent basis to ensure that they meet their stated purpose

with accuracy. ~~These measures are commercial trip landing limits and trip frequency limits, including landing frequency and notification requirements and recreational bag limits as they have been applied to specific species, species groups, sizes of fish, and gear types.~~ **For commercial fisheries, these measures are trip landing limits and trip frequency limits, including cumulative limits, and notification requirements.** Their purpose in application to the commercial fishery has consistently been either to stretch the duration of the fishery so as not to disturb traditional fishing and marketing patterns, to reduce discards and wastage, or to discourage targeted fishing while allowing small incidental catches when attainment of a harvest guideline or quota is imminent. **In cases where protection of an overfished or depleted stock is required, the Council may impose limits that differ by gear type, or establish closed areas or seasons.** These latter two measures have not historically been imposed through the annual management cycle because of their allocative implications, however, this additional flexibility has become necessary to allow the harvest of healthy stocks as much as possible while protecting and rebuilding overfished and depleted stocks, and equitably distributing the burdens of rebuilding among sectors. The first time a differential trip limit or closed season is to be imposed in a fishery it must be imposed during the annual management cycle (with the required analysis and opportunity for public comment,) and subsequently may be modified inseason through the routine adjustment process.

For recreational fisheries, bag limits, size limits, time/area closures, boat limits, hook limits, and dressing requirements may be applied to specific species, species groups, sizes of fish and gear types. For the recreational fishery, bag and size limits have been imposed to spread the available catch over a large number of anglers, to avoid waste, and to provide consistency with state regulations.

Routine management measures are also often necessary to meet the varied and interwoven mandates of the Magnuson-Stevens Act and FMP through: achieving the overfished species rebuilding plans, reducing bycatch, preventing overfishing, allowing the harvest of healthy stocks as much as possible while protecting and rebuilding overfished and depleted stocks, and equitably distributing the burdens of rebuilding among the sectors.

~~As of October 1998, the measures listed below by species and gear type had been classified as "routine" measures through the rulemaking process. Recreational bag and size limits have also been designated as "routine."~~

The following measures were classified as routine measures through [insert date of Amendment 13 approval]:

Limited Entry Trip Landing and Frequency Limits

Widow rockfish - all gear
Sebastes complex - all gear
Yellowtail rockfish - all gear
Canary rockfish - all gear
Bocaccio - all gear
Pacific ocean perch - all gear
Sablefish (including size limits) - all gear
Dover sole - all gear
Thornyhead rockfish (separately or combined) - all gear
Pacific whiting - all gear
Lingcod (including size limits) - all gear

Open Access Trip Landing and Frequency Limits

All groundfish species, separately or in any combination - all gear types

All Commercial Fisheries, All Gear Types: In cases where protection of an overfished or depleted stock is required, trip limits may differ by gear type, and time/area closures may be established.

Recreational Bag and Size Limits

Lingcod
Rockfish

All Recreational Fisheries, All Gear Types: For all groundfish species separately or in any combination, bag limits, size limits, time/area closures, boat limits, hook limits, and dressing requirements. The first time one of these measures is imposed in the fishery, it must be imposed during the annual autumn management cycle.

Any measure designated as "routine" for one specific species, species group, or gear type may not be treated as "routine" for a different species, species group, or gear type without first having been classified as "routine" through the rulemaking process. **Each year the annual SAFE document will list all measures that have been designated as routine.**

The Council will conduct a continuing review of landings of those species for which harvest guidelines, quotas, optimum yields (OYs) or specific "routine" management measures have been implemented and will make projections of the landings at various times throughout the year. If in the course of this review it becomes apparent the rate of landings is substantially different than anticipated and that the current "routine" management measures will not achieve the annual management objectives, the Council may recommend inseason adjustments to those measures. Such adjustments may be implemented through the single meeting "notice" procedure.

6.3 Bycatch Management

6.3.1 Bycatch of Nongroundfish Species * * * * *

6.3.2 Standardized Reporting Methodologies

Bycatch and discard survival data, information to assess the effects of bycatch and discard on managed populations and the ecosystem, and data on the socio-economic effects of alternative management measures to reduce bycatch are limited. Due to these limitations, precise estimates of bycatch, bycatch mortality, or associated effects of alternative conservation and management measures in the groundfish fishery are not possible.

Improving estimates for information on total fishing mortality is essential. Sources of this information may include at-sea observer programs, dockside sampling programs, and new technology to monitor fishing activities and catch, as well as better use of industry-reported catch and discard information. Timely summaries of the amount and type of bycatch for each fishery should be collated in annual *Stock Assessment and Fishery Evaluation (SAFE)* reports.

6.3.3 Measures to Control Bycatch

Bycatch and discard create unquantified problems for the groundfish fishery. Solving these problems requires both knowing how much bycatch mortality occurs, and setting management measures to reduce that mortality. Bycatch and bycatch mortality can be measured through observer programs (see below at 6.5.1.2) and through other means. Once it initiates programs to measure bycatch, the Council can better identify and prioritize the bycatch problems in the groundfish fishery, based on the expected benefits to the U.S. and on the practicality of addressing these problems. The Council will develop measures to reduce bycatch and bycatch mortality in accordance with the points of concern or the socioeconomic framework provisions of the FMP. These measures may include but are not limited to:

- Full retention or increased utilization programs
- Setting a shorter-than-year-round fishing season in combination with higher cumulative landings limits

- **Allowing permit stacking in the limited entry fleet**
- **Gear modification requirements**
- **Catch allocation to, or gear flexibility for, gear types with lower bycatch rates**
- **Re-examining/improving species-to-species landings limit ratios**
- **Time/area closures**

6.4 Recreational Catch and Release Management

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6.5 Other Management Measures

6.5.1 Generic

6.5.1.1 Permits * * * * *

6.5.1.2 Observers

All fishing vessels operating in this management unit including catcher/processors, at-sea processors, and those vessels which harvest in the Washington, Oregon, and California area and land in another area, may be required to accommodate **an observer or video-monitoring system for the purpose of collecting scientific data or verifying landings and discard used for scientific data collection.** ~~NMFS-certified, onboard observers for the purposes of collecting scientific data.~~ An observer program or video-monitoring system will be considered only for circumstances where other data collection methods are deemed insufficient for management of the fishery. Implementation of any observer program will be in accordance with appropriate federal procedures including economic analysis and public comment.

The Regional Administrator may implement an observer program through a Council-approved federal regulatory framework. Details of how observer coverage will be distributed across the West Coast groundfish fleet will be described in an observer coverage plan. NMFS will publish an announcement of the authorization of the observer program and description of the observer coverage plan in the *Federal Register*.

There may be a priority need for observers on at-sea processing vessels to collect data normally collected at shore based processing plants. Certain information for management of the fishery can be obtained from logbooks and other reporting requirements, but the collection of some types of data would be too onerous for some fishermen to collect. Processing vessels must be willing to accommodate onboard observers and may be required to provide the ~~NMFS-certified~~ **required** observers prior to issuance of any required federal permits.

Observers are required on foreign vessels operating in the Exclusive Economic Zone (EEZ) according to the Magnuson-Stevens Act.

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14.0 GROUND FISH LIMITED ENTRY

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14.2.4 Ownership Restriction and Changes in Ownership

1. Only entities (human beings, corporations, etc.) qualified to own a U.S. fishing vessel may be issued or may hold (by ownership or otherwise) an LE permit. (Foreign ownership of LE permits should be limited to the maximum degree possible given what is allowed under the law.)
2. Ownership of a permit will be considered to change when there is an ownership change on U.S. Coast Guard documents, however, an owner can submit documents to demonstrate that the controlling interest has not changed and therefore the change in documentation is not a change in ownership.

3. **An entity qualified to hold an LE permit may hold more than one LE permit. If the Council authorizes a LE permit stacking program, in which a vessel could use multiple permits simultaneously, each LE fishery participant would be required to hold at least one LE "base" permit. An LE base permit is the initial permit necessary to participate in the LE fishery, and subject to all of the requirements described herein for LE permit ownership qualifications, and gear and length endorsements. Requirements and additional privileges for permits "stacked" on to base permits may be authorized in a federal rulemaking.**

14.2.5 Gear Endorsements

1. An LE permit confers no rights without a valid gear endorsement attached.

2. **Either:**

As of Amendment 13 to the FMP, there is only one functioning type of endorsement, the "A" endorsement. With Amendment 13, the provisional "A" endorsement, the "B" endorsement, and the designated species "B" endorsements were removed as expired or defunct.

OR

As of Amendment 13 to the FMP, there are two functioning types of endorsements, the "A" endorsement and the provisional "A" endorsement. With Amendment 13, the "B" endorsement, and the designated species "B" endorsements were removed as expired or defunct.

~~There are four types of gear endorsements: "A" endorsements, provisional "A" endorsements, "B" endorsements and designated species "B" endorsements.~~

3. Gear endorsements will be affixed to the LE permit and specify type of limited entry gear which may be used to catch Council-managed groundfish.
4. A gear endorsement for a particular gear authorizes the catch of all Council-managed groundfish species with that gear, except in the case of ~~the designated species "B" gear endorsements and for~~ fishing for which a fixed gear sablefish endorsement is required (see Section 14.2.6). ~~Designated species "B" gear endorsements authorize catch of only the designated species specified in the endorsement and bycatch as specified for the joint venture fishery for that species.~~ Limited entry vessels using longline and fishpot gear to catch sablefish against the limited entry quota north of 36°N latitude are required to hold fixed gear sablefish endorsements during periods specified in the regulations, in addition to the required gear endorsement.
5. More than one gear endorsement may be affixed to a single LE permit.
6. An LE permit will not allow the use of limited entry gears to catch any Council-managed groundfish unless a valid gear endorsement for the specific gear is affixed to the LE permit. Trawl gear and Council-managed groundfish may not be on board a vessel at the same time, nor may the gear be deployed, without an LE permit registered for the vessel and endorsed for trawl gear. If a vessel has longline or fishpot gear on board, an LE permit registered for the vessel and the permit is endorsed for the gear on board, regulations for the limited access fishery will apply.
7. Depending on the type of gear endorsement (see Section 14.3 on the specific type of gear endorsements):
 - a. the period for which the gear endorsement is valid may be limited, and

- b. the gear endorsement may or may not remain valid when the LE permit is transferred.^{1/}
- 8. Gear endorsements are not separable from the LE permit and therefore may not be transferred separately from the LE permit.^{1/}
- 9. Limitations which apply to a given gear endorsement shall not restrict the use of any other gear endorsement on the same LE permit.
- 10. Rules on the issuance of gear endorsements and other characteristics of the gear endorsements are specified under sections on each type of gear endorsement (see Section 14.3).

14.2.7 Size Endorsement Will Specify the Vessel Length

The LE **base** permit will be endorsed with the length overall (as defined for purposes of U.S. Coast Guard documentation) of the vessel for which the LE permit is initially issued. The length for which the LE permit is endorsed will be changed only when LE permits are combined, as per Section 14.2.10, or, in the case of LE permits endorsed for trawl gear, when the size of the vessel used with the permit is more than five feet less than the originally endorsed length. In the latter case, the LE permit will be reissued with a size endorsement for the length of the smaller vessel. Vessels which do not have documents stating their length overall will have to be measured by a marine surveyor or the U.S. Coast Guard and certified for that length.^{1/}

If the Council establishes a permit stacking program, that program may or may not require that permits stacked on top of the base LE permit be endorsed with the length overall of the vessel holding the permits.

14.2.8 An LE Permit and Necessary Gear Endorsements Will Be Held by the Owner of Record of the Vessel

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14.2.9 Transfer of an LE Permit to Different Owners or Vessels of the Same Owner

- 1. LE permits may be transferred to other owners for use with other vessels or used with other vessels under the same ownership, but will continue to be restricted by size and gear endorsements **unless otherwise designated through a permit stacking program.**
- 2. Whenever an owner wishes to transfer an LE permit to a different owner or use an LE permit with a different vessel under the same ownership, the NMFS issuing authority must be notified of the change. Notification is not complete until acknowledged in writing by NMFS.

1/ Unless otherwise noted:

- a. Transferable means separable from the vessel owner and vessel.
 - b. LE permit transferability, with respect to an owner, means the LE permit may be transferred, inherited, sold, bartered, traded, given or otherwise alienated from the LE permit owner.
 - c. LE permit transferability, with respect to a vessel, means the LE permit may be registered for use with a different vessel.
- 2/ The intent of this provision is to not allow the fishing capacity to expand by separate transfer of endorsements which might otherwise go unused.
 - 3/ While not an immediate cap on vessel capacity, the size endorsement places an upward limit on the amount by which the capacity used with an LE permit may increase.

3. LE **base** permits may be used with vessels greater in length than the endorsed length provided the increase does not exceed five feet of the endorsed length. Original size endorsements will change only when LE permits are combined as per Section 14.2.10,^{1/} or when an LE permit with a trawl endorsement is transferred to a vessel five feet less in length than the endorsed length. In the latter case, the LE permit will be reissued with a size endorsement for the length of the smaller vessel.
4. The transfer of LE permits between vessels or owners may not be used to circumvent vessel landing limits.
5. When an LE permit is transferred to a different owner or vessel, provisional "A", "B" and designated species "B" gear endorsements will become invalid, unless the transfer is caused by the total loss of a vessel (as per Section 14.2.9) and ownership of the LE permit is not transferred.

14.2.10 Loss of a Vessel

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14.2.11 Combining LE Permits

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14.2.12 Permit Renewal

* * * * *

14.3 Multilevel Gear Endorsement System

This section contains a description of the characteristics specific to each type of gear endorsement. Gear endorsements may not be transferred separate from the LE permit to which they are affixed. An LE permit confers no rights without a valid gear endorsement attached. These and other general characteristics of all gear endorsements are described in Section 14.2.5.

14.3.1 "A" Gear Endorsement

* * * * *

14.3.2 Provisional "A" Gear Endorsement^{17/} *****This endorsement may or may not be removed with Amendment 13 to the FMP. If it is NOT removed, it may be amended as indicated below.*****

14.3.2.1 Overview of the Provisional "A" Endorsement

The provisional "A" endorsement is intended for: ~~(1) the vessel owner who, during the window period, was preparing through construction, conversion or purchase to use a vessel with limited entry gear in the West Coast groundfish fisheries; (2) the owner of a replacement vessel who would otherwise receive an "A" endorsement on an LE permit endorsed for a smaller sized replaced vessel when the replacement has occurred prior to September 30, 1990; and (3) owners of a vessel landing sufficient groundfish during the window but using a gear type which has been prohibited by a state (Washington, Oregon or California) or the Secretary of Commerce subsequent to the window period.~~ The purpose of the provisional "A" endorsement is to require the owner demonstrate, by actual catching activity, intent to participate in the West Coast groundfish fisheries with the vessel and limited entry gear. When intent has been

4/ Allowance for a slight length increase over the endorsed length is made to provide flexibility in replacing vessels.

17/ ~~If this type of endorsement were not provided, vessels constructed, converted or purchased during the window destined for any fishery in the U.S. could qualify the owner for an "A" endorsement in the West Coast groundfish fishery. The owner could then sell the permit for use with another vessel in the groundfish fishery and never participate in the fishery. Therefore, demonstration of intent through a period of substantial participation in the fishery is required before an "A" endorsement is issued. Opportunity to demonstrate this intent is afforded through the provisional "A" endorsement.~~

demonstrated (as per Section 14.3.2.4), the provisional "A" endorsement may be upgraded to an "A" endorsement. The provisional "A" endorsement allows the catch of all Council-managed groundfish species, except as noted, with the specified gear; becomes invalid when the LE permit is transferred, except in the case of a lost vessel; and is valid for a maximum of three years.

14.3.2.2 Description, Use and Transferability of the Provisional "A" Endorsement

1. Each provisional "A" endorsement affixed to an LE permit will specify a combination of gear type and vessel that the LE permit may be used (e.g., "Provisional 'A'-Trawl-vessel identification").
2. The vessel identified in the provisional "A" endorsement will be allowed to catch all Council-managed groundfish with the gear specified in the provisional "A" endorsement, except for sablefish harvested north of 36°N latitude during times and with gears for which a fixed gear sablefish endorsement is required.
3. The provisional "A" endorsement will become invalid if the LE permit is transferred to a different owner or vessel, unless the transfer to another vessel is caused by the total loss of a vessel (as per Section 14.2.9) and ownership of the permit does not change.

14.3.2.3 Provisional "A" Endorsement Initial Issuance Criteria

1. A provisional "A" endorsement will be affixed to a vessel's LE permit for each gear that the vessel qualifies for under these provisional "A" endorsement initial issuance criteria.
2. No provisional "A" endorsement will be issued if a vessel has already failed to meet the upgrade criteria (Section 14.3.2.4). If a vessel has already met the upgrade criteria at the time of initial issuance, an "A" endorsement, rather than provisional "A" endorsement, may be issued.
3. ~~A vessel must qualify separately for each gear that a provisional "A" endorsement is requested.~~
 - a. ~~Owners of vessels qualifying for a provisional "A" endorsement under the following construction or conversion criteria for initial issuance must select one gear type for endorsement at application time.~~
 - b. Owners of vessels qualifying for a provisional "A" endorsement under the following prohibited gear criteria for initial issuance may be issued only one provisional "A" endorsement regardless of the number of gears for which the vessel might meet the qualifying requirements.
4. ~~For a vessel to be considered "under conversion," for the purpose of determining provisional "A" endorsement eligibility:~~
 - a. ~~the conversion must have impacted the vessel's ability to meet MLRs;~~
 - b. ~~previous to the conversion, the vessel must not have been structurally capable of fishing for groundfish with the specified limited entry gear, and the conversion must have involved a structural change to the vessel which makes it functionally able to fish for groundfish with the specified gear; and~~
 - c. ~~the amount invested in conversion (including all equipment and gear) must be more than~~
 - (1) ~~25 percent of the appraised value of the converted vessel, or~~

18/ ~~Specifications of the conversion criteria in earlier drafts stated that the purchase of gear alone will not be considered sufficient to establish that a vessel is under conversion. This provision is contained by implication in Criteria b and c. To maintain this intent, any revision to these two criteria should continue to require, by implication, that the purchase of gear alone would not be sufficient to qualify the vessel for conversion provisions.~~

~~(2) \$10,000~~

~~whichever is less, and of which not more than one-fifth of the expenditures may be for gear.^{19/}~~

- ~~d. The NMFS issuing authority may develop additional administrative criteria for determining whether a vessel was under conversion and whether the conversion impacted the vessels ability to meet MLRs. —~~
5. ~~A person who contracted to have a vessel constructed or converted may qualify for a provisional "A" endorsement for the vessel if:—~~
- ~~a. a contract for any part of the work was signed and substantial earnest money was paid (10 percent or more of the value on that contract) prior to August 1, 1988; and~~
- ~~b. the contract for the vessel under construction (or ownership of a vessel under conversion) is not transferred or otherwise alienated from the contract holder between August 1, 1988 and the issuance of the endorsement;^{20/} and~~
- ~~c. construction or conversion had not been completed^{21/} prior to July 11, 1984; and~~
- ~~d. fishing commenced prior to September 30, 1990.~~
6. ~~An owner who constructed or converted a vessel may qualify for a provisional "A" endorsement for the vessel if:—~~
- ~~a. the keel was laid or conversion began prior to August 1, 1988; and~~
- ~~b. vessel ownership is not transferred or otherwise alienated from the owner between August 1, 1988 and issuance of a provisional "A" endorsement; and~~
- ~~c. construction or conversion was not completed prior to July 11, 1984 ; and~~
- ~~d. fishing commenced prior to September 30, 1990.~~
7. ~~A vessel owner who purchased the vessel during the window period and used a limited entry gear to catch and land or deliver Council-managed groundfish but does not meet MLRs for an "A" endorsement may qualify for a provisional "A" endorsement endorsed for the limited entry gear(s) used during the window period, provided ownership of the vessel is not transferred between August 1, 1988 and the issuance of the endorsement.~~
8. ~~An owner of a replacement vessel (i.e., a vessel that replaces, through construction, conversion, purchase or trade, a vessel that would qualify for "A" endorsement) more than five feet longer than the replaced vessel may be issued a provisional endorsement for the length of the replacement vessel if the replacement vessel is in place prior to September 30, 1990. "In place"~~

19/ ~~Gear is defined as anything that is not permanently affixed to the vessel (not welded or bolted). Only expenditures for electronic equipment, which is specifically required for use of the gear in the groundfish fishery, will be included as an expenditure for gear for the purpose of the conversion criteria.~~

20/ ~~The prohibitions against transfer of construction contracts prevents keels laid prior to August 1, 1988 on sales speculation from qualifying purchasers buying after that date.~~

21/ ~~For vessels qualifying under construction provisions, completion is defined as occurring when a landing or delivery of any kind of fish is made anywhere. For vessels qualifying under conversion provisions, completion would occur with the first such landing after vessel conversion began.~~

~~means the owner of the vessel which would have qualified has acquired a replacement vessel and disposed of the replaced vessel (the vessel which would have qualified), while reserving the right to a future LE permit issued on the basis of the history of the replaced vessel. Such a vessel owner must choose between (1) an "A" endorsement on an LE permit with a size endorsement for the replaced vessel or (2) a provisional "A" endorsement on an LE permit with a size endorsement for the replacement vessel. The endorsement would be for the gear(s) that the replaced vessel would have qualified for an "A" endorsement.~~

9. 4. If after the window period a gear is prohibited by a state (Washington, Oregon or California) or the Secretary of Commerce, the owners of such vessels who would not otherwise qualify for an "A" or provisional "A" endorsement may qualify for a provisional "A" endorsement for one of the three limited entry gears subject to the following provisions:
- a. In order to qualify for an endorsement for a particular limited entry gear, the vessel must have used the prohibited gear to make sufficient landings of groundfish during the window period to meet the MLR for the limited entry gear that the endorsement is to be issued (as specified in Section 14.3.1.3 paragraph 4).
 - b. If a vessel would qualify an owner for an endorsement for more than one limited entry gear, the owner must choose from among those gears the type of gear for which the endorsement will be issued.
 - c. No endorsement will be issued if none of the MLRs for limited entry gears were met with the prohibited gear.
 - d. If an "A" or provisional "A" endorsement was previously issued for the vessel and the endorsement was subsequently transferred or expired, no endorsement may be issued under these criteria for prohibited gear.
10. 5. The NMFS review authority will have discretionary powers to grant exceptions to the qualification criteria on specified grounds. The basis on which the NMFS review authority may grant exceptions are described in Section 14.3.5.

14.3.2.4 Criteria for Upgrading a Provisional "A" to an "A" Endorsement

- 1. A provisional "A" endorsement may be upgraded to an "A" endorsement by demonstrating through actual catch intent to participate in the Council-managed groundfish fishery with the limited entry gear specified in the endorsement.
- 2. To demonstrate intent to participate in the Council-managed groundfish fishery and in order to receive the endorsement upgrade, a holder of a provisional "A" endorsement must use or have used, as per paragraph 3 of this section, the vessel to receive the endorsement upgrade in each of the first three 365-day annual periods commencing with the earliest date of:
 - a. endorsement issuance;
 - b. vessel completion^{21/} for vessels qualifying under the construction or conversion provision;
 - c. vessel purchase for vessels qualifying under purchase provisions; or
 - d. vessel replacement for vessels qualifying under replacement provisions.
- 3. For upgrading a provisional "A" endorsement, "use" will be defined for a particular 365-day period as one fourth of the MLR.^{22/}

22/ One-fourth of the MLR is the approximate equivalent of the annualized MLR. Thus, vessels are required to land at a rate which equalized the average rate required for the window period.

- Trawl: At least 2 days in which over 500 pounds of any groundfish species are landed or delivered, or 113 mt of landings or deliveries of any groundfish species except Pacific whiting, or 5 days in which over 500 pounds of Pacific whiting are landed or delivered, or 938 mt of landings or deliveries of Pacific whiting.
- Longline: At least 2 days in which over 500 pounds of any groundfish species are landed or delivered, or 10 mt of landings or deliveries of any groundfish species.
- Fishpot: At least 2 days in which over 500 pounds of any groundfish species are landed or delivered, or 36 mt of landings or deliveries of any groundfish species.

14.3.2.5 Expiration of the Provisional "A" Endorsement

1. The provisional "A" endorsement will expire at the end of any annual period in which a vessel's landings (or deliveries) are not sufficient to meet the use criteria. (The maximum duration of a provisional "A" endorsement is three years.)
2. The provisional "A" endorsement expires if the LE permit it is attached to is transferred, except in the case of total loss of a vessel (as per Section 14.3.2.2, paragraph 3).
3. The provisional "A" endorsement expires on failure to renew the permit (as per Section 14.2.11).
4. In the event the provisional "A" endorsement expires, another provisional "A" endorsement will not be issued.

14.3.3 "B" Gear Endorsement

14.3.3.1 Overview of the "B" Endorsement

The "B" endorsement ~~is~~ **was** intended for the vessel owner who was active in the West Coast groundfish fishery prior to the cut-off date (August 1, 1988) with a limited entry gear, but did not land sufficient groundfish with the gear during the window period to qualify for an "A" endorsement. The "B" endorsement ~~provides~~ **provided** for an adjustment period during which a vessel owner ~~may~~ **could** seek to acquire a permit with an "A" endorsement or find an alternative fishery. The "B" endorsement which ~~allows~~ **allowed** the catch of all Council-managed groundfish species with the gear and vessel specified in the endorsement, ~~became~~ **becomes** invalid when the LE permit ~~is~~ **was** transferred or **after December 31, 1996, which was three years** three years after implementation of the limited entry program. To qualify for a "B" endorsement, an owner must **have owned** a vessel which ~~meets~~ **met** the initial issuance requirements and must have owned it during and continually since the time the qualifying activities occurred.

In accordance with the FMP, the "B" endorsement program expired on December 31, 1996. Amendment 13 to the FMP removed expired "B" endorsement language from the FMP.

~~14.3.3.2 Description, Use and Transferability of the "B" Endorsement~~

- ~~1. Each "B" endorsement affixed to an LE permit will specify a combination of gear type and vessel with which the LE permit may be used (e.g., "B"-Trawl-vessel identification).~~
- ~~2. The vessel identified in the "B" endorsement will be allowed to catch all Council-managed groundfish with the gear specified in the "B" endorsement.~~
- ~~3. The "B" endorsement will become invalid if vessel ownership changes, or if the LE permit is transferred to a different owner or vessel, unless the transfer to another vessel is caused by the total loss of a vessel (as per Section 14.2.9) and ownership of the permit does not change.~~

14.3.3.3 "B" Endorsement Initial Issuance Criteria

1. ~~A "B" gear endorsement will be affixed to a vessel's LE permit for each gear that the vessel qualifies under these "B" endorsement initial issuance criteria.~~
2. ~~A vessel must qualify separately for each gear for which a "B" endorsement is requested.~~
3. ~~Vessel owners may qualify if they:~~
 - a. ~~own a vessel which landed or delivered (JV or domestic) at least 500 pounds of groundfish with limited entry gear on at least three separate days prior to August 1, 1988, but during the window period did not meet the MLRs for an "A" endorsement; and~~
 - b. ~~have continuously owned the vessel during and since the last making of the landings described in paragraph a (except in the case of vessel loss, see Section 14.2.9).^{23/24/}~~
4. ~~An owner will not be issued a "B" endorsement for the same gear for which an "A" or provisional "A" endorsement may be received except as follows. If an owners fails in an attempt to upgrade a provisional "A" endorsement to an "A" endorsement, and if the provisional "A" endorsement was not issued under initial issuance criteria covering replacement of smaller qualifying vessels, the owner may then apply for and receive a "B" endorsement if the vessel meets the other initial issuance criteria for "B" endorsements.~~
5. ~~The NMFS review authority will have discretionary powers to grant exceptions to the qualification criteria on specified grounds. The basis on which the NMFS review authority may grant exceptions are described in Section 14.3.5.~~

14.3.3.4 Duration of the "B" Endorsement

1. ~~The "B" endorsement will expire three years after implementation of the program.~~
2. ~~The "B" endorsement will expire if the LE permit it is attached to is transferred to another vessel or owner, except in the case of total loss of a vessel (as per Section 14.3.3.2).~~
3. ~~The "B" endorsements will expire on failure to renew an LE permit as per Section 14.2.11.~~

14.3.4 Designated Species "B" Gear Endorsements

14.3.4.1 Overview of the Designated Species "B" Endorsement

The designated species "B" gear endorsement ~~is~~ **was** intended to allow for expansion of domestic processing of underutilized species in the event the limited entry fleet (those holding LE permits other than the designated species "B" endorsement holders) ~~was~~ **is** unwilling to harvest the full amount of the underutilized species desired by domestic processors or acceptable biological catch, whichever ~~is~~ **was** less. In this event, designated species "B" endorsements would ~~be~~ **have been** issued to harvesters willing to deliver to domestic processors. In addition, the endorsement may ~~be~~ **have been** ~~be~~ issued when the possibility ~~exists~~ **existed** that an apportionment to TALFF ~~will~~ **would** occur. In ~~this~~ **that** event, designated species "B" endorsements would ~~be~~ **have been** issued to harvesters willing to deliver to JV processors. A separate endorsement ~~is~~ **was** required for each combination of gear type and species. The designated species "B" endorsement ~~allows~~ **allowed** the catch of the specified species with the gear

23/ ~~The continuous ownership provision prevents individuals purchasing vessels after the cut off date, where the vessel meets the first criteria, from qualifying for a limited duration endorsement, and prevents the repurchase of a vessel by a previous owner in order to qualify.~~

24/ ~~Ownership will be considered to change when there is an ownership change on the U.S. Coast Guard documentation; however, an owner can submit documents to demonstrate that the controlling interest has not changed and therefore the change in documentation is not a change in ownership.~~

and vessel specified in the endorsement. The endorsement ~~becomes~~ **became** invalid when the LE permit ~~is was~~ transferred and would ~~have~~ **have** expired at the end of the fishing year.

Amendment 12 to the FMP declared all species managed under the FMP to be fully utilized.
Amendment 13 removed the designated species "B" endorsement option from the FMP.

14.3.4.2 Description, Use and Transferability of the Designated Species "B" Endorsement

- ~~1. Each designated species "B" endorsement affixed to an LE permit will specify the combination of gear type, vessel and species with which the LE permit may be used (e.g., "Designated Species "B" Trawl shortbelly rockfish vessel identification").~~
- ~~2. The vessel identified in the designated species "B" endorsement will be allowed to catch the species specified in the endorsement with the gear specified in the endorsement.~~
- ~~3. Deliveries may be made only to domestic processors (including catcher-processors delivering to themselves), unless the possibility of an apportionment for TALFF exists as per Section 14.3.4.3, paragraph 4.~~
- ~~4. By-catch allowances will be established using the procedures specified for incidental allowances in JV and foreign fisheries as outlined at 50 CFR Part 663, Appendix II.J.~~
- ~~5. The designated species "B" endorsement will become invalid if the LE permit is transferred to a different owner or vessel.~~

14.3.4.3 Designated Species "B" Endorsement Initial Issuance Criteria

- ~~1. A designated species "B" gear endorsement will be affixed to a vessel's LE permit for each combination of gear and species for which the vessel qualifies under these designated species "B" initial issuance criteria.~~
- ~~2. Designated species "B" endorsements will be issued for only Pacific whiting, jack mackerel north of 39°N and shortbelly rockfish.~~
- ~~3. A vessel must qualify separately for each combination of gear and species for which a designated species "B" endorsement is requested.~~
- ~~4. In the fall of each year, NMFS will determine the limited entry fleet's commitment^{25/} (the commitment of those holding LE permits with "A", provisional "A" or "B" endorsements) to harvest a particular underutilized species for domestic processors in the following year. If this commitment is less than domestic annual processing and the harvest guideline or quota for the species, designated species "B" endorsements valid for delivery to domestic processors only (including catcher-processors delivering to themselves) will be issued in numbers necessary for full domestic utilization. Additionally, if the procedures specified in Sections 5.8 and 5.9 of this FMP would result in the apportionment of TALFF, "B" endorsements valid for delivery to foreign processors will be issued in numbers necessary to fulfill JV processing.~~
- ~~5. The NMFS issuing authority will grant the designated species "B" endorsements first on the basis of seniority and then on a first come basis. Seniority will be based on use of the designated species "B" endorsement in previous years. If there are more seniority or first come applicants with equal priority than endorsements to be issued, a lottery may be held to determine who should receive the endorsements. In the first year of issuance for a particular species, endorsements will be issued first on the basis of seniority (number of years) in the fishery for the designated species rather than use of the designated species "B" endorsement.~~

~~25/ "Commitment" means a permit holder's definite arrangement (by contract or agreement) with a specific domestic processor to deliver an estimated amount of the underutilized species.~~

~~6. A designated species "B" endorsement catch limit will be established as the harvest guideline or quota for the designated species minus the commitment of the limited entry fleet. If at any time during the fishing year it is determined that any part of the limited entry fleet commitment will not be taken, a reapportionment will be made to the designated species "B" endorsements.~~

14.3.4.4 Expiration of the Designated Species "B" Endorsement

- ~~1. The designated species "B" endorsement expires at the end of the calendar year.~~
- ~~2. The designated species "B" endorsement expires if the LE permit to which it is attached is transferred to a different owner or vessel.~~

14.3.4.5 Designated Species "B" Gear Endorsements for Holders of "A", Provisional "A" and "B" Gear Endorsements

- ~~1. "All-species" endorsement ("A", provisional "A" or "B" endorsements) holders must hold designated species "B" endorsements to catch an underutilized species with gear for which they do not hold an all-species endorsement.~~
- ~~2. An all-species endorsement holder is not required to hold any kind of designated species "B" endorsement for the same gear for which an all-species endorsement is held.~~
- ~~3. A provisional "A" or "B" endorsement holder may apply for and receive a designated species "B" endorsement for the same gear for which a provisional "A" or "B" endorsement is held, provided the endorsement holder meets the initial issuance criteria for a designated species "B" endorsement.~~

* * * * *

GROUND FISH ADVISORY SUBPANEL STATEMENT ON
AMERICAN FISHERIES ACT MANAGEMENT MEASURES

The Groundfish Advisory Subpanel (GAP) received an update on analysis of the American Fisheries Act (AFA). From the initial Council staff presentation, it was clear there was confusion in interpreting the GAP's recommendation from the April Council meeting.

As clarification, it was the intent of the GAP there be three separate qualification criteria for vessels. These criteria are specific to each sector and qualify the vessel only for that sector. They were not meant to cross qualify a vessel from one sector into all sectors.

The GAP recommends Council staff complete the draft amendment, so we can provide constructive comments on a final draft.

PFMC
06/28/00

AMERICAN FISHERIES ACT MANAGEMENT MEASURES

Situation: The American Fisheries Act (AFA) mandates that, "the Pacific Fishery Management Council... shall recommend for approval by the Secretary [of Commerce], conservation and management measures to protect fisheries under its jurisdiction and the participants in those fisheries from adverse impacts caused by this Act, or by any fishery cooperatives in the directed pollock fishery."

At the April meeting, the Council reviewed various alternatives for providing protection to West Coast groundfish fisheries. After hearing public comment and the advice of the Groundfish Advisory Subpanel, the Council requested analysis of several qualifying criteria that would be used to exclude AFA vessels and processors from the groundfish fishery if those vessels did not meet stated criteria.

Staff has prepared a draft plan amendment to the Groundfish Fishery Management Plan that details several management alternatives for protecting West Coast groundfish fisheries from harm caused by the AFA. At this meeting, the Council will take preliminary action on these measures, adopting the draft plan amendment for public review. Final action is scheduled for the September Council meeting.

Council Action:

- 1. Adopt for public review the draft plan amendment.**

Reference Materials:

1. Draft Plan Amendment for Management Measures to Protect West Coast Groundfish Fisheries from Harm as a Result of the AFA (Supplemental Attachment D.9.a.).

PFMC
06/14/00

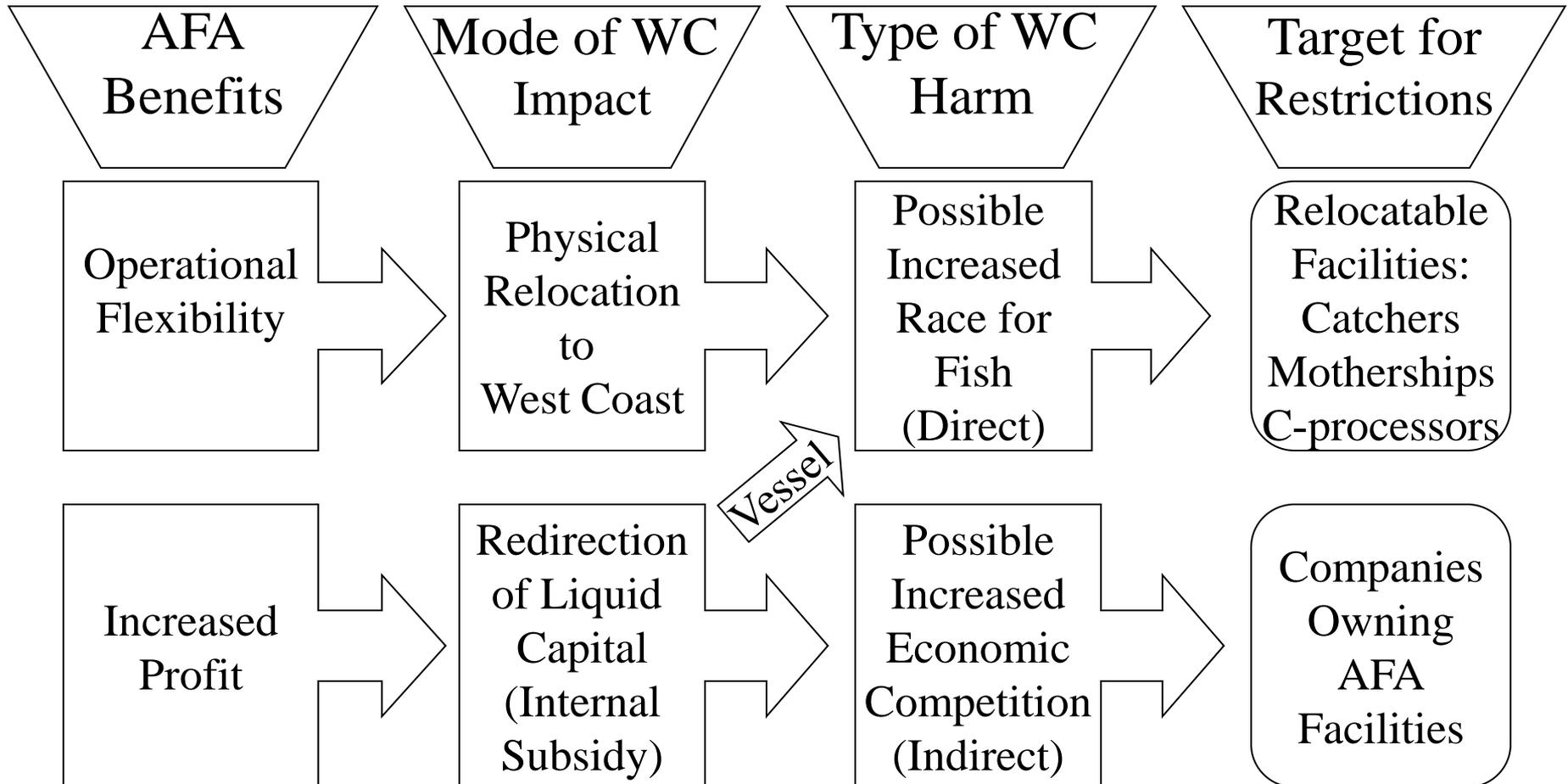
AFA Related Management Measures

Actions to protect West Coast
fisheries from adverse impacts of the
American Fisheries Act (AFA)

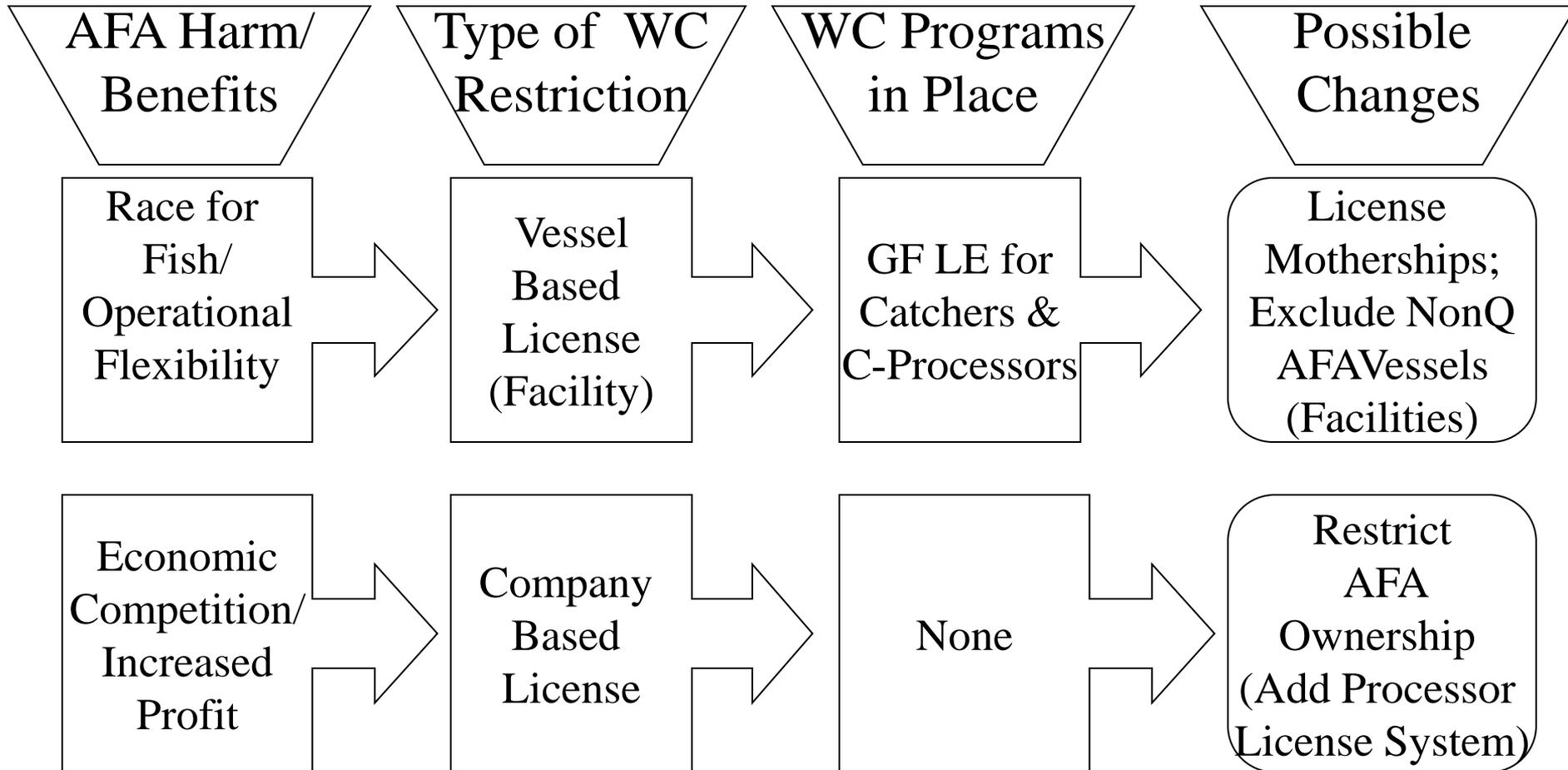
Today's Presentation

- Recap of Rationale
- Processor Permit Requirements & Restrictions
 - Possible Council Actions
 - Provide additional direction on
 - processing facilities covered
 - degree of ownership that constitutes “part” ownership
 - Adopt Control Date (Proposed: April 7, 2000)
- Vessel/Permit Qualification Criteria
 - Possible Council Action
 - Adopt Control Date (Proposed: April 7, 2000)

Rationale for AFA Related West Coast Restrictions



Possible West Coast Restrictions



Processor Option

- Define West Coast AFA Processor
 - Any company *part of an on-shore co-op* under AFA
- Require Permits (non-limited entry)
 - For any *processor* handling more than 10,000 lbs/yr
- Restrict Permit Issuance
 - Require *facility or company* to have processed West Coast groundfish prior to *April 7, 2000*
- Expire Restriction When Onshore Co-ops End
 - December 31, 2004
- Maintain Permit Requirement
 - Until changed by the Council

Processor Option:

Define Processing (GF FMP)

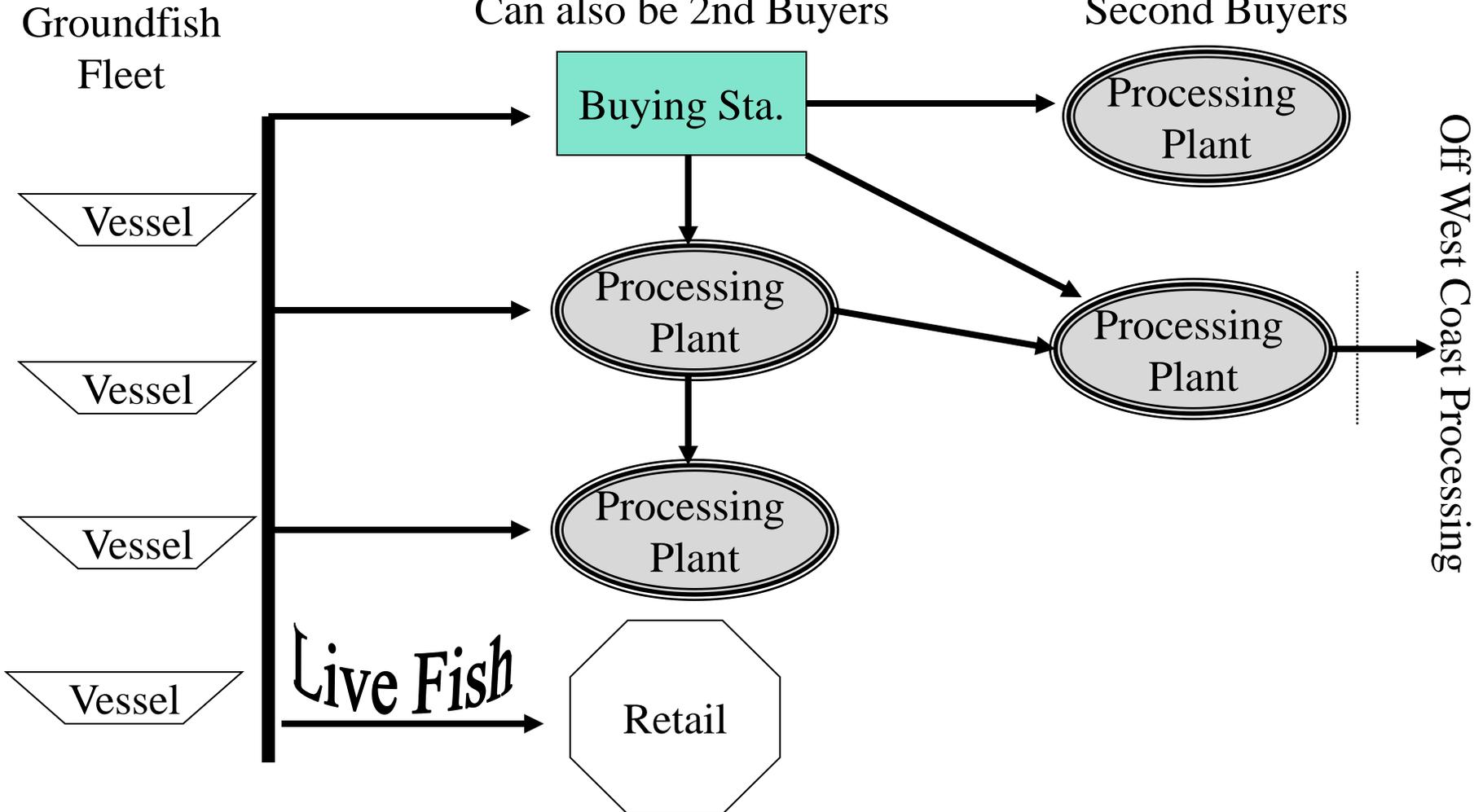
- Groundfish processing is preparation for
 - human consumption, retail sale, industrial use, or long-term storage
- Includes
 - cooking, canning, smoking, drying, filleting, freezing or rendering
- Does not include
 - heading and gutting alone

Processor Option: Define Processor

First Buyers (on fish ticket)

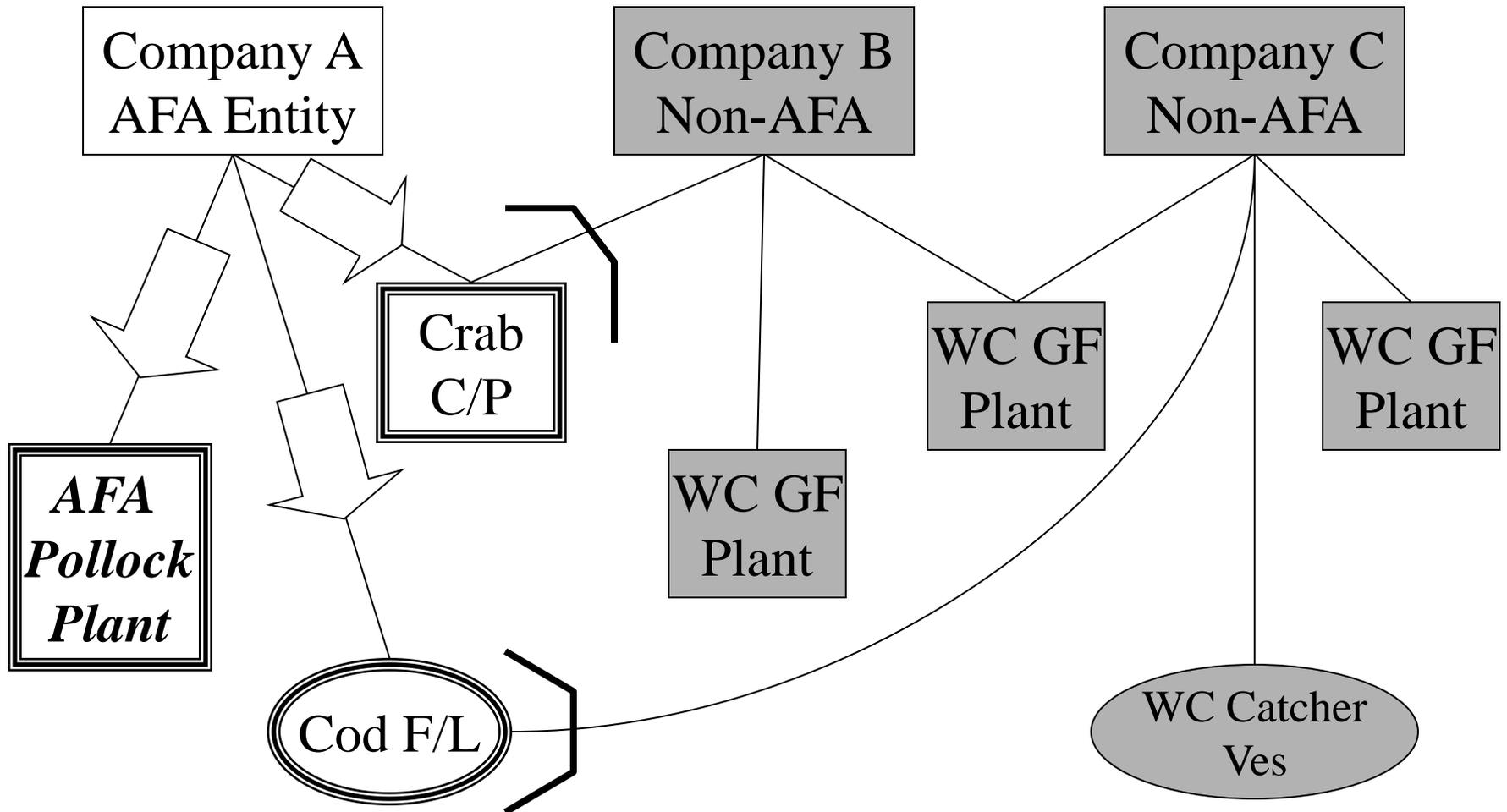
Can also be 2nd Buyers

Second Buyers



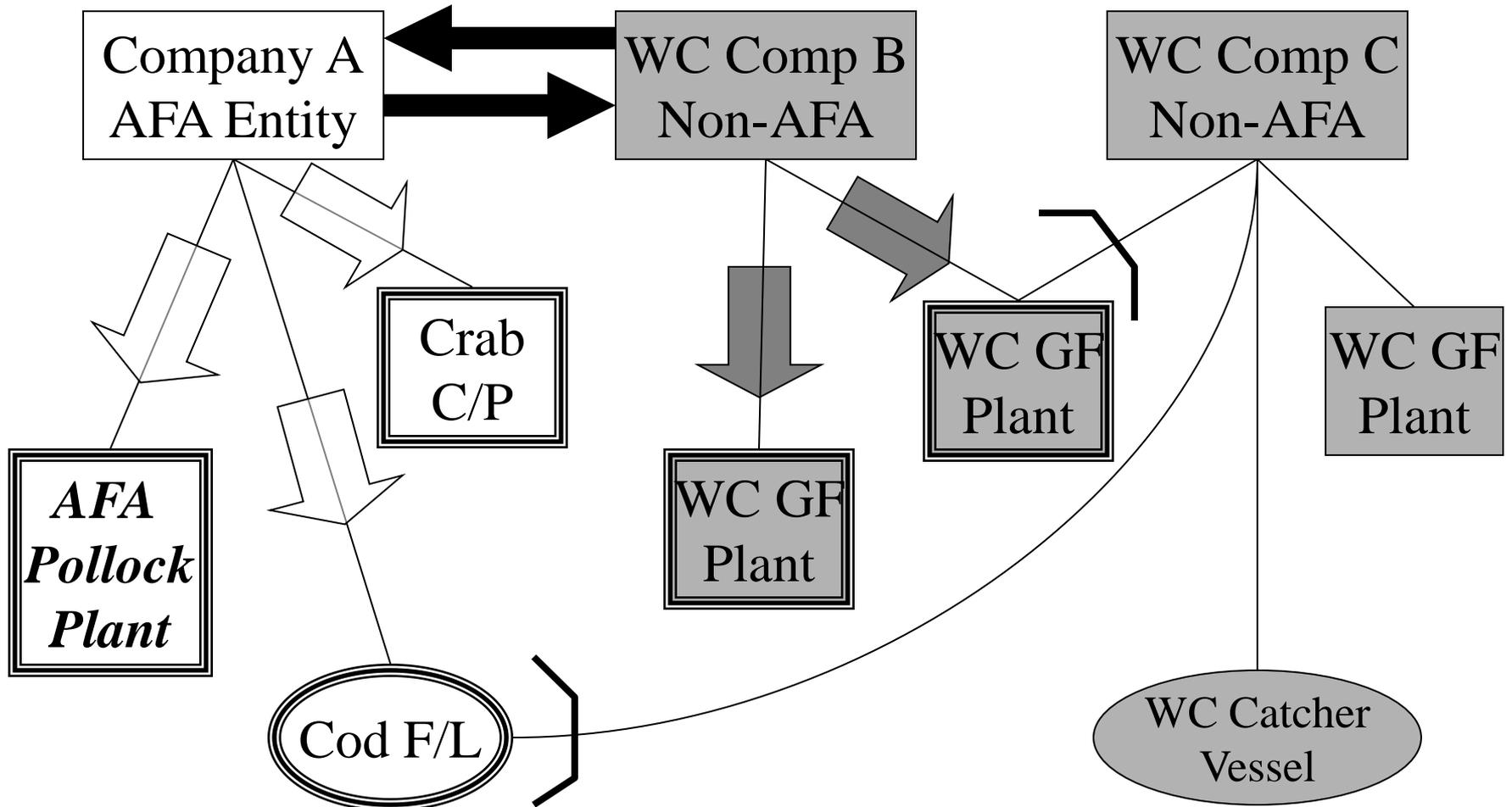
Processor Option: Define Ownership (Limited 10% Rule) a.

AFA Company A and Non-AFA Company B
Share Ownership of a Crab Plant



Processor Option: Define Ownership (Limited 10% Rule) b.

Non-AFA Company B Owns at Least 10% of AFA Company A



Processor Option: Some Other Considerations

- Who carries the burden to demonstrate non-AFA ownership?
- How often must non-AFA ownership be demonstrated?
- How is leasing counted?
- How are other forms of control evaluated?
 - e.g. CEO ownership of other companies
- Why limit restriction to AFA on-shore entities?

Vessel Qualifying Criteria

- Catcher Vessels
 - Qualifying periods a. 1994-1997, b. 1994-9/16/1999
 - Delivery Requirements a. 50 mt, b. 100 mt, c. 500 mt, d. 10 deliveries
 - Delivered species (at-sea whiting, shoreside whiting, or shoreside nonwhiting groundfish)
- Catcher-Processors
 - Licensed 1997, 1998 or 1999
- Motherships
 - 1,000 mt received in 1998 or 1999

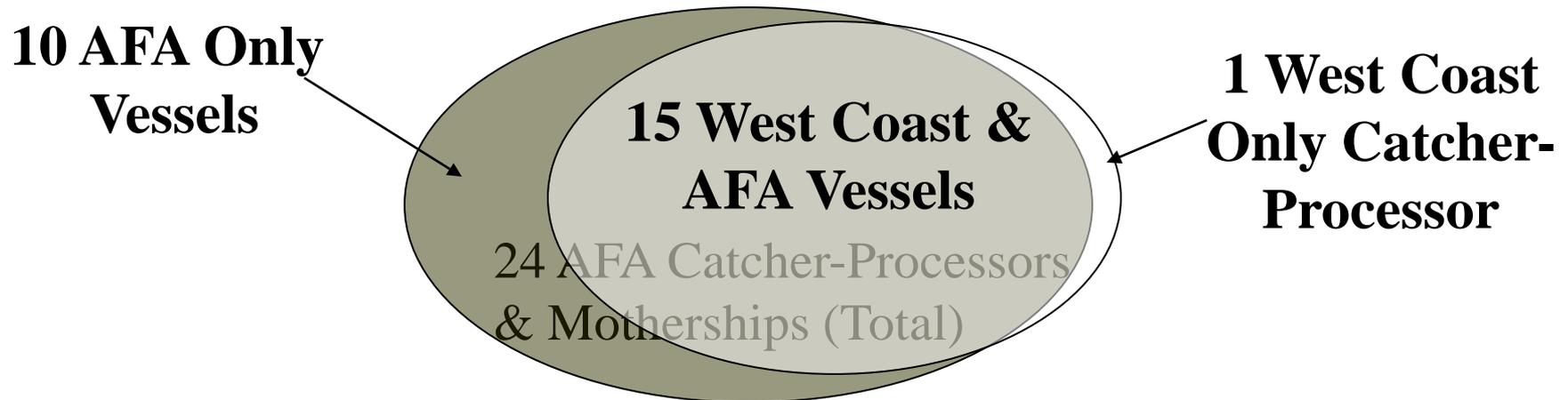
CATCHER VESSELS

AFA Catcher Vessels With History on West Coast

	Qual Req	94-97	94-99
AFA Vessels		32	35
(West Coast Permits)		(25)	(26)
At-Sea	500 mt	30	31
Whiting	>0 mt	30	31
	10 del	30	31
On-Shore	500 mt	13	18
Whiting	100 mt	15	20
	50 mt	15	20
	10 del	12	16
On-Shore	500 mt	1	1
Grndfish	100 mt	7	9
	50 mt	12	14
	10 del	15	16

CATCHER-PROCESSORS (CP) AND MOTHERSHIPS (MS)

	Total AFA Vessels	Vessels with West Coast History	AFA Vessels on West Coast Qualifying to Continue		Non AFA Ves On West Coast
			CP	MS	
CP	21	11	9	-	1
MS	3	6	3	3	0



Review of Today's Presentation

- Recap of Rationale
- Processor Permit Requirements & Restrictions
 - Possible Council Actions
 - Provide additional direction on
 - processing facilities covered
 - degree of ownership that constitutes “part” ownership
 - Adopt Control Date (Proposed: April 7, 2000)
- Vessel/Permit Qualification Criteria
 - Possible Council Action
 - Adopt Control Date (Proposed: April 7, 2000)

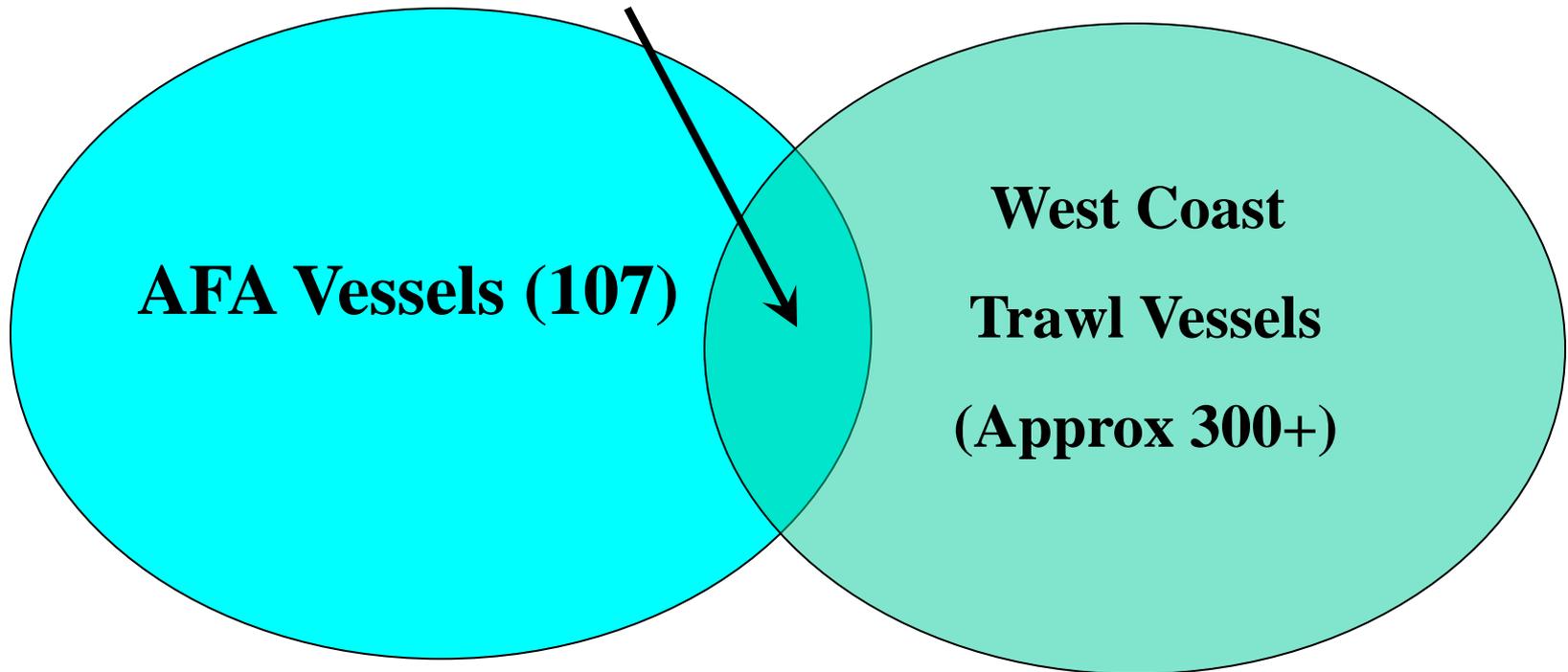
CATCHER VESSELS

Excluding AFA catcher vessels with LE Permits

AFA Vessels with limited entry permits:

1994-1999: 35 AFA Vessels With History on West Coast
(3 nonqualifiers without permits)

1994-1997: 32 AFA Vessels With History on West Coast
(1 nonqualifier with permit, 1 without)



AMERICAN FISHERIES ACT MANAGEMENT MEASURES

American Fisheries Act Processor Licensing Option

At its April meeting the Council adopted for analysis a proposal that would require a federal groundfish processing license and restrict the issuance of licenses for facilities owned by American Fisheries Act (AFA) on-shore processors. There are nine areas in which some clarification is needed either through Council action at this meeting or by sending options out for public comment. **Clarification on the first of these issues, in particular, will allow staff to provide a more concise analysis in the draft. Additionally, the Council should consider adopting a control date for the processor provisions.**

1. The language on point three of the proposal is somewhat unclear. There are at least three possible interpretations of the language that are provided here as options for Council consideration.
 1. Define "AFA processor" as any company that is part of an on-shore cooperative in Alaska under the American Fisheries Act.
 2. Require that, in order to process Pacific groundfish (including whiting), a processing facility must obtain a permit from NMFS. Permits will not be required for facilities that process less than 10,000 pounds per year.
 3. ~~No permit may be issued to a facility or company identified as an AFA processor unless that facility or company has engaged in processing Pacific groundfish (including whiting) prior to April 7, 2000.~~
 - a. *Groundfish processing permits may not be issued to (1) facilities that begin processing groundfish after the control date, or (2) AFA processors that begin processing groundfish on the West Coast after the control date.*
 - b. *Groundfish processing permits may not be issued to facilities owned by an AFA processor unless that ownership was established prior to the control date and the facility had processed groundfish prior to the control date (AFA companies will not be allowed to acquire additional West Coast facilities).*
 - c. *Groundfish processing permits may not be issued to AFA companies that did not own a facility processing West Coast groundfish prior to the control date (AFA companies that already own some West Coast facilities will be allowed to acquire additional West Coast facilities).*
 4. The permit requirement will continue until changed by the Council. The prohibition on AFA processors will expire on December 31, 2004, unless Congress extends the life of on-shore processor cooperatives, in which case the prohibition will be automatically extended.
2. Does the Council want the federal licensing requirement to be more restrictive than the current groundfish fishery management plan (FMP) definition of processors?

<u>Include</u>	<u>Current Option</u>
Live fish buyers	Yes
Include processors that are first buyers	Yes
Include processors that are 2 nd , 3 rd , 4 th . . . buyers	Yes
Include processors not in a West Coast state	Yes
Include buying stations	No

3. How restrictive should the ownership rule be (currently not defined)?
 - Any percent ownership
 - 10% limited ownership (similar to Alaska)
 - Full (100%) ownership
4. How should leasing be addressed (currently not addressed)?
 - Include as the equivalent of ownership
 - Exclude as a form of ownership

5. How should forms of control other than ownership and leasing be addressed? Should the following count or not count as methods of control that are equivalent to ownership?

Ability of an AFA company to direct operations?
Ownership by controlling officers in an AFA company (e.g., CEO)?

6. If a West Coast company owns "part of" an AFA company is it considered an AFA company and subject to the West Coast restriction (as opposed to an AFA company owning "part of" a West Coast company)?

7. Who carries the burden to demonstrate AFA (non-AFA) ownership?

The applying entity?
The government?

8. If the company must show non-AFA ownership, how often?

9. If the logic of restricting AFA on-shore processors from owning West Coast on-shore processing facilities is the competitive advantage the AFA profits provide, why are companies that own

catcher-processor vessels or
catcher vessels

not restricted from owning West Coast

on-shore processor facilities
catcher-processor vessels
catcher vessels

for the same reason?

Vessel Qualification Criteria

The Council should consider adopting a control date for AFA permits. The control date would put permit owners and buyers on notice that participation in West Coast fisheries by AFA vessels and the West Coast groundfish permits held by those vessels may be subject to new restrictions. In particular, permits may be invalidated for segments of the groundfish fishery in which they had not previously participated at a sufficiently high level (as determined by landings during a qualifying period). The three segments of the fishery would be at-sea whiting, shoreside whiting, and shoreside groundfish other than whiting. The permits of vessels not meeting the qualifying criteria in at least one of these fisheries would be revoked for the duration of the AFA provisions. The AFA provisions are expected to expire December 31, 2004. On the basis of the qualifying criteria options adopted for analysis, and assuming the most restrictive options are adopted (500 mt or 10 deliveries) it is believed that only one catcher vessel currently has a permit and would not qualify to participate in at least one sector (i.e. has a permit that would be temporarily revoked). Other vessels and their permits may be restricted to certain sectors.

The Council should consider the status of permits that have been leased for use on AFA vessels. Will the leased permits be restricted if the AFA vessels on which they have been used are restricted.

The Council should consider adopting a control date for motherships. There is currently no West Coast license required for motherships and previous control dates do not apply to motherships. Mothership owners and potential buyers should be put on notice that their participation in West Coast fisheries may be restricted.

PFMC
06/29/00

GROUND FISH ADVISORY SUBPANEL STATEMENT ON
PROCESS FOR TECHNICAL REVIEW AND MONITORING OF REBUILDING PLANS

The Groundfish Advisory Subpanel (GAP) had a discussion with Ms. Cyreis Schmitt concerning the various approaches that could be used to review rebuilding plans and methods to monitor the rebuilding of concerned stocks.

The GAP had numerous questions about how a review of rebuilding will occur every two years when new assessments will likely only occur once every three years.

The GAP was also concerned for many of the species for which there are, or will be, rebuilding plans, the reduced catch or other regulations have eliminated or modified the data that has been used in the past for stock assessments. New survey or other data collection programs will need to be initiated soon to accumulate the necessary time series of information to measure change in these stocks.

The GAP supports the use of a Stock Assessment Review Panel approach for the review of rebuilding plans and further recommends one such panel conduct the review of all rebuilding plans on an annual basis. We feel the intense review that is required for these plans is so similar to the review of stock assessments that other Council committees (the Groundfish Management Team and Scientific and Statistical Committee) could not devote the time for a thorough review.

PFMC
06/28/00

PROCESS FOR TECHNICAL REVIEW AND MONITORING OF REBUILDING PLANS

Situation: The Council has prepared and submitted rebuilding plans for three stocks and two more must be completed before January 1, 2001. Various advisory entities and public have advised the Council these plans have substantial consequences, and the technical components should be reviewed as vigorously as stock assessments are. The Council should consider whether to incorporate review of rebuilding analyses into the current Stock Assessment Review (STAR) process or develop an alternative review process. As an interim process, stock assessment authors have been advised to calculate the basic rebuilding elements (mean generation time, minimum time to rebuild, etc.) for any stock that appears to be near or approaching its overfished threshold.

The Magnuson-Stevens Act also requires the Secretary of Commerce to “review any fishery management plan, plan amendment, or regulations required... at routine intervals that may not exceed two years. If the Secretary finds as a result of the review that such plan, amendment, or regulation have not resulted in adequate progress toward ending overfishing and rebuilding affected fish stocks, the Secretary shall... immediately notify the appropriate Council. Such notification shall recommend further conservation and management measures which the Council should consider... to achieve adequate progress.” Ms. Cyreis Schmitt will present the National Marine Fisheries Service (NMFS) report on this issue. Review, monitoring and updating rebuilding plans and management measures will undoubtedly be a collaborative effort between the Council and NMFS, and Council guidance about this is appropriate.

Council Action: Discuss proposed monitoring process and provide guidance to NMFS.

Reference Materials:

None.

PFMC
06/14/00

PROCESS FOR REBUILDING AND MONITORING OVERFISHED SPECIES

REBUILDING PLAN

Plan Drafter — PFMC Designate

Technical Analysis — STAT teams, SSC, STAR Panel

Management Scenarios/Recommendation — GMT

MONITOR PROGRESS

Annual SAFE Updates — NMFS

Full Stock Assessment

REBUILDING PLAN PROCESS

<u>ACTIVITY</u>	<u>WHEN</u>	<u>WHO</u>
Stock Assessment & Prelim. Rebuilding Analyses	Spr/Sum	STAT Team
STAR Review (Assessment)	Spr/Sum	STAR Panel
Rebuilding Analyses Completed	Sep.	STAT Team
Review Rebuilding Analyses	Sep.	SSC (STAR)
Species Declared Overfished	Jan.	PFMC, NMFS
Develop Management Scenarios	Sep-Apr.	GMT
Draft Rebuilding Plan Complete	by Apr.	Plan Drafter
Public Comment	Jun-Nov.	PFMC mtgs.
Adopt Rebuilding Plan	Nov.-Jan.	PFMC, NMFS
Mgmt. Measures Effective	Jan.	NMFS

TERMS OF REFERENCE FOR REBUILDING ANALYSES

ROLES & RESPONSIBILITIES

SPECIFY STANDARDS

PARAMETERS

ANALYSES (& UNCERTAINTY)

TRIGGERS FOR FULL ASSESSMENTS

SPECIFY OUTLINE OF DOCUMENT

SCHEDULE

Merge with STAR Process

MONITOR PROGRESS ON REBUILDING

Annual SAFE Updates — NMFS provide
catches
biodata
other pertinent information, as available
data improvements (or lack)
comparison to rebuilding plan

Full Stock Assessments — STAT Team
assessment
rebuilding analyses (terms of reference)
comparison to rebuilding plan

Review Stock Assessment — STAR
Review Rebuilding Analyses — SSC now, eventually STAR

Evaluate Management Measures/Propose Revisions — GMT

Consider/Adopt Revisions — PFMC

SCIENTIFIC AND STATISTICAL COMMITTEE COMMENTS ON
PROCESS FOR TECHNICAL REVIEW AND MONITORING OF REBUILDING PLANS

Ms. Cyreis Schmitt of the National Marine Fisheries Service (NMFS) briefed the Scientific and Statistical Committee (SSC) on a preliminary schedule and process for technical review and monitoring of groundfish stock rebuilding plans. Ms. Schmitt requested the SSC comment on proposed process and asked for further SSC contribution to development and implementation.

In reviewing the proposed schedule, the SSC suggested the timeline be modified to expedite preparation of rebuilding analyses soon after it is apparent a stock is in an overfished condition, rather than waiting for NMFS to declare the stock overfished the following January. It is probably not feasible to devote adequate time to rebuilding analyses during the regular one-week Stock Assessment Review (STAR) Panel review of the stock assessment. In order to maintain the momentum of the modeling process, the Council should direct Stock Assessment Teams (STAT) teams to draft rebuilding analyses immediately following completion of the assessments (i.e., mid to late summer) for review at the September Council meeting. The Council should direct the Terms of Reference be modified to reflect this procedure.

The SSC will take lead responsibility for modifying the STAT/STAR Terms of Reference to include guidance for rebuilding plans. The revised documents will include methodological standards (parameters, analyses, and uncertainties), triggers for future full assessment, an outline for the document, and schedule for completion. The SSC's Groundfish Subcommittee will begin drafting the Terms of Reference after the September 2000 meeting for review at the March 2001 Council meeting.

This year, and potentially next year, the SSC should plan to provide review of draft rebuilding analyses. For the long term, the Council should consider whether to incorporate review of rebuilding analyses into the current STAR process or to develop an alternative review process. One such alternative could include a separate panel dedicated to review of all rebuilding analyses in any given year. This may allow for more standardized treatment of the process, avoiding potential implementation delays due to technical errors or other inadequacies. Phase-in of the chosen review process could potentially begin as early as March 2001, but Council scheduling and staff availability must also be considered. We would anticipate, under any review process, drafting of the full rebuilding plan would follow the overfishing declaration by NMFS in January.

Once a stock is in rebuilding mode, the rebuilding process can be monitored using a combination of annual stock assessment and fishery evaluation (SAFE) document updates on recent catch and biological data, in combination with full stock assessments conducted at three year intervals. The SSC suggests annual SAFE reports include a thorough description of any new data collection efforts, data improvements, and research and data needs.

PFMC
06/29/00

GROUND FISH ADVISORY SUBPANEL STATEMENT ON
CANARY ROCKFISH REBUILDING PLAN DEVELOPMENT

Dr. Rick Methot presented the draft canary rockfish rebuilding analysis to the Groundfish Advisory Subpanel (GAP). The canary analysis applies only to the northern assessment, but the results are applicable coastwide. The draft analysis indicates coastwide catch should be reduced to zero for 10 years in order to initiate the stock rebuilding, and catches would then increase gradually for a total of 54 years. The GAP recognizes catch cannot be reduced to zero without eliminating nearly all commercial and recreational fishing between about 20 fathoms and 150 fathoms. However, it appears from preliminary 2000 catch data that canary catch has already been reduced to a small fraction of the 1999 level. The GAP recommends the analysis be re-run assuming a low level of canary catch, and the Council should begin evaluating whether more restrictive measures would merely reduce landings but not actual catch, or cause the industry to forego revenues from other fisheries that take canary incidentally.

PFMC
06/28/00

CANARY ROCKFISH REBUILDING PLAN DEVELOPMENT

Situation: The West Coast canary rockfish resource is currently classified as overfished, and the Council must prepare a rebuilding plan for this stock before the November 2000 meeting. This stock inhabits the continental shelf over a wide latitudinal range, from the U.S. border with Canada to southern California. The 1999 stock assessment was conducted in two parts, and the Groundfish Management Team (GMT) combined the results in order to develop its 2000 acceptable biological catch and optimum yield recommendations. Management measures for 2000 include provisions intended to reduce fishing in rocky areas of the shelf where this species was abundant in the past. Because this species occupies a wide geographic area, including relatively shallow areas, it has been harvested by recreational and commercial groundfish sectors as well as non-groundfish fisheries (e.g., the pink shrimp fishery). Achieving equitable distribution of the conservation burden will be a challenge for the Council. The GMT has provided a preliminary set of tables showing distribution of canary rockfish by commercial fishers in 1999 (Attachment D.11.b.).

A stock rebuilding plan should include the length of time necessary to rebuild the stock, expected harvest levels over the rebuilding period, any allocations necessary to equitably distribute the costs and benefits among fishery sectors, and other management measures the Council believes may be necessary. The first step in the process is determining the rebuilding schedule and initial harvest levels. With this information, the Council can begin to investigate the types of management measures that may be necessary to achieve the rebuilding goals and objectives. It may be possible only to identify and initiate a process for developing allocations at this time, including designating who will take the lead in this process.

Any direct allocations require Council consideration at three meetings; therefore, initial identification of any allocations should be proposed at this time.

Council Action:

- 1. Preliminary decision on allocation and/or regulations.**
- 2. Council guidance on the length of the rebuilding schedule and initial harvest levels.**

Reference Materials:

1. Rebuilding Provisions of Amendment 12 to The Groundfish Fishery Management Plan (Attachment D.11.a.).
2. 1999 Canary Rockfish Tonnage, by State Subareas, Fleet, and Month (Attachment D.11.b.).

PFMC
06/14/00

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON
CANARY ROCKFISH REBUILDING PLAN DEVELOPMENT

Dr. Richard Methot of the National Marine Fisheries Service presented preliminary findings from a working report which estimates rebuilding rates for canary rockfish in the northern area (Columbia and U.S. Vancouver International North Pacific Fishery Commission areas). The Scientific and Statistical Committee provided Dr. Methot with suggestions we would like to see incorporated in the analysis when we re-evaluate it in September. Although the current analysis is preliminary, it is, nevertheless, clear that rebuilding will take decades, even if catches are negligible.

PFMC
06/29/00

REBUILDING PROVISIONS OF AMENDMENT 12 TO THE GROUND FISH FISHERY MANAGEMENT PLAN

In April 2000, the Council approved Amendment 12 to the groundfish fishery management plan, which included provisions relating to development and contents of rebuilding plans. Portions of Section 5.3 of the FMP are provided below.

* * * * *

The Council intends its stock rebuilding plans to provide targets, checkpoints and guidance for rebuilding overfished stocks to healthy and productive levels. The rebuilding plans themselves will not be regulations but principles and policies. They are intended to provide a clear vision of the intended results and the means to achieve those results. They will provide the strategies and objectives that regulations are intended to achieve, and proposed regulations and results will be measured against the rebuilding plans. It is likely that rebuilding plans will be revised over time to respond to new information, changing conditions and success or lack of success in achieving the rebuilding schedule and other goals. As with all Council activities, public participation is critical to the development, implementation and success of management programs.

Goals and Objectives of Rebuilding Plans

The goals of rebuilding programs are to (1) achieve the population size and structure that will support the maximum sustainable yield within the specified time period; (2) minimize, to the extent practicable, the social and economic impacts associated with rebuilding, including adverse impacts on fishing communities; (3) fairly and equitably distribute both the conservation burdens (overfishing restrictions) and recovery benefits among commercial, recreational and charter fishing sectors; (4) protect the quantity and quality of habitat necessary to support the stock at healthy levels in the future; and (5) promote widespread public awareness, understanding and support for the rebuilding program.

Contents of Rebuilding Plans

To achieve the rebuilding goals, the Council will strive to (1) explain the status of the overfished stock, pointing out where lack of information and uncertainty may require that conservative assumptions be made in order to maintain a risk-averse management approach; (2) identify present and historical harvesters of the stock; (3) develop harvest sharing plans for the rebuilding period and for when rebuilding is completed; (4) set harvest levels that will achieve the specified rebuilding schedule; (5) implement any necessary measures to allocate the resource in accordance with harvest sharing plans; (6) promote innovative methods to reduce bycatch and bycatch mortality of the overfished stock; (7) monitor fishing mortality and the condition of the stock at least every two years to ensure the goals and objectives are being achieved; (8) identify any critical or important habitat areas and implement measures to ensure their protection; and (9) promote public education regarding these goals, objectives and the measures intended to achieve them.

The rebuilding plan will specify any individual goals and objectives including a time period for ending the overfished condition and rebuilding the stock and the target biomass to be achieved. The plan will explain how the rebuilding period was determined, including any calculations that demonstrate the scientific validity of the rebuilding period. The plan will identify potential or likely allocations among sectors, identify the types of management measures that will likely be imposed to ensure rebuilding in the specified period, and provide other information that may be useful to achieve the goals and objectives.

The Council may consider a number of factors in determining the time period for rebuilding, including:

1. The status and biology of the stock or stock complex.
2. Interactions between the stock or stock complex and other components of the marine ecosystem or environmental conditions.
3. The needs of fishing communities.
4. Recommendations by international organizations in which the United States participates.

5. Management measures under an international agreement in which the United States participates. The lower limit of the specified time period for rebuilding will be determined by the status and biology of the stock or stock complex and its interactions with other components of the marine ecosystem or environmental conditions and is defined as the amount of time that would be required for rebuilding if fishing mortality were eliminated entirely.

If the lower limit is less than ten years, then the specified time period for rebuilding may be adjusted upward to the extent warranted by the needs of fishing communities and recommendations by international organizations in which the United States participates, except that no such upward adjustment may result in the specified time period exceeding ten years, unless management measures under an international agreement in which the United States participates dictate otherwise.

If the lower limit is ten years or greater, then the specified time period for rebuilding may be adjusted upward to the extent warranted by the needs of fishing communities and recommendations by international organizations in which the United States participates, except that no such upward adjustment can exceed the rebuilding period calculated in the absence of fishing mortality, plus one mean generation time or equivalent period based on the species' life-history characteristics. For example, if a stock could be rebuilt within 12 years in the absence of any fishing mortality, and has a mean generation time of eight years, the rebuilding period could be as long as 20 years.

In general, the Council will also consider the following questions in developing rebuilding plans.

1. What is the apparent cause of the current condition (historical fishing patterns, a declining abundance or recruitment trend, a change in assessment methodology, or other factors)?
2. Is there a downward trend in recruitment that may indicate insufficient compensation in the spawner-recruitment relationship?
3. Based on a comparison of historical harvest levels (including discards) relative to recommended ABC levels, has there been chronic over harvest?
4. Is human-induced environmental degradation implicated in the current stock condition? Have natural environmental changes been observed that may be affecting growth, reproduction, and/or survival?
5. Would reduction in fishing mortality be likely to improve the condition of the stock?
6. Is the particular species caught incidentally with other species? Is it a major or minor component in a mixed-stock complex?
7. What types of management measures are anticipated and/or appropriate to achieve the biological, social, economic and community goals and objectives of the rebuilding plan?

Process for Development and Approval of Rebuilding Plans

Upon receiving notification that a stock is overfished, the Council will identify one or more individuals to draft the rebuilding plan. If possible, the Council will schedule review and adoption of the proposed rebuilding plan to coincide with the annual management process. A draft of the plan will be reviewed and preliminary action taken (tentative adoption or identification of preferred alternatives), followed by final adoption at a subsequent meeting. The tentative plan or alternatives will be made available to the public and considered by the Council at a minimum of two meetings unless stock conditions suggest more immediate action is warranted. Upon completing its final recommendations, the Council will submit the proposed rebuilding plan or revision to an existing plan to NMFS for concurrence. In most cases, this will be concurrent with its recommendations for annual management measures. In addition, any proposed regulations to implement the plan will be developed in accordance with the framework procedures of this FMP. The Council may designate a state or states to take the lead in working with its citizens to develop management proposals to achieve the rebuilding. Allocation proposals require consideration at a minimum of three Council meetings, as specified in the allocation framework. Rebuilding plans will be reviewed periodically, at least every 2 years, and the Council may propose revisions to existing plans at any time, although in general this will occur only during the annual management process.

PFMC
06/14/00

Table 1.--1999 canary rockfish tonnage, by state subareas, fleet, and month

State: area / Fleet	Month												Entire Year
	1	2	3	4	5	6	7	8	9	10	11	12	
WA: Puget Sound													
LE Trawl	0.6		0.3	1.5	3.9	18.5	6.0	6.6	6.9	0.0			44.3
LE Fixed-gear					0.4	0.1	0.2	0.5	0.3				1.6
OA Non-shrimp					0.3	0.0	0.0	0.1					0.4
WA: Coast													
LE Trawl	0.5		0.5	3.8	8.3	17.2	12.3	16.2	8.7	0.2	0.0		67.7
LE Fixed-gear				0.0	0.1		0.0	0.7	0.7	0.0			1.4
LE Shrimp-trawl				0.0	0.0	0.1	0.1	0.1	0.0	0.0			0.4
OA Non-shrimp			0.0	0.5	0.3	0.4	0.2	0.0	0.0	0.2			1.6
OA Shrimp-trawl				0.1	0.0	0.2	0.1	0.3	0.1	0.1			0.8
OR: N. of Nehalem													
LE Trawl	2.6	0.0	15.3	16.7	10.3	30.4	9.4	16.6	18.0	3.3	0.1		122.8
LE Fixed-gear				0.0		0.0	0.0	0.0					0.1
LE Shrimp-trawl					0.1	1.4	1.1	0.5	0.1	0.0			3.2
OA Non-shrimp				0.0	0.0	0.3	0.0	0.0	0.0				0.4
OA Shrimp-trawl				0.2	0.7	2.2	0.6	1.3	0.8	0.3	0.0		6.0
OR: Nehalem-Yachats													
LE Trawl	2.6	1.4	5.3	11.5	5.2	29.2	14.2	13.6	10.5	0.2	0.0	0.0	93.8
LE Fixed-gear				2.0	3.8	3.7	2.2	0.7	0.7				13.1
LE Shrimp-trawl				0.0	0.3	0.2	0.3	0.2	0.6	0.1			1.6
OA Non-shrimp	0.0		1.0	5.7	5.6	4.7	0.7	1.8	0.1	0.1	0.0		19.8
OA Shrimp-trawl				0.2	1.3	3.9	2.0	1.9	1.5	0.4			11.3
OR: S. of Yachats													
LE Trawl	5.1	0.4	2.8	1.4	8.4	29.3	6.8	10.0	8.7	0.6	0.3	0.0	73.8
LE Fixed-gear	2.0	0.0	0.3	4.7	7.3	7.9	6.4	4.5	2.4	0.1	0.0		35.5
LE Shrimp-trawl				0.3	0.5	2.1	0.6	1.3	1.8	0.4			7.0
OA Non-shrimp	0.2		0.6	3.1	3.0	4.5	6.3	6.7	3.5	1.2	0.0	0.2	29.4
OA Shrimp-trawl				0.6	0.0	0.3	0.2	0.4	0.4	0.2			2.1
CA: N. of Bodega Bay													
LE Trawl	5.2	2.2	2.7	3.7	6.9	5.4	17.5	14.6	6.9	1.5	1.1	0.2	68.0
LE Fixed-gear					0.0		0.0						0.0
LE Shrimp-trawl				0.5	0.0	0.4	0.5	0.2	0.1	0.0			1.7
OA Non-shrimp				0.0	0.0	0.0	0.5	0.0	0.1	0.0	0.1		0.7
OA Shrimp-trawl				0.1	0.1	0.1	0.1	0.1	0.2	0.0			0.6
CA: Bodega Bay-Santa Cruz													
LE Trawl	3.5	1.2	0.8	1.2	0.2	1.4		0.0	0.9	0.4	0.1	0.0	9.7
LE Fixed-gear				0.6	0.7		0.0		0.8				2.1
OA Non-shrimp	0.0	0.2	0.2				0.5	0.1	0.2		0.0	0.1	1.3

Table 2.--Number of landings in 1999 with canary rockfish, by state subareas, fleet, and month

State: area / Fleet	Month												Entire Year
	1	2	3	4	5	6	7	8	9	10	11	12	
WA: Puget Sound													
LE Trawl	5		3	6	13	14	16	14	12	4			87
LE Fixed-gear					4	5	9	8	4				30
OA Non-shrimp					3	1	2	2					8
WA: Coast													
LE Trawl	7		7	23	26	22	29	30	19	8	1		172
LE Fixed-gear				3	2		2	9	9	1			26
LE Shrimp-trawl				1	5	7	4	1	2	1			21
OA Non-shrimp			1	7	12	30	23	5	4	3			85
OA Shrimp-trawl				6	3	5	6	6	3	5			34
OR: N. of Nehalem													
LE Trawl	22	3	33	48	48	74	86	119	54	29	4		520
LE Fixed-gear				1		1	1	1					4
LE Shrimp-trawl					12	19	18	7	6	3			65
OA Non-shrimp				2	2	5	6	8	8				31
OA Shrimp-trawl				10	12	40	30	34	24	16	1		167
OR: Nehalem-Yachats													
LE Trawl	13	5	17	34	26	63	72	66	33	8	1	2	340
LE Fixed-gear				3	7	8	10	5	1				34
LE Shrimp-trawl				2	9	5	7	9	13	8			53
OA Non-shrimp	1		8	35	26	46	31	34	17	8	1		207
OA Shrimp-trawl				27	29	38	37	33	44	22			230
OR: S. of Yachats													
LE Trawl	26	8	32	22	17	45	28	46	25	20	4	4	277
LE Fixed-gear	21	2	9	56	43	77	56	63	38	6	2		373
LE Shrimp-trawl				26	18	19	26	34	39	13			175
OA Non-shrimp	11		25	111	105	202	258	377	134	97	8	6	1,334
OA Shrimp-trawl				24	8	11	13	15	12	14			97
CA: N. of Bodega Bay													
LE Trawl	11	17	32	53	75	77	72	78	71	70	23	5	584
LE Fixed-gear					3		2						5
LE Shrimp-trawl				15	3	6	10	11	9	2			56
OA Non-shrimp				3	3	3	5	4	13	2	1		34
OA Shrimp-trawl				6	7	4	8	12	8	2			47
CA: Bodega Bay-Santa Cruz													
LE Trawl	11	6	11	8	2	2		2	5	5	1	1	54
LE Fixed-gear				1	1			2	1				5
OA Non-shrimp	3	5	5					4	3	7		2	34

Table 3.--Number of vessels with landings of canary rockfish in 1999, by state subareas, fleet, and month

State: area / Fleet	Month												Entire Year
	1	2	3	4	5	6	7	8	9	10	11	12	
WA: Puget Sound													
LE Trawl	4		3	3	7	6	6	6	6	4			8
LE Fixed-gear					2	3	5	7	4				13
OA Non-shrimp					3	1	1	2					6
WA: Coast													
LE Trawl	5		7	12	12	12	14	15	13	3	1		22
LE Fixed-gear				1	2		1	6	4	1			10
LE Shrimp-trawl				1	2	3	2	1	1	1			3
OA Non-shrimp			1	5	8	12	9	4	2	3			20
OA Shrimp-trawl				3	2	2	3	2	2	2			5
OR: N. of Nehalem													
LE Trawl	16	3	22	25	23	33	35	38	28	18	4		46
LE Fixed-gear				1		1	1	1					2
LE Shrimp-trawl					8	10	7	4	3	2			15
OA Non-shrimp				1	2	2	1	2	2				4
OA Shrimp-trawl				6	7	17	12	13	10	6	1		20
OR: Nehalem-Yachats													
LE Trawl	8	5	12	15	12	24	21	20	14	5	1	2	32
LE Fixed-gear				2	4	6	5	4	1				10
LE Shrimp-trawl				1	6	4	5	3	5	4			16
OA Non-shrimp	1		3	25	19	36	19	17	6	2	1		64
OA Shrimp-trawl				12	12	14	11	14	17	11			23
OR: S. of Yachats													
LE Trawl	14	6	19	16	14	23	15	24	16	14	4	2	45
LE Fixed-gear	4	2	4	12	11	16	16	16	15	5	2		24
LE Shrimp-trawl				15	13	12	14	17	20	10			37
OA Non-shrimp	7		12	37	40	57	59	96	49	27	6	5	137
OA Shrimp-trawl				13	6	6	7	7	7	8			21
CA: N. of Bodega Bay													
LE Trawl	6	12	20	27	30	31	35	35	34	32	16	3	60
LE Fixed-gear					2		1						3
LE Shrimp-trawl				11	3	4	8	8	8	2			25
OA Non-shrimp				3	3	3	5	4	10	2	1		29
OA Shrimp-trawl				5	7	4	6	6	5	1			11
CA: Bodega Bay-Santa Cruz													
LE Trawl	7	4	5	4	2	2		2	4	5	1	1	17
LE Fixed-gear				1	1		1		1				3
OA Non-shrimp	2	1	3				3	3	6		1	2	14

Table 4.--1999 canary rockfish tonnage, by state, fleet, and month

State / Fleet	Month												Entire Year
	1	2	3	4	5	6	7	8	9	10	11	12	
California													
LE Trawl	8.8	3.4	3.5	4.9	7.1	6.8	17.5	14.6	7.9	1.9	1.1	0.2	77.7
LE Fixed-gear				0.6	0.7		0.0		0.8				2.1
LE Shrimp-trawl				0.5	0.0	0.4	0.5	0.2	0.1	0.0			1.7
OA Non-shrimp	0.0	0.2	0.2	0.0	0.0	0.0	1.1	0.1	0.3	0.0	0.1	0.1	2.1
OA Shrimp-trawl				0.1	0.1	0.1	0.1	0.1	0.2	0.0			0.6
Oregon													
LE Trawl	10.4	1.8	23.5	29.6	24.0	88.9	30.3	40.2	37.2	4.2	0.4	0.0	290.5
LE Fixed-gear	2.0	0.0	0.3	6.7	11.1	11.6	8.6	5.2	3.1	0.1	0.0		48.7
LE Shrimp-trawl				0.3	0.9	3.6	1.9	2.0	2.5	0.5			11.8
OA Non-shrimp	0.2		1.6	8.9	8.6	9.5	7.1	8.5	3.7	1.3	0.0	0.2	49.6
OA Shrimp-trawl				1.0	2.0	6.5	2.8	3.6	2.7	0.9	0.0		19.4
Washington													
LE Trawl	1.1		0.8	5.3	12.2	35.7	18.3	22.7	15.6	0.3	0.0		112.1
LE Fixed-gear				0.0	0.5	0.1	0.2	1.2	1.0	0.0			3.0
LE Shrimp-trawl				0.0	0.0	0.1	0.1	0.1	0.0	0.0			0.4
OA Non-shrimp			0.0	0.5	0.7	0.4	0.2	0.1	0.0	0.2			2.1
OA Shrimp-trawl				0.1	0.0	0.2	0.1	0.3	0.1	0.1			0.8

Table 5.--Number of landings in 1999 with canary rockfish, by state, fleet, and month

State / Fleet	Month												Entire Year
	1	2	3	4	5	6	7	8	9	10	11	12	
California													
LE Trawl	22	23	43	61	77	79	72	80	76	75	24	6	638
LE Fixed-gear				1	4		4		1				10
LE Shrimp-trawl				15	3	6	10	11	9	2			56
OA Non-shrimp	3	5	5	3	3	3	9	7	20	2	3	5	68
OA Shrimp-trawl				6	7	4	8	12	8	2			47
Oregon													
LE Trawl	61	16	82	104	91	182	186	231	112	57	9	6	1,137
LE Fixed-gear	21	2	9	60	50	86	67	69	39	6	2		411
LE Shrimp-trawl				28	39	43	51	50	58	24			293
OA Non-shrimp	12		33	148	133	253	295	419	159	105	9	6	1,572
OA Shrimp-trawl				61	49	89	80	82	80	52	1		494
Washington													
LE Trawl	12		10	29	39	36	45	44	31	12	1		259
LE Fixed-gear				3	6	5	11	17	13	1			56
LE Shrimp-trawl				1	5	7	4	1	2	1			21
OA Non-shrimp			1	7	15	31	25	7	4	3			93
OA Shrimp-trawl				6	3	5	6	6	3	5			34

Table 6.--Number of vessels with landings of canary rockfish in 1999, by state, fleet, and month

State / Fleet	Month												Entire Year
	1	2	3	4	5	6	7	8	9	10	11	12	
California													
LE Trawl	12	16	25	31	32	33	35	37	38	37	17	4	75
LE Fixed-gear				1	3		2		1				6
LE Shrimp-trawl				11	3	4	8	8	8	2			25
OA Non-shrimp	2	1	3	3	3	3	8	7	16	2	2	2	43
OA Shrimp-trawl				5	7	4	6	6	5	1			11
Oregon													
LE Trawl	38	14	52	56	49	77	71	81	58	37	9	4	114
LE Fixed-gear	4	2	4	15	15	23	22	21	16	5	2		36
LE Shrimp-trawl				16	26	24	26	24	25	14			57
OA Non-shrimp	8		15	62	61	88	79	114	57	29	7	5	193
OA Shrimp-trawl				25	25	35	28	32	29	21	1		45
Washington													
LE Trawl	9		10	15	18	17	19	21	19	7	1		28
LE Fixed-gear				1	3	3	6	13	7	1			18
LE Shrimp-trawl				1	2	3	2	1	1	1			3
OA Non-shrimp			1	5	11	13	10	6	2	3			26
OA Shrimp-trawl				3	2	2	3	2	2	2			5

Table 7.--Average canary pounds per vessel, for vessels with landings of canary rockfish in 1999, by state, fleet, and month

State / Fleet	Month												Entire Year
	1	2	3	4	5	6	7	8	9	10	11	12	
California													
LE Trawl	1,617	468	309	348	489	454	1,102	870	458	113	143	110	2,284
LE Fixed-gear				1,323	514		0		1,764				772
LE Shrimp-trawl				100	0	220	138	55	28	0			150
OA Non-shrimp	0	441	147	0	0	0	303	31	41	0	110	110	108
OA Shrimp-trawl				44	31	55	37	37	88	0			120
Oregon													
LE Trawl	603	283	996	1,165	1,080	2,545	941	1,094	1,414	250	98	0	5,618
LE Fixed-gear	1,102	0	165	985	1,631	1,112	862	546	427	44	0		2,982
LE Shrimp-trawl				41	76	331	161	184	220	79			456
OA Non-shrimp	55		235	316	311	238	198	164	143	99	0	88	567
OA Shrimp-trawl				88	176	409	220	248	205	94	0		950
Washington													
LE Trawl	269		176	779	1,494	4,630	2,123	2,383	1,810	94	0		8,826
LE Fixed-gear				0	367	73	73	204	315	0			367
LE Shrimp-trawl				0	0	73	110	220	0	0			294
OA Non-shrimp			0	220	140	68	44	37	0	147			178
OA Shrimp-trawl				73	0	220	73	331	110	110			353

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Rebuilding Analysis for Canary Rockfish

June 19, 2000

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Introduction

The most recent stock assessment for canary rockfish in the northern area (Columbia and U.S. Vancouver INPFC areas) indicated that a long-term decline had continued and that the abundance of the female spawning biomass had fallen below the depleted threshold (Crone et al., 1999). A similar conclusion was reached for the stock in the southern area (Williams et al., 1999). Canary rockfish was determined to be in an "overfished" state on Jan. 1, 2000 which initiated development of a rebuilding plan.

The purpose of this document is to estimate the potential rate of rebuilding of canary rockfish in the northern area. This will involve five steps:

- (1) examining the recruitment-spawner information to determine a functional relationship;
- (2) determine unfished level of spawning biomass in order to calculate target levels for rebuilding;
- (3) determining the generation time, which affects the potential duration of rebuilding;
- (4) determining expected levels of recruitment during the rebuilding period;
- (5) calculating in rebuilding can occur within 10 years, and if not then calculating the time to rebuild with no fishing mortality;
- (6) finally, calculate the degree of reduction in fishing mortality needed to rebuild within a time period equal to one mean generation time plus the time to rebuild with no fishing mortality.

The canary rock fish assessment explored two scenarios regarding natural mortality and fishery selectivity for females. These two scenarios provide alternative explanations for the relative low occurrence of old females compared to the occurrence of old males. Scenario #1 has increasing natural mortality for older females and asymptotic fishery selectivity for both sexes. Scenario #2 has constant natural mortality for both sexes and dome-shaped fishery selectivity to explain the low incidence of old females in the fishery samples. Neither the STAT or STAR in 1999 was able to develop a preference between these two hypotheses, so both are carried forward in this rebuilding analysis.

A modification to the Council's 40-10 harvest policy is proposed here to provide a rebuilding plan which will smoothly transition into a long-term sustainable harvest policy. The 40-10 policy involves a precautionary adjustment to the harvest rate as the spawning biomass falls below its target level (40% of the unfished spawning biomass level (40% SPB)). This

adjustment is 1.0 at the 40% SPB level and 0.0 at the 10% SPB level. Since a rebuilding plan is basically an adjustment to this level of precaution in order to accelerate rebuilding, we propose to introduce an exponent to the precautionary adjustment. If this exponent (power) is 1.0, then the rebuilding plan is identical to the 40-10 OY policy. As the rebuilding power increases, there is a downward adjustment in catch to accelerate rebuilding.

Scenario #1

Spawner-Recruit Relationship

The synthesis assessment model was rerun with the same data set as used in the 1999 assessment. In these new runs, the model was set up to estimate the parameters of a Beverton-Holt spawner-recruit relationship. This relationship was parameterized so that the steepness was defined as the level of recruitment when spawning biomass was at 20% of its unfished level. The level of recruitment variability was set equal to 0.5 on a logarithmic scale. In addition, the reruns of the model correct an error in the female maturity vector used in the 1999 assessment. This error has no impact on the fitting of the model to the data in the 1999 assessment, but did have a small impact on the female spawning biomass levels reported from that assessment.

The estimated S/R steepness is only 0.389 (Figure 1). Hence, canary rockfish are estimated to have a high level of decline in recruitment as spawning biomass is reduced to a low level. The level of recruits per spawner for canary rockfish is barely above the replacement level throughout the time series (Figure 2). As long as similar levels of recruits/spawner occur, any rebuilding will be extremely slow.

Recruitments at the beginning and end of the assessment time series are imprecisely estimated because of the low level of data for those years. At the end of the time series, the sequence of higher recruitment levels for 1996-1998 are reduced in these new runs with the S/R relationship included, but they still represent a much higher level than had occurred in the early 1990s (Figure 1, 2). Because of concern over making projections with these high recruitment levels, the original assessment (Crone et al, 1999) also include projections with lower levels for these 3 recruitments. These lower levels were nearly identical to the levels that correspond to the estimated S/R curve (Figure 1).

Projections of future abundance made in this rebuilding analysis use recruitments through 1999 as reestimated in Table 1 and Figure 1.

Unfished Abundance Level

Three possibilities are the level from the assessment model, the level from the fitted spawner-recruitment curve, and the level calculated from the mean recruitment level in the early years of the time series.

The highest value comes from the initial assessment where a recruitment level of 2856

million age 1 recruits would produce an unfished female spawning biomass of 22239 mtons. In the initial assessment modeling, this initial recruitment level is acted on by a fishing mortality sufficient to produce a catch of 1000 mtons which reduces the initial spawning biomass down to 18838 mtons (Table 1, Figure 1).

The lowest level comes from the intercept between the estimated spawner-recruitment curve and the recruits/spawner replacement line. This level has 1412 million recruits producing a spawning biomass of 10995 mtons. However, because this relationship is fitted to the logarithm of recruitment, a correction when backtransforming to recruitment is necessary. These transformed values are 1600 million recruits producing an unfished spawning biomass of 12459 mtons (Table 1, Figure 1).

An intermediate level comes from taking the early mean recruitment level (1964 million recruits from the 1966 through 1979 yearclasses) which would produce a spawning biomass of 15294 mtons if unfished. This level is taken as the best estimate of unfished spawning biomass.

The rebuilding target is set at 40% of the unfished spawning biomass level, which is 6118 mtons of female spawners. An alternative would be to calculate the level associated with MSY on the basis of the estimated spawner-recruitment curve. MSY is estimated to be approximately 725 mtons which occurs at a spawning biomass of about 5700 mtons if the fishing mortality rate corresponds to a SPR of 63% (Figure 3). Note that because of the low S/R steepness for canary, fishing at an SPR of 65% is expected to produce a spawning biomass level equal to about 40% of the unfished level. The equilibrium catch at F50% to F70% ranges from 689 to 724 mtons, but at F levels of F50% - F60% the stock level would be less than the rebuilding target of 40%.

Generation Time

This is calculated as the mean age of female spawners in an unfished population. It is calculated to be 16.8 years in scenario #1 in which female natural mortality increases as older ages.

Expected Recruitment Level

Figure 3 shows that fishing at a Fspr rate above F65% will not maintain the stock above the B40% level. Thus, the default harvest rate of F50% for rockfish is not expected to keep canary rockfish at a optimum population level because of its extreme lack of resiliency in recruitment. We use a F65% harvest rate as the endpoint for these rebuilding calculations. Note that this achieves nearly as much catch as a F50% policy if the currently estimated S/R function holds in the future. If future recruitments increase more than expected from the S/R curve, then we will be able to actually estimate the F that produces MSY in the future.

The main approach to estimating future recruitment levels is through randomly resampling the historical values of recruits per spawner (Figure 2) and multiplying the selected value by the previous year's spawning biomass to estimate the current year's recruitment of age 1 fish. These R/S values indicate very little ability of the population to compensate for fishing mortality.

Recent R/S values are higher, but these values are driven nearly solely by the highly variable occurrence of young canary rockfish in the 1998 triennial trawl survey.

Most projections will be based upon resampling the R/S from 1987-1997 to include some but not all the recent, imprecisely estimated values. Some projections with alternative time periods were conducted, as well as projections using the spawner-recruitment relationship and some projections using resampling of deviations from the estimated spawner-recruitment relationship.

Rebuilding in the Absence of Fishing

The rate of rebuilding with no fishing mortality depends only upon the level of recruitment that occurs during the rebuilding period. An optimistic scenario would draw recruitments from the estimated spawner-recruitment curve and would be rebuilt in 26 years. A more realistic scenario would draw randomly from recent values of recruits per spawner (using 1987-1997 to avoid the poorly estimated and anomalously high values in 1998 and 1999). This would result in an average rebuilding time of 37 years (based on median of 500 trials). A similar result is obtained by resampling deviations from the spawner-recruitment curve for the same years. However, randomly drawing from the actual 1987-1997 recruitment values would not rebuild in 90% of the trials.

The target rebuilding time is equal to one generation time plus the time to rebuild with zero fishing. The value is 54 years.

Rebuilding

In order to create a rebuilding plan that will smoothly transition into a long-term sustainable harvest policy, we modify the 40-10 OY policy by raising the precautionary adjustment to a power. At a power of 1.0, the annual catch during the rebuilding period would be equal to the value calculated from the 40-10 policy. At higher levels of the power, the catch will be reduced during the rebuilding period and will transition to the 40-10 level when the spawning biomass rebuilds to the target (40%) level.

Rebuilding times were calculated for 500 trials using F65%, the 40-10 policy, resampling of recruits/spawner from 1987-1997, and various levels of the rebuilding power. At a power of 1, the median time to rebuild would be 127 years; well in excess of the 54 year limit (Figure 4). By increasing the power to 10, the time to rebuild is reduced to 55 years which is close to the target. However, during the first several years of the rebuilding period, the catch would need to be zero to match the expectations of the plan. In implementing the rebuilding plan, it may not be feasible to keep the catch below about 100 mtons, thus delaying rebuilding.

Scenario #2

insert scenario #2 results here

Summary

Both scenarios result in rebuilding targets near 55 years, and both require catch to be near zero for nearly a decade in order to get started on this rebuilding given low current recruitment levels (Figure 9). However, differences between the two scenarios appear when one considers the rate of rebuilding. For scenario #1, the biomass is increasing rapidly as the stock achieves the target level. This is a consequence of the large proportional increase in SPB from current low levels combined with the use of recruits/spawner to generate future recruitment levels. For scenario #2, the mean spawning biomass does not quite achieve the rebuilding target (Figure 9) even though the median time to rebuild is achieved.

This rebuilding scenario is based upon recruitment projections that are realistic based upon the history of canary rockfish. However, these recruitment levels are much lower than typical rockfishes, which tend to have a S/R steepness closer to 0.65, but with substantial variability between species and areas. If the estimated 1996-1998 recruitments of canary rockfish are confirmed in future assessments and followed by comparable recruitments in future years, then canary rockfish will be returning to a S/R curvature more like that of other rockfishes and will rebuild more quickly than estimated here.

Table 1. Revised time series of canary rockfish abundance in the northern area according to scenario #1 in which fishery selectivity is asymptotic at older ages, and females are estimated to have increasing natural mortality (Crone et al 1999). A spawner-recruitment function is estimated within the updated assessment model. Use of this S/R function in the model also serves to pull imprecisely estimated recruitments at the beginning and end of the time series towards the relationship. In addition, the maturity schedule used to calculate female spawning biomass is corrected.

YR	Total Biomass	Female Spawning Biomass	Age 1 Recruits	Catch
Alternative Calculations of unfished level:				
S/R equil	33544	10995	1412	0
S/R, with bias adjust	38010	12459	1600	0
recent recr mean	46659	15294	1964	0
init. Equilibrium	67848	22239	2856	0
Estimated time series:				
Initial Equilibrium	52725	18838	2856	1000
67	52633	18838	534	2504
68	50784	18252	1061	2802
69	48490	17507	2965	1731
70	47313	17233	2483	1607
71	46237	16980	2556	1427
72	45312	16735	1231	1382
73	44364	16418	1233	4181
74	40360	14831	2308	860
75	40022	14719	1842	1351
76	39105	14393	1688	785
77	38797	14290	2755	1672
78	37518	13773	1375	2326
79	35591	12942	2427	3192
80	32874	11752	3039	3215
81	30292	10641	751	2608
82	28504	9840	1724	4352
83	24894	8330	1318	4277
84	21503	7020	1399	1839
85	20804	6893	1199	2084
86	19822	6711	1395	1848
87	19018	6625	674	2698
88	17179	6073	677	2578
89	15379	5505	942	2820
90	13207	4742	700	2174
91	11669	4213	950	2802
92	9410	3311	714	2433
93	7522	2566	537	1982
94	6072	1974	353	960
95	5681	1840	312	770
96	5474	1806	948	974
97	5019	1663	777	920
98	4613	1502	760	996
99	4129	1290	405	996

Table 2. Revised time series of canary rockfish abundance in the northern area according to scenario #2 in which fishery selectivity is dome-shaped and natural mortality is constant for all ages and both sexes (Crone et al 1999). A spawner-recruitment function is estimated within the updated assessment model. Use of this S/R function in the model also serves to pull imprecisely estimated recruitments at the beginning and end of the time series towards the relationship. In addition, the maturity schedule used to calculate female spawning biomass is corrected.

YR	Total Biomass	Female Spawning Biomass	Age 1 Recruits	Catch
Alternative Calculations of unfished level:				
S/R equil	45243	22881	1395	0
S/R, with bias adjust	51267	25928	1581	0
recent recr mean	61063	30882	1883	0
init. Equilibrium	88702	44860	2735	0
Estimated time series:				
Initial Equilibrium	66955	34070	2735	1000
67	66866	34070	477	2504
68	65002	33501	974	2802
69	62656	32686	2721	1731
70	61392	32331	2393	1607
71	60213	31980	2377	1427
72	59172	31630	1146	1382
73	58104	31201	1177	4181
74	53938	29390	2213	860
75	53404	29092	1752	1351
76	52309	28594	1653	785
77	51850	28348	2730	1672
78	50433	27686	1336	2326
79	48350	26662	2399	3192
80	45436	25191	3012	3215
81	42599	23723	757	2608
82	40520	22544	1738	4352
83	36570	20535	1334	4277
84	32772	18691	1433	1839
85	31646	18082	1246	2084
86	30250	17433	1495	1848
87	29055	16889	773	2698
88	26849	15870	799	2578
89	24703	14845	1172	2820
90	22213	13622	917	2174
91	20387	12659	1270	2802
92	17874	11321	939	2433
93	15760	10164	751	1982
94	14106	9181	511	960
95	13540	8712	493	770
96	13204	8393	1595	974
97	12678	7999	1335	920
98	12264	7614	1340	996
99	11828	7200	785	996

Figure 1. Estimated recruitment and spawner levels for scenario #1.

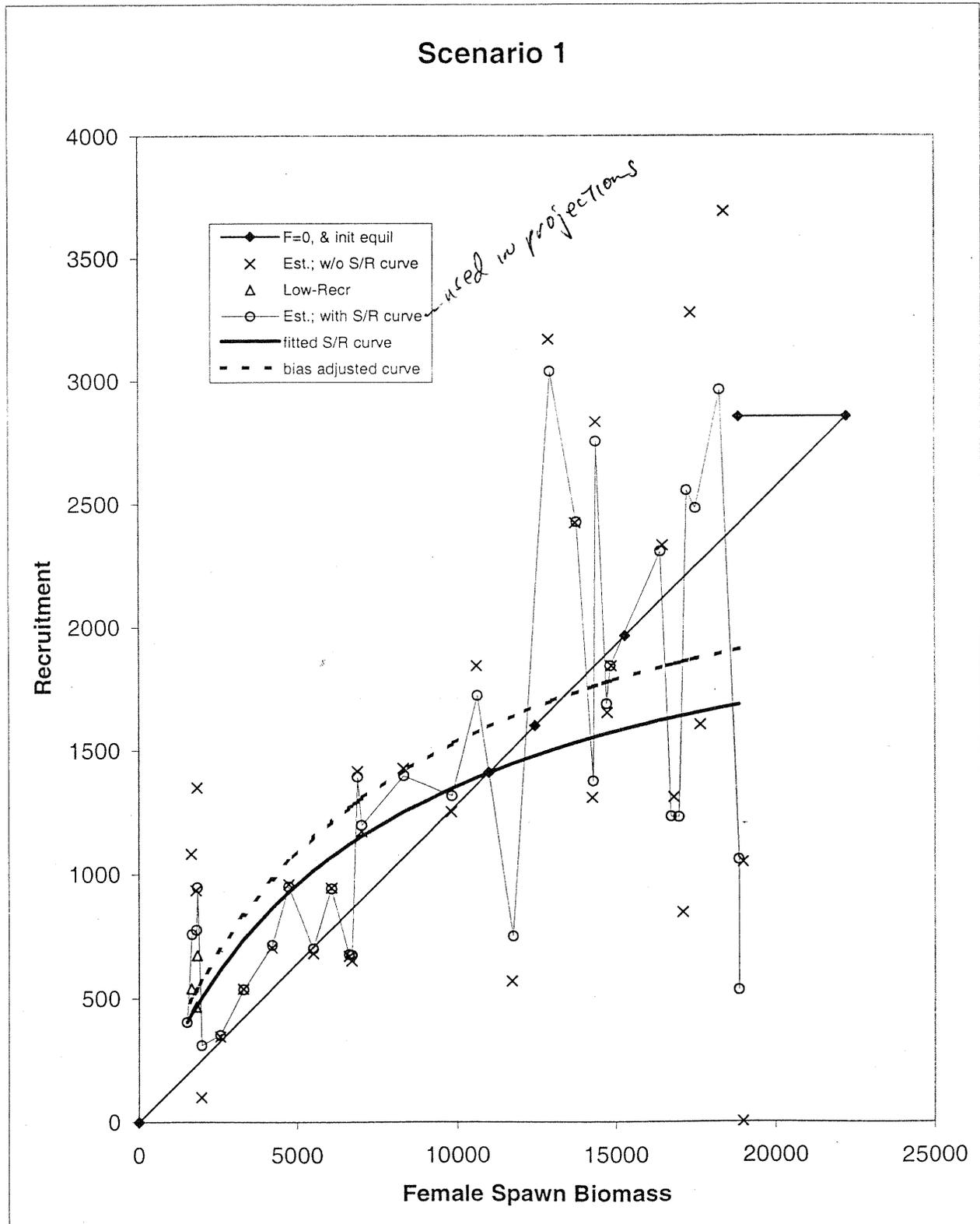


Figure 2. Recruits per Spawner time series for scenario #1

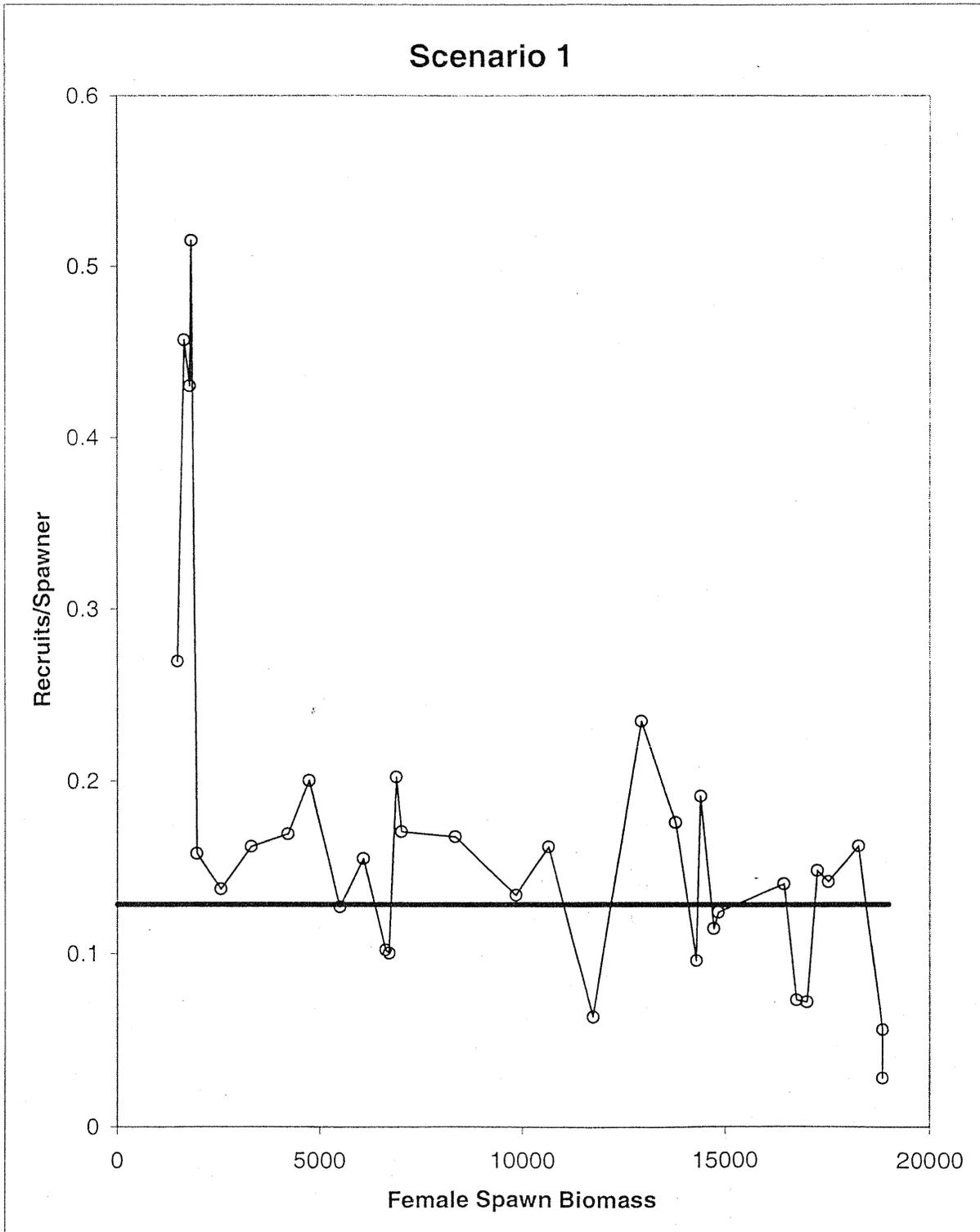


Figure 3. One hundred year projections of catch and spawning biomass assuming future recruitments come from the S/R curve (adjusting for log-transform bias), and catch is according to the 40-10 OY policy. F_{spr} levels from $F_{50\%}$ to $F_{70\%}$ are shown.

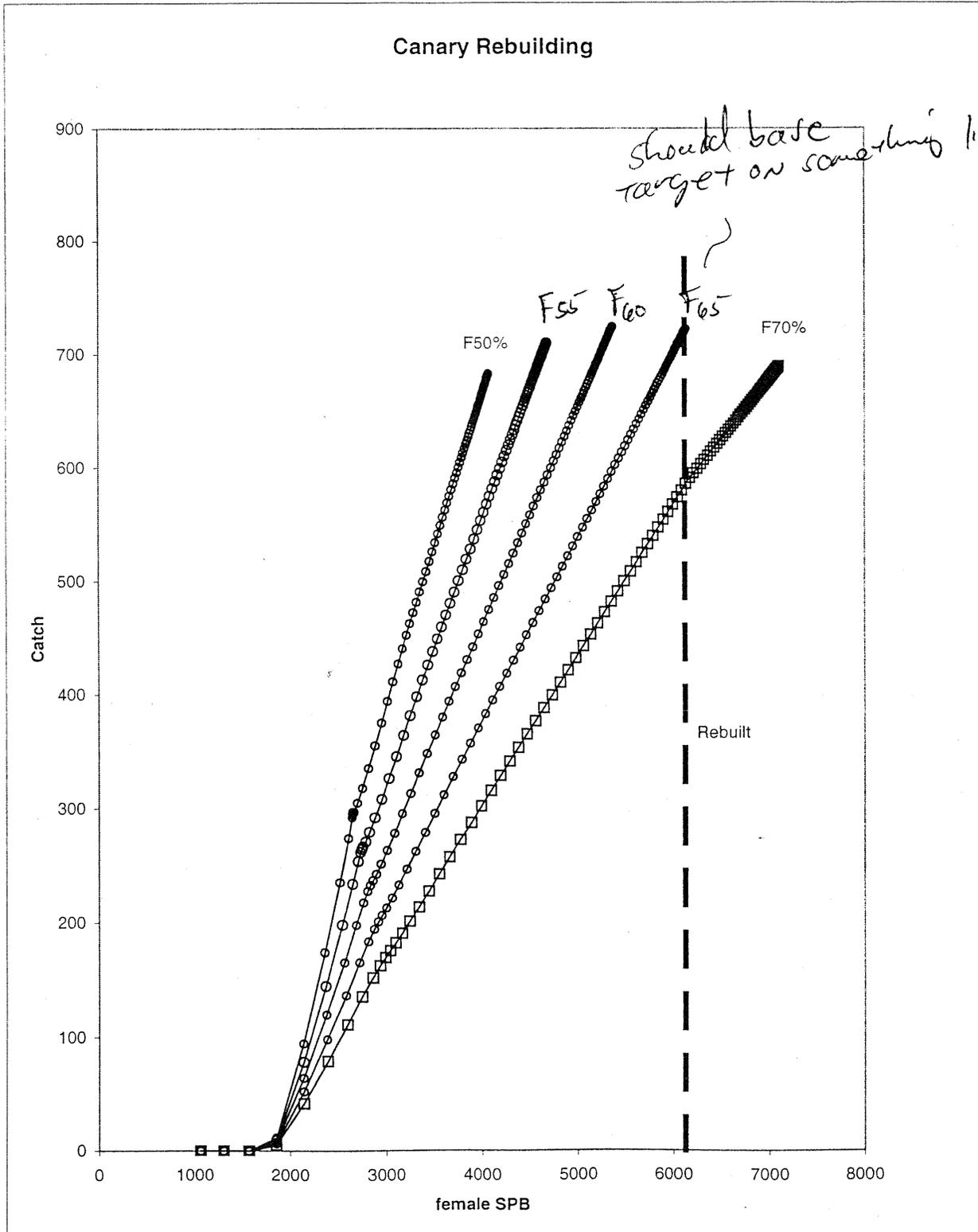


Figure 4. Relationship between time to rebuild in scenario #1 and the power for the rebuilding relationship.

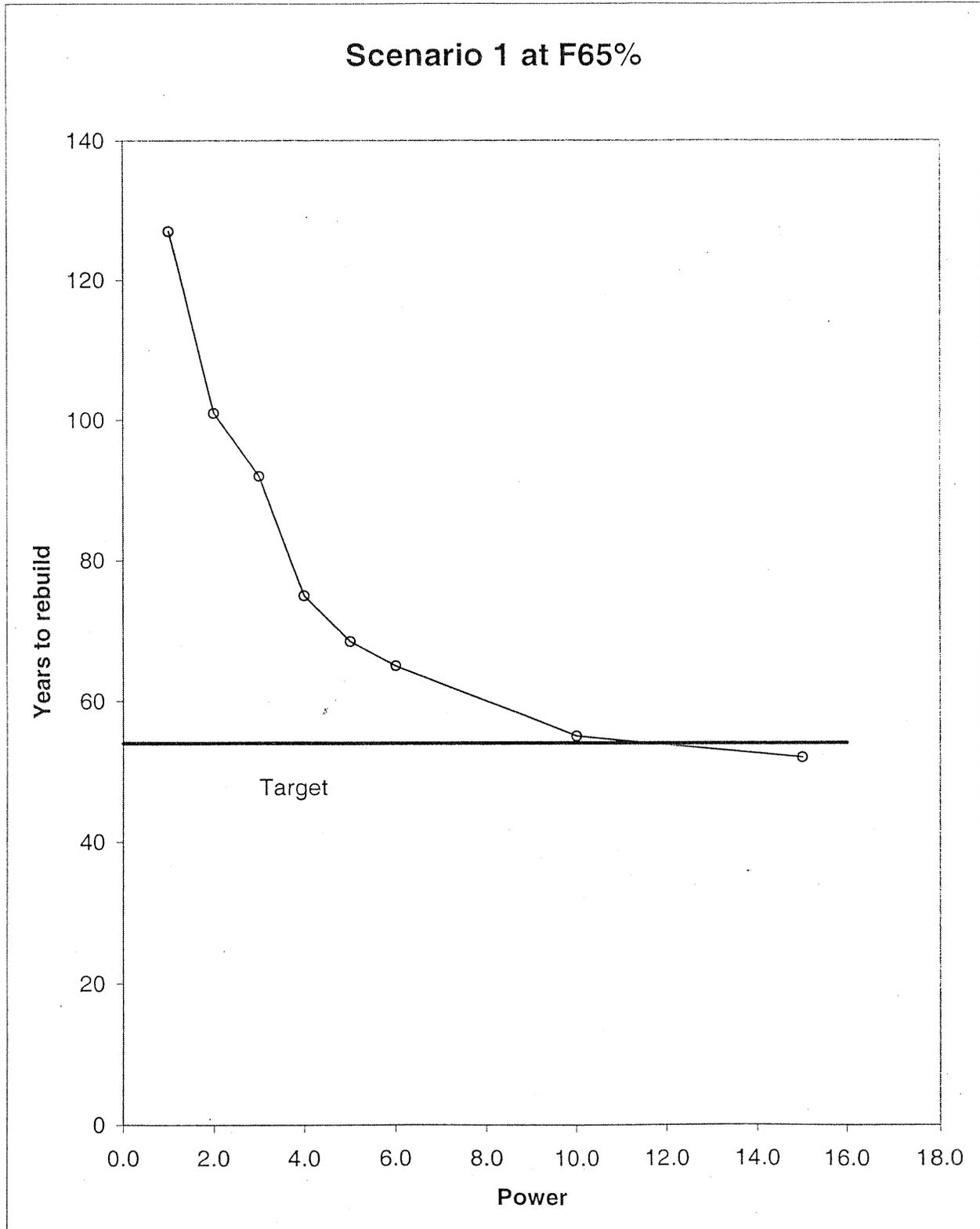


Figure 5. Estimated recruitment and spawner levels for scenario #2.

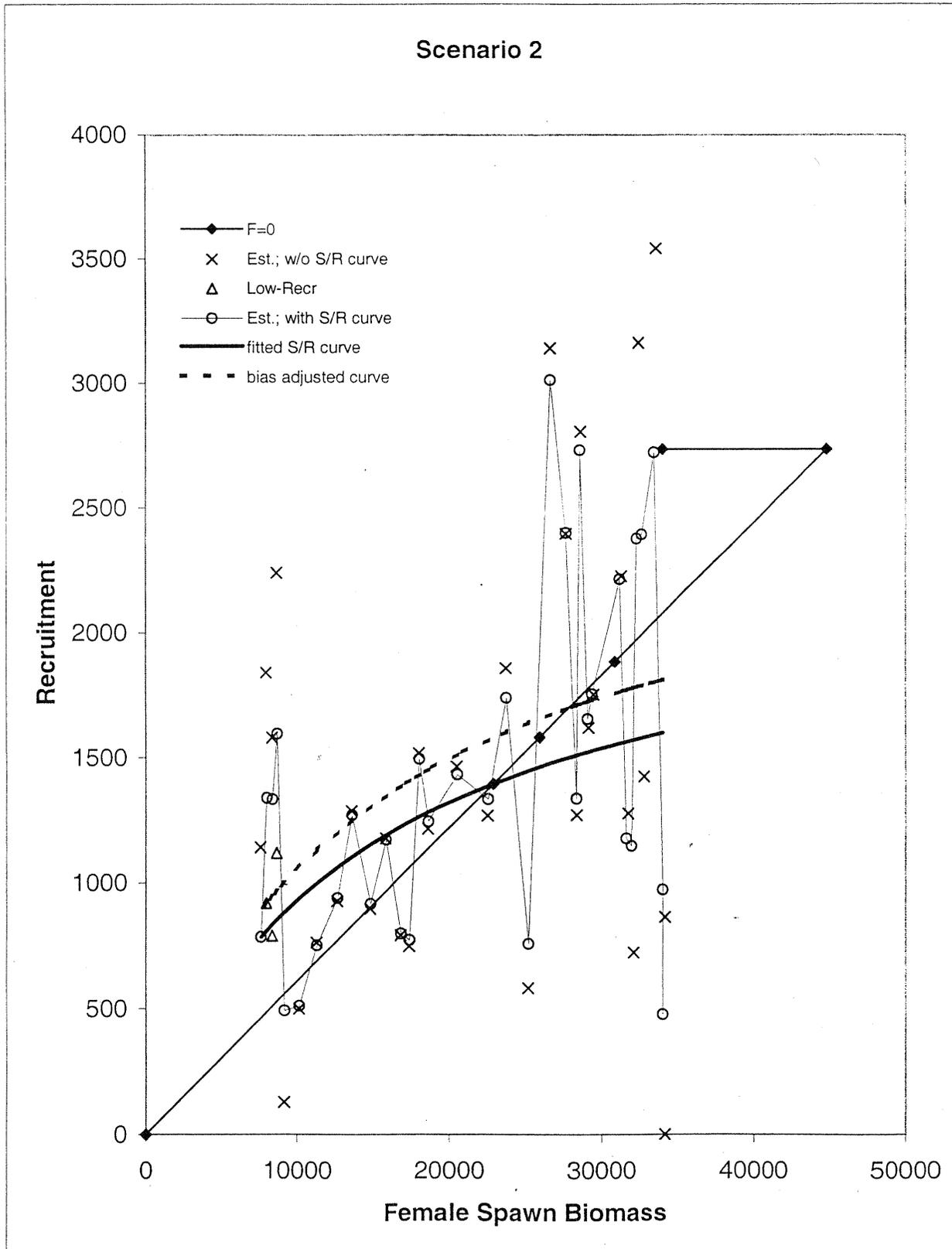


Figure 6. Estimated time series of recruits per spawner for scenario #2.

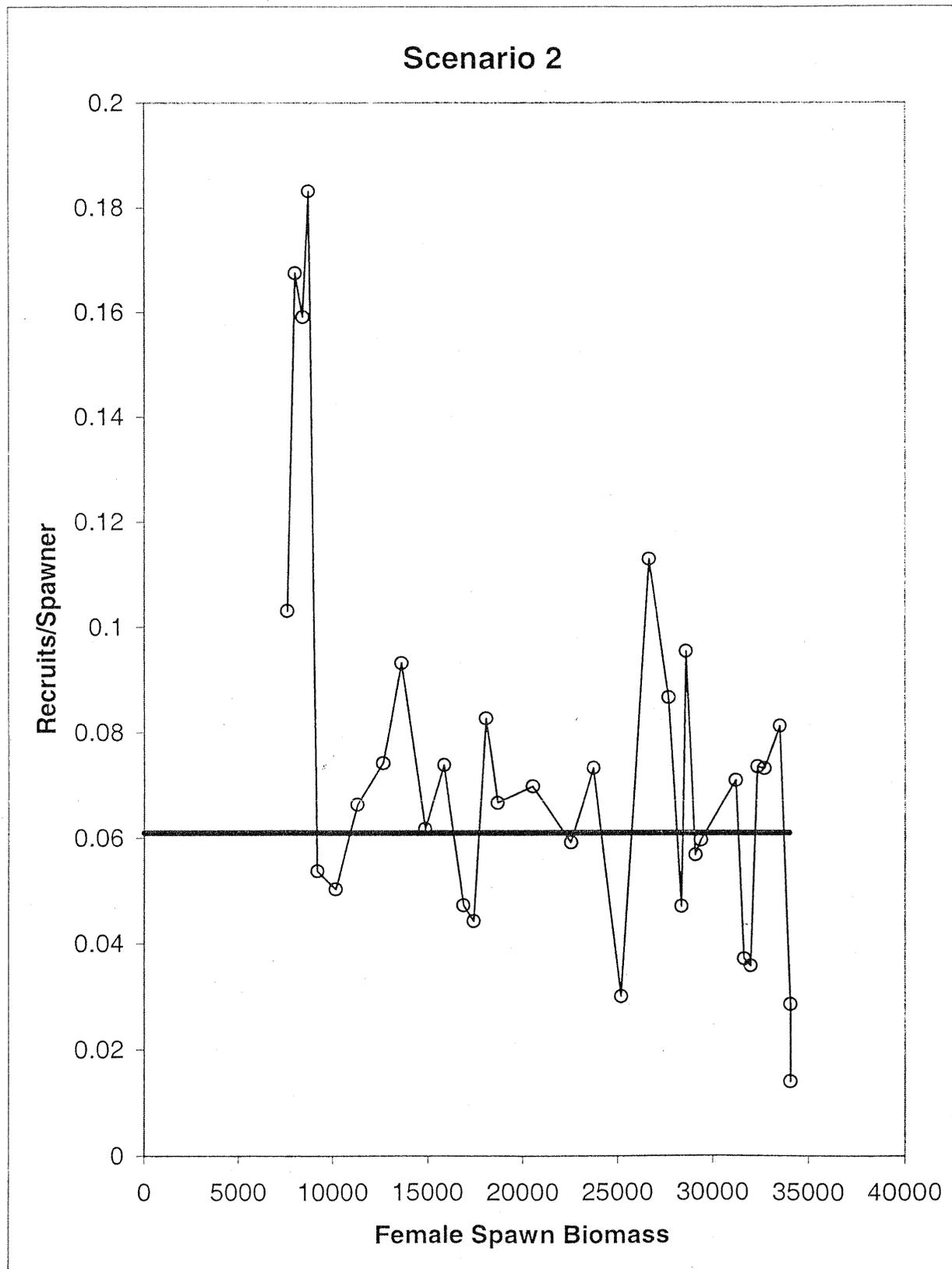
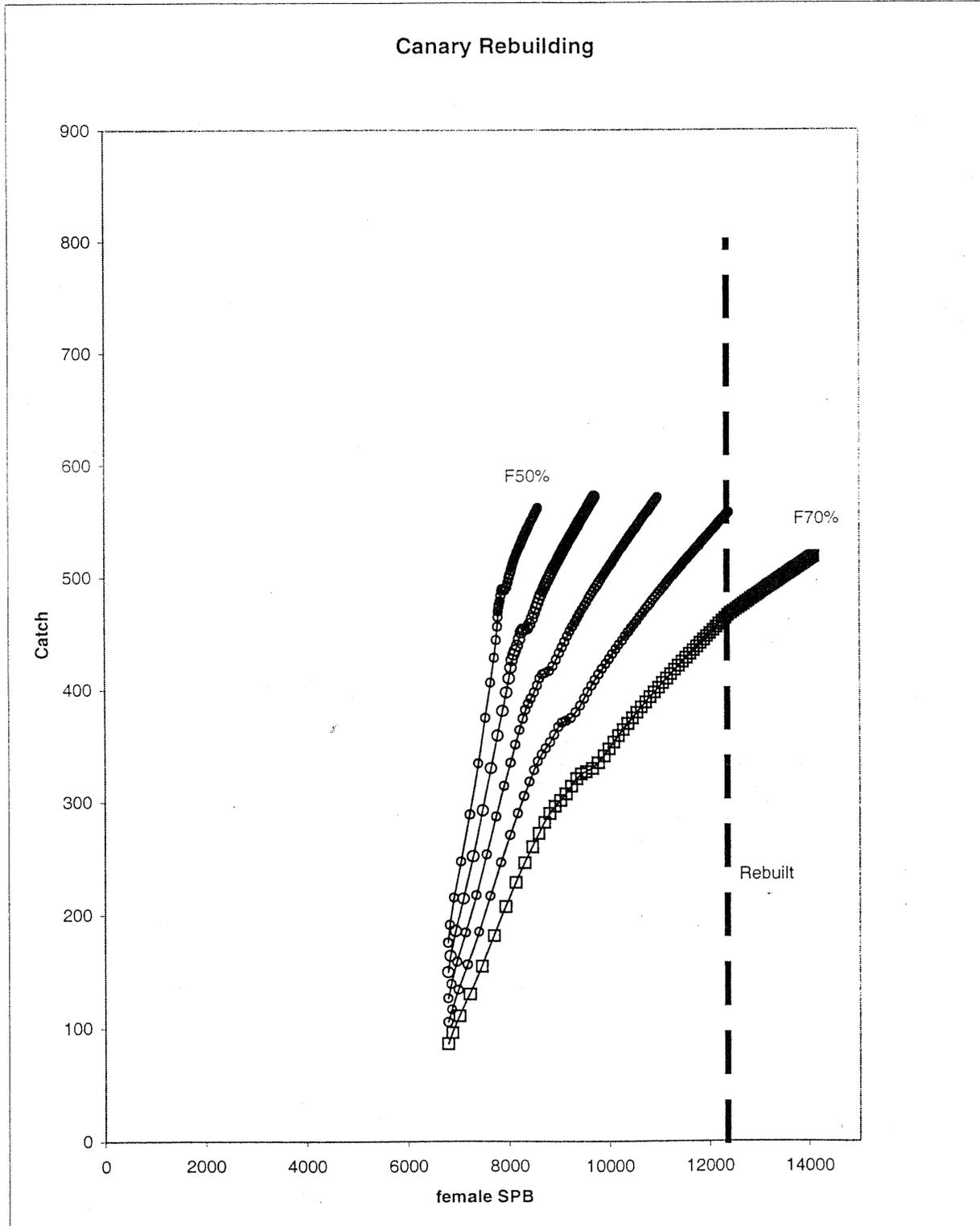


Figure 7. One hundred year projections of catch and spawning biomass assuming future recruitments come from the S/R curve (adjusting for log-transform bias), and catch is according to the 40-10 OY policy. Fspr levels from F50% to F70% are shown.



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Figure 8. Relationship between time to rebuild in scenario #2 and the power for the rebuilding relationship.

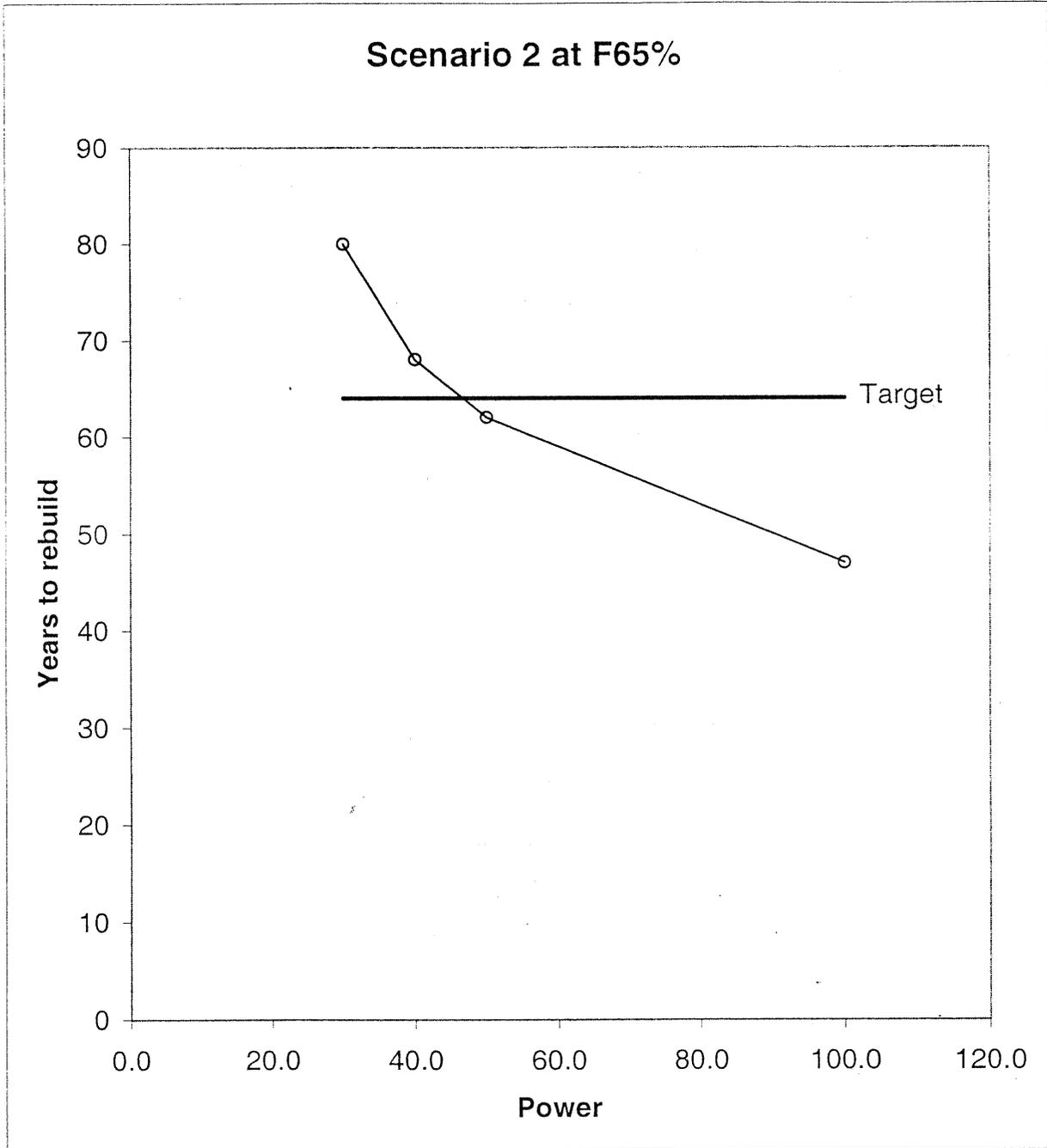
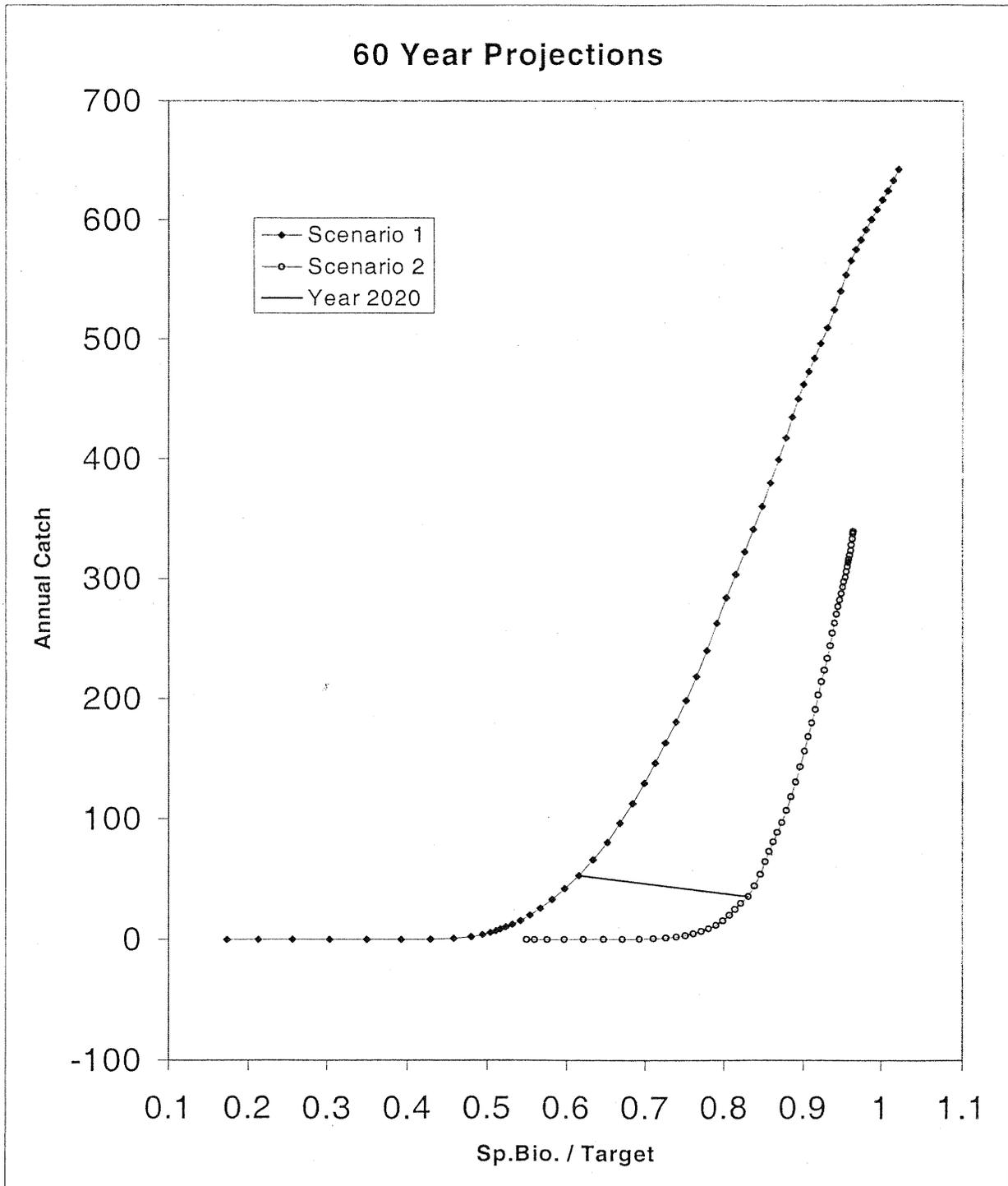


Figure 9. Summary rebuilding calculations for scenarios 1 and 2. Spawning biomass is expressed as a fraction fo the target level to facilitate comparison between the scenarios. Presentation is based upon the mean catch and spawning biomass from 200 simulations.



GROUND FISH ADVISORY SUBPANEL STATEMENT ON
COWCOD REBUILDING PLAN DEVELOPMENT

Dr. John Butler presented the draft cowcod rebuilding analysis to the Groundfish Advisory Subpanel (GAP). The draft cowcod analysis indicates catch in the Conception area needs to be reduced to between about 500 pounds to a few thousand pounds per year. This would require elimination of all commercial and recreational fishing for this species. The GAP recommends the Council consider whether area closures could accomplish the rebuilding needs and perhaps hasten rebuilding compared to merely prohibiting all retention.

Needless to say, the GAP is greatly concerned about the impact of these rebuilding requirements on all groundfish fishers and the coastal communities along the entire West Coast.

PFMC
06/28/00

COWCOD REBUILDING PLAN DEVELOPMENT

Situation: The West Coast cowcod rockfish resource is currently classified as overfished, and the Council must prepare a rebuilding plan for this stock before the November 2000 meeting. This stock is found exclusively in California, primarily in the Conception and Monterey areas. The 1999 stock assessment addressed only the portion of the stock in the Conception area, but the assessment authors and the Groundfish Management Team expressed concern the Monterey portion of the stock is almost certainly overfished as well. The extremely low levels of abundance of this stock will likely restrict the rebuilding alternatives, but the generally narrow geographic range of the stock in U.S. waters should limit social and economic impacts to that area.

A stock rebuilding plan should include the length of time necessary to rebuild the stock, expected harvest levels over the rebuilding period, any allocations necessary to equitably distribute the costs and benefits among fishery sectors, and other management measures the Council believes may be necessary (see Attachment D.11.a.). The first step in the process is determining the rebuilding schedule and initial harvest levels. With this information, the Council can begin to investigate the types of management measures that may be necessary to achieve the rebuilding goals and objectives. It may be possible only to identify and initiate a process for developing allocations at this time, including designating who will take the lead in this process. Any direct allocations require Council consideration at three meetings; therefore, initial identification of any allocations should be proposed at this time.

Council Action:

- 1. Preliminary decision on allocation and/or regulations.**
- 2. Council guidance on the length of the rebuilding schedule and initial harvest levels.**

Reference Materials:

1. (See Attachment D.11.a.).

PFMC
06/13/00

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON
COWCOD REBUILDING PLAN DEVELOPMENT

The Scientific and Statistical Committee (SSC) reviewed a draft cowcod rebuilding analysis prepared by Dr. John Butler of the National Marine Fisheries Service and Mr. Tom Barnes of the California Department of Fish and Game. The SSC provided advice to the authors regarding changes to the analysis that we would like to see in September. The current draft analysis indicates rebuilding will take many decades, even with very small catches.

PFMC
06/29/00

Draft

June 14, 2000

Cowcod Rebuilding
John Butler and Tom Barnes

Introduction

The west coast cowcod (*Sebastes levis*) resource is currently considered to be one continuous population that extends from Washington south into Mexico. Fishable biomass is similar to spawning biomass because cowcod are recruited to the fishery at the size of first maturity. The INPFC Conception Area portion of the stock was assessed by U. S. scientists in 1999 at which time the spawning biomass was determined to have fallen below 10% of its unfished size (Figure 1). The Pacific Fishery Management Council responded by imposing significant reductions in quotas.

Management Reference Points

B_{msy}: The rebuilding target is the spawning biomass level that produces MSY. Experience from other fisheries has shown the B_{msy} is often near 40% of initial biomass, which is also the biomass target for rebuilding the stock. Butler et al (1999) estimated initial biomass at 3370 mt with 2840 mt and 3990 mt as lower and upper 95% confidence intervals. The rebuilding target for the Conception Area is then 1350 mt biomass with 1140 and 1600 mt as lower and upper 95% confidence intervals respectively.

Mean Generation Time

If the stock cannot be rebuilt within 10 years, then the maximum time allowed for rebuilding is the length of time required to rebuild at F=0 plus one mean generation time. Mean generation time can be estimated from the net maternity function (product of survivorship and fecundity at age (Figure 2). Parameters used to estimate mean generation time are taken from Butler et al. (1999). Because larger and older cowcod females have high reproductive values, mean generation time is sensitive to maximum age. The oldest cowcod in a sample of 264 fish was 55 y (Butler et al. 1999), but it may not represent maximum age of this species. It is likely that older fish could be found if a larger sample size were available, or if samples were available from the un-exploited population. Consequently we used 75 y as the maximum age for cowcod and estimated mean generation time at 37 y. This long generation time is due in part to the fact that cowcod continue to grow after maturity, and thus older and larger female cowcod have very high reproductive value.

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Simulation Model

We modeled cowcod rebuilding using a surplus production model because of the density dependent recruitment inherent in the logistic equation (Appendix I). We also tried the delay difference model used in the cowcod stock assessment (Butler et al. 1999), but that model yielded unrealistic rebuilding times. Population simulations began with the 1998 cowcod biomass. Surplus production was modeled using a log-normal distribution fitted to recruitment during 1951-1998 (Butler et al. 1999). Population trajectories with a fixed mean r indicated that minimum time to B_{MSY} with no fishing was 61 y.

The maximum time to rebuild to B_{MSY} allowed by the SSFA is the minimum time (61 y) plus one mean generation time (37 y) or a total of 98 y. Population trajectories with randomly sampled log-normal production were repeated 250 times with different constant values of F to find a fishing rate that provided some catch but assured a 60% probability of achieving B_{MSY} within the maximum allowed time.

Initial Conditions

The cowcod stock assessment (Butler et al. 1999) found uncertainty in the 1998 biomass. Upper and lower 95% confidence intervals indicated that the 1998 cowcod biomass could be at 5-12% (126-451 MT) of unfished stock size. In order to capture the uncertainty in cowcod stock size, population trajectories were initialized at 126, 238 and 451 MT. Mean time to B_{MSY} with no fishing varies, which under different initial conditions, are 42, 62 and 80 y respectively.

Projections

The probability of rebuilding success under alternative fishing rates and three initial conditions are presented in Table 1. If the 1998 population is as low as 5% of the virgin biomass, almost no realistic quota achieves rebuilding. If the 1998 biomass is 7% of virgin biomass, then a quota of 2.4 MT will achieve rebuilding in about 95y. If the 1998 biomass is 12% of the virgin biomass, then a quota of 4.5 MT will achieve rebuilding in 67y.

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Discussion

The combination of an unproductive stock and extremely low current biomass level compounds the difficulties to rebuild cowcod. Rebuilding yields are very low compared to the large amount of fishing effort that is present in California waters. This provides the opportunity for target yields to be inadvertently exceeded due to inherent imprecision in catch statistics, and unrecorded fishing mortality from discarded bycatch. Calculations show that the long-term consequence of small over harvest could be significant. Unaccounted removals as small 1-2 tons per year may sufficiently jeopardize the rebuilding plan. Although it will be necessary to closely monitor annual commercial and recreational landings, additional information will be necessary to provide assurance that rebuilding targets are not exceeded. Reliable estimates of discards are one important element to rebuilding efforts. Identification of geographic areas where cowcod density is comparative high may also be of interest to managers seeking ways to assure that cowcod catches do not exceed rebuilding targets.

Future reassessments will demonstrate whether management measures have accomplished intended objectives. However, it is likely that many years will need to pass before it is possible to detect statistically significant change in abundance for an unproductive species such as cowcod.

Rebuilding yields have been calculated for that portion of the stock which is found in the Conception Management Area. The stock ranges much further to the north, and a significant fishery has also occurred in the Monterey Management Area. The Monterey Area was not included in rebuilding calculations because that portion of the stock is data poor, and consequently was outside the area of the stock assessment. However, significant catches have occurred in the Monterey Area over many years, and it is likely that the stock is also overfished in that portion of the range. One possible approach for estimating rebuilding yields for the Monterey Area is to take proportional catch reductions to that which are necessary in the Conception Area.

Literature cited

Butler, J. L., L. D. Jacobson, J. T. Barnes, H. G. Moser, and R. Collins. 1999. Stock assessment of cowcod. In: Pacific Fishery Management Council. 1999. Appendix: Status of the Pacific Coast Groundfish Fishery through 1998 and recommended

June 14, 2000

biological catches for 1999: Stock assessment and fishery evaluation. Pacific Fishery Management Council, 2130 SW Fifth Avenue, Suite 224, Portland, Oregon, 97201.

List of Figures

Figure 1. Basecase model results for Cowcod spawning biomass with 95% confidence interval.

Figure 2. Net maturity function of female cowcod.

June 14, 2000

Table 1. Probabilities of cowcod rebuilding under a constant harvest rate, assuming three alternative 1998 biomass levels. **Catch** is the mean annual catch during the first three years of the projection period (1999-2000); **Percent Success** is the percentage of simulations that achieve rebuilding schedule; **Median Time** is median time (y) to reach B_{msy} ($=0.4 \times 3370$ MT).

LOW 1998 BIOMASS (4 % OF VIRGIN BIOMASS)

F	CATCH MT	PERCENT SUCCESS	MEDIAN TIME
0	0	100	81
0.002	0.25	66	86
0.01	1.3	1	121
0.02	2.5	0	277
0.03	3.7	0	>300
0.04	5	0	>300

MEDIUM 1998 BIOMASS (7 % OF VIRGIN BIOMASS)

F	CATCH	PERCENT SUCCESS	MEDIAN TIME
0	0	100	62
0.009	2.1	60	90
0.01	2.4	55	95
0.02	5	0	227
0.03	7	0	>300
0.04	9	0	>300

HIGH 1998 BIOMASS (11 % OF VIRGIN BIOMASS)

F	CATCH	PERCENT SUCCESS	MEDIAN TIME
0	0	100	42
0.01	4.5	99	67
0.014	6.4	60	92
0.02	9	0	186
0.03	13	0	>300
0.04	16	0	>300

Figure 1. Basecase model results for cowcod spawning biomass with 95% confidence interval.

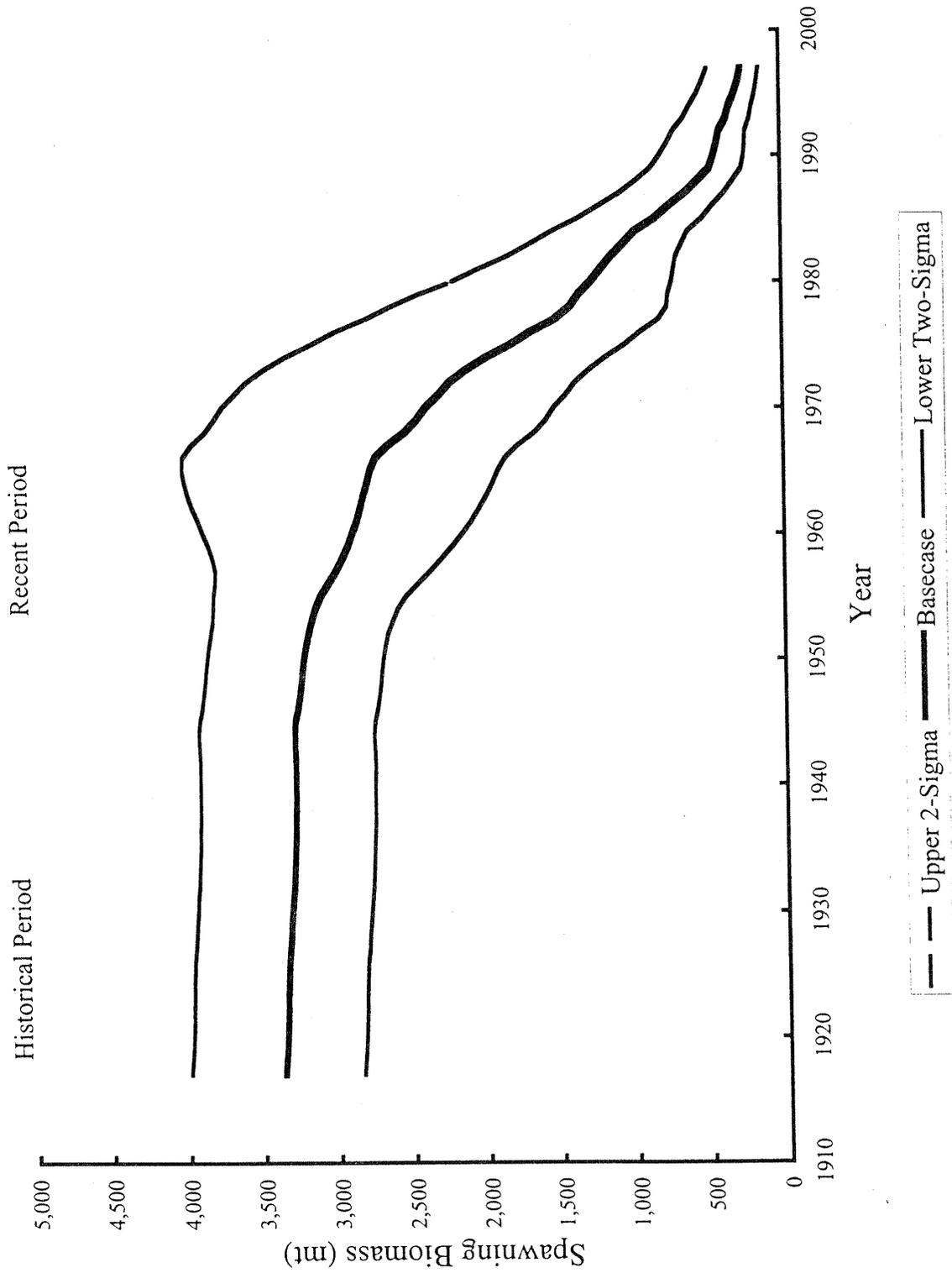
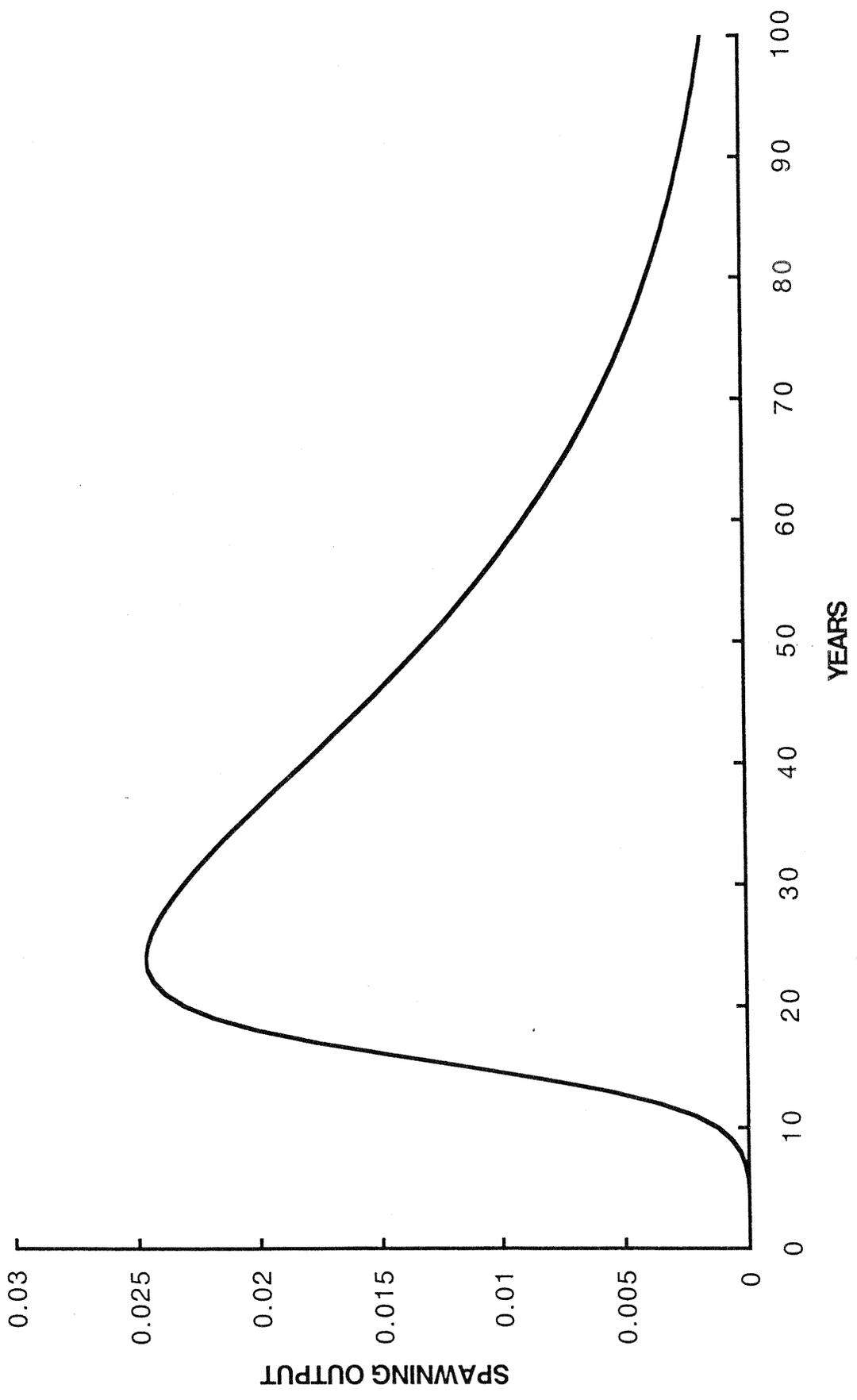


Figure 2. Net maturity function for female cowcod.



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Appendix I

Surplus Production was computed by:

$$P_y = B_{y+1} - B_y + C_y$$

Where B_y was estimated from the delay difference model (Butler et al. 1999) at the beginning of the year y , K is the population carrying capacity or "virgin biomass," C_y was catch data and r is the slope of the production function at the origin. Production was modeled using the logistic model with process errors:

$$P_y = r B_y \left(1 - \frac{B_y}{K} \right)$$

Solving for r_y gives:

$$r_y = \frac{P_y K}{B_y (K - B_y)}$$

The recruitment parameter r_y was calculated for each year from 1951-1998 and modeled using the lognormal distribution. Then forward projections of biomass were obtained from rearranging Eq (1), giving:

$$B_{y+1} = B_y + P_y - C_y$$

Where P_y was obtained from Eq. (2) using a stochastic lognormal r .

SCIENTIFIC AND STATISTICAL COMMITTEE STATEMENT ON
DEFAULT MAXIMUM SUSTAINABLE YIELD FISHING RATE WITHIN THE HARVEST RATE POLICY

The Scientific and Statistical Committee (SSC) reviewed the Groundfish Harvest Rate Policy Workshop Report (Attachment D.13.a.). The report (1) summarizes the scientific and management background of the harvest proxy issue, (2) explains some areas of common confusion, and (3) recommends default, risk-neutral proxies for F_{MSY} . The SSC fully agrees with the findings and recommendations of the Report, and recommends that the Council adopt the following risk-neutral proxies of F_{MSY} :

<i>Sebastes</i> and <i>Sebastolobus</i>	$F_{50\%}$
Pacific whiting	$F_{40\%}$
Flatfishes	$F_{40\%}$
Other groundfish	$F_{45\%}$
“Remaining Rockfish”	0.75 M

In addition, the SSC prepared a report, Supplemental SSC Report D.13.(2)., that summarizes the workshop’s findings, discusses the findings with respect to precautionary management, and provides some implementation recommendations to the Council. This SSC report, designed to complement the workshop report, also addresses the Council’s request for clarification on where and when precautionary adjustments are made in the stock assessment/management process as well as background information for many of the Council’s questions to the SSC regarding F_{MSY} harvest rate considerations.

The Council’s specific questions (Attachment D.13.b.) are addressed below:

1. Does the SSC agree with the findings/recommendations of the Panel?
The SSC fully agrees with the findings and recommendations of the Panel.
 - Does the SSC agree with the point estimates of F_{MSY} ?
Yes. However, it is important to keep in mind these are not point estimates of F_{MSY} for a single species, but rather proxies for species groups. See SSC Report for more detail.
 - Are these estimated values risk-neutral (e.g., is there an equal probability that the true value is above or below the point estimate)?
Yes. The terms of reference for the Panel specifically called for the Panel to develop risk-neutral proxies for species categories.
 - Can one quantitatively describe the variability and uncertainty distribution around the point estimates?
If so, please describe.
No, as described above, these are not point estimates in the statistical sense for a particular species, i.e., they are not accompanied by formal statistical distributions and error bars. However, the workshop Panel and the SSC have recommend that for the relatively data-rich stock assessments, F_{MSY} estimates be derived as a part of the assessment instead of using proxies. The Council should expect to see such statistical estimates in the near future, accompanied by quantitative measures of variability and uncertainty.
2. How should the recommendations be implemented?
The SSC recognizes the implementation difficulties involved in constructing management measures that conform to the new F_{MSY} proxies. The SSC suggests it may be reasonable to implement the new proxies for some stocks immediately while delaying implementation for others. The following criteria is suggested:
 - Stocks for which current spawning stock biomass (SSB) is less than $B_{40\%}$: implement now (i.e., Option 2a as described in Attachment D.13.b.).
 - Stocks for which current SSB is greater than or equal to $B_{40\%}$: implement after the next stock

assessment (i.e., Option 2c as described in Attachment D.13.b.)

3. What precautionary adjustments have already been taken and what are additional quantitatively-based options?
 - What precautionary adjustments are already taken in the management process?

All components of the stock assessment process are designed to be risk-neutral; i.e., no precautionary adjustments are made during the process of estimating current stock size, fishing mortality rates, etc. (see Stock Assessment Review (STAR) Panel and Stock Assessment Team (STAT) Team terms of reference). The Council's determination of acceptable biological catch (ABC) is also risk-neutral. Some aspects of the precautionary approach are incorporated into the Council's optimum yield (OY) determination, e.g., application of the "40-10" control rule. Other aspects of the precautionary approach, involving additional precautionary adjustment when uncertainty is large, are not generally a part of Council management, but may be in the future (see Supplemental SSC Report D.13 .(2)., page 3 for suggestions on moving the process in this direction)
 - In the third paragraph of the attached April SSC statement, two reasons are cited to warrant precaution in applying target F values for the fishery. For number 1, is there information on the range of average productivity for species within any complex managed by the Council? For number 2, can the chance of exceeding, and conversely not reaching, the true F_{MSY} be quantitatively or qualitatively be assessed?

The paragraph referenced from the April SSC statement was only intended to clarify for the Council that the Workshop Panel's F_{MSY} proxies were risk-neutral, and did not reflect any precautionary adjustment. The Council's questions, immediately above, are addressed under Item 1 on page 2 of this report.
4. Definitions of key words related to default harvest rates.

See the glossary in Appendix C of Supplemental SSC Report D.13.(2).

PFMC
06/29/00

SCIENTIFIC AND STATISTICAL COMMITTEE STATEMENT ON
DEFAULT MAXIMUM SUSTAINABLE YIELD FISHING RATE WITHIN THE HARVEST RATE POLICY

Due to concern over declines in West Coast groundfish populations, and the inability of those stocks to sustain historical harvest rates, the Scientific and Statistical Committee (SSC) sponsored a workshop to evaluate the issue and to make recommendations to the Pacific Fishery Management Council (PFMC) concerning the suitability of the Council's default harvest rates. The West Coast Groundfish Harvest Rate Policy Workshop was held from March 20-23, 2000 at the Alaska Fishery Science Center in Seattle, Washington (Terms of Reference are presented in Appendix A). The format of the meeting consisted of a series of 12 presentations by interested scientists, which were made to a panel of three SSC and three outside reviewers. The panel evaluated and considered all of the oral and written material presented at the workshop, as well as other information available in the published scientific literature, and issued a Panel Report (Appendix B). The Panel Report was available at the PFMC meeting in April, 2000 and the whole SSC provided preliminary comment on the findings of the workshop at that time. In particular, the SSC's initial review supported the panel's consensus findings that groundfish harvest rates should be reduced.

Having had the opportunity to examine the Panel Report in detail, the SSC agrees with the panel's recommended "risk-neutral" proxies for F_{msy} . Namely,

<i>Sebastes</i> and <i>Sebastolobus</i>	$F_{50\%}$
Pacific whiting	$F_{40\%}$
Flatfishes	$F_{40\%}$
Other groundfish	$F_{45\%}$
"Remaining Rockfish"	0.75 M

Due to the apparent low productivity of west coast groundfish stocks, the SSC recommends that harvest rates be reduced to these levels to support risk-neutral management, and to even lower harvest rates to support risk-averse or precautionary management. According to the best available scientific information at this time, these fishing mortality rates should be viewed as harvest rates that will produce the maximum sustainable yields (MSY) for the stock complexes in question. They represent proxies for F_{msy} because they are based on information summarized from a wide variety of stock-specific analyses and they are applied generically within each group. One problem with this approach is that, within each complex, one would expect some stocks to be overfished and some stocks to be underutilized. As more information becomes available, and credible analysis supports it, the SSC recommends that species-specific analyses of productivity be conducted whenever possible.

Because these values are properly considered risk-neutral (i.e., they are just as likely to overestimate as underestimate the actual F_{msy} rate), the issue of precautionary adjustments has been raised. Precautionary adjustments to harvest control rules are appropriate when the repercussions of over-harvesting a resource are less acceptable than under-harvesting it. Within the context of setting west coast groundfish catch levels, it is important to identify where and when precautionary adjustments are incorporated, to insure a proper understanding of the process by all concerned.

Under current Council procedures, catch levels are set based on guidelines provided in Amendment 11 to the groundfish Fishery Management Plan (FMP). Specifically, language in that amendment states:

"In general, ABC will be calculated by applying $F_{35\%}$ (or $F_{40\%}$ or other established MSY proxy) to the best estimate of current biomass."

Note that the effect of the recommended revisions to the default harvest rate proxies (see above) will be realized here and here only, i.e., in the calculation of the Allowable Biological Catch (ABC). However, the FMP also states:

"Reduction in catches or fishing rates for either precautionary or rebuilding purposes is an important component of converting values of ABC to values of OY."

"For category 1 species, in addition to the overfished/rebuilding threshold, a precautionary threshold is established. The default value will be 40% of mean B_{unfished} . This level of biomass is expected to be near B_{msy} , and if abundance is between the overfished/rebuilding threshold and the precautionary threshold, a precautionary reduction in harvest will implemented [sic] to avoid further declines in abundance."

The harvest control rule used to specify the amount of precautionary reduction is the "40-10" policy, which states that OY declines linearly from OY=ABC at $B_{40\%}$ to OY=0 at $B_{10\%}$ (see glossary in Appendix C for definitions). For stock sizes that are greater than $B_{40\%}$, no precautionary adjustment is required (i.e., OY=ABC). In addition, Amendment 11 stipulates:

"Uncertainty adjustments: In cases where there is a high degree of uncertainty about the biomass estimate and other parameters, OY may be further reduced accordingly."

From these citations it is clear that, at this time, the primary form of precautionary adjustment to be made in the setting of OYs for west coast groundfish is through use of the "40-10" harvest control rule. No further precautionary reduction in harvest rate *per se* is required, beyond the reduction required to meet the harvest policy itself. However, the FMP allows for additional reductions in OY in situations where there is a high degree of uncertainty, particularly about stock size. Improvements in the analytical software available to stock assessment scientists now permit a much better characterization of the statistical uncertainty in the estimated size of exploited stocks and it is increasingly possible to generate more realistic confidence intervals (i.e., biomass $\pm xx\%$ with 95% certainty). In situations where " xx " is large, uncertainty is high and the likelihood of severely overestimating stock size is not inconsequential. Therefore, it may often be prudent to further reduce OY when stock size has been estimated imprecisely, although this apparently is not required by Amendment 11.

It would be possible to modify the Council's current harvest control rule, i.e. the "40-10" rule, so as to automatically undertake "uncertainty adjustments" that would be based on the statistical imprecision in the estimation of stock size, i.e., the greater the level uncertainty (xx above), the greater the reduction in OY. Undoubtedly the development of such a rule to more fully embrace the precautionary principle would require significant analytical work. But fundamentally, a decision to lower risk when uncertainty is great reduces to a policy decision, akin to the choices made by a portfolio manager investing in the stock market. Namely, how does one value the risks of stock collapse against the rewards of higher yields. On this spectrum of risk and return, the Council properly exercises its judgement and authority. We note that this type of adjustment for "uncertainty" is not presently codified into a control rule, like the "40-10" policy, although that is something the Council may wish implement at some point in the future, with assistance from the SSC and/or GMT. If the Council wishes to pursue the issue of further precautionary adjustments to the "40-10" harvest control rule (to incorporate uncertainty in stock size estimates), the SSC recommends a two-step procedure:

- (1) The North Pacific Fishery Management Council (NPFMC) has been incorporating a precautionary adjustment to their harvest control rule that incorporates uncertainty in stock size estimates. In the near future, invite the NPFMC SSC Chair to discuss this policy with the PFMC SSC and full Council.
- (2) Convene a scientific workshop (similar in scope to the recent SSC-convened Harvest Rate Policy Workshop) to address the analytic procedures and methods, and to prepare a report to the SSC addressing the full range of scientific and implementation issues involved.

Although the "40-10" harvest control rule automatically results in some precautionary (or risk-averse) adjustment for Category 1 species (i.e., those stocks that have been fully assessed and have time series of biomass and recruitment), there are other stocks with less information available for management purposes. For example, how does one implement precautionary adjustments for the "remaining rockfish" category? If the new F_{MSY} proxies (see above) are approved by the Council, the ABCs for those stocks will now be calculated using a risk-neutral harvest rate equal to 0.75 M.

We draw the Council's attention to text within the current 1999 SAFE document, which states:

"For 1999 the Council endorsed the GMT's proposal to reduce the remaining rockfish component by 25% (i.e., to 75% of the current level) and the other rockfish component by 50%. These reductions of 25% and 50% were based on suggested target catch levels for data-poor situations from Restrepo *et al.* (1998. Technical Guidance on the Use of Precautionary Approaches to Implementing National Standard 1 of the Magnuson-Stevens Fishery Conservation and Management Act. Draft NOAA Tech. Memo.). This technical guidance suggests a 25% reduction for stocks above the B_{msy} level and a 50% reduction for stocks between the minimum stock size threshold (i.e., the overfished/rebuilding threshold) and the B_{msy} level. The GMT recommends continuation of this reduction."

The Council may, therefore, wish to consider maintaining a *status quo* percentage reduction in setting the OYs of the "remaining" and "other" rockfish. The old, risk-neutral, harvest rate for the remaining rockfish was 1.00 M, which was reduced to 0.75 M as a precautionary measure, amounting to a 25% reduction off of the ABC. An equivalent 25% precautionary reduction from ABC to OY under the new proposed rate would be $ABC = 0.75 M \cdot B$ and $OY = 0.56 M \cdot B$.

As one of two alternatives to this *status quo* percentage reduction option, Walters and Parma¹ have stated:

"Patterson's (1992) finding that pelagic stocks have generally been able to sustain exploitation rates of approximately only 0.5 to 1 times the natural mortality rate, as predicted from some modeling studies (reviewed in Patterson 1992), appears to work for demersal species as well. A worrisome point about the Patterson (1992) finding is that the popular $F_{0.1}$ harvest rate, which usually implies $F \approx M$ and is generally considered to be quite conservative (Deriso 1987), may in fact be too high for the majority of natural populations. Because underestimation of the optimal exploitation rate for long-lived species is not particularly costly ... , we consider the prudent approach to assume $\mu_o \leq 0.5 M$ [μ_o is the optimal harvest rate] and to place the burden of proof on whoever advocates a higher rate to demonstrate that it is sustainable (by substantial direct analysis of historical stock-recruit data)."

Based on the arguments of these leading authorities, the Council may want to consider a more conservative precautionary adjustment of the risk-neutral $ABC = 0.75 M \cdot B$ policy for the remaining rockfish to a policy of $OY = 0.5 M \cdot B$.

A third approach to implementing precautionary management for the remaining rockfish might be to utilize the "risk-averse" results presented in Dorn's harvest policy workshop paper (see Workshop Agenda, pg. 13 of Panel Report [Appendix B]): Advice on west coast rockfish harvest rates from Bayesian meta-analysis of stock-recruit dynamics). He showed that for west coast *Sebastes* stocks, exclusive of Pacific ocean perch, optimal risk-neutral SPR harvest rates were in the range of $F_{45\%} - F_{54\%} \approx F_{50\%}$ (see above). In contrast, the equivalent risk-averse SPR harvest rates² were in the range $F_{47\%} - F_{57\%} \approx F_{52\%}$, which amounts to a 7% reduction in harvest rate. This option would embrace a relatively small amount of precaution in the setting of the optimum yields of the remaining rockfish at $OY = 0.70 M \cdot B$.

In the following summary table, the SSC-recommended risk-neutral proxies for F_{MSY} and precautionary adjustments to the harvest rates are provided, and compared to the status quo. Note, however, that these precautionary adjustments (both "SSC-Recommended" and "Status Quo") do not fully incorporate the uncertainty in stock size estimation, as described above.

Risk-Neutral Proxies for F_{MSY} and Precautionary Harvest Rates

	----SSC Recommended----		-----Status Quo-----	
	Risk-Neutral	Precautionary F based on:	Risk-Neutral	Precautionary F based on:
<i>Sebastes and Sebastolobus</i>	$F_{50\%}$	40-10	$F_{40\%?}$	40-10
Pacific whiting	$F_{40\%}$	40-10	$F_{40\%HYBRID}$	40-10
Flatfishes	$F_{40\%}$	40-10	$F_{35\%}$	40-10
Other groundfish	$F_{45\%}$	40-10	$F_{35\%}$	40-10
"Remaining Rockfish"	0.75 M	0.5-0.7M	M	0.75M

¹ Walters, C., and A. M Parma. 1996. Fixed exploitation rate strategies for coping with effects of climate change. *Can. J. Fish. Aquat. Sci.* 53:148-158.

² Wherein $\lambda=0.5$ in the fishery loss function of Thompson, G. G. 1992. A Bayesian approach to management advice when stock-recruitment parameters are uncertain. *Fish. Bull., U. S.* 90:561-573.

APPENDIX A

The terms of reference of the workshop, as specified in the minutes of the November 1999 SSC meeting, were as follows:

Recent scientific studies have suggested that the proxies currently used for West Coast groundfish may overestimate the true F_{msy} for these species. The SSC will convene a Harvest Rate Policy Review Workshop to address this issue. The review will be chaired by Dr. Steve Ralston of the SSC. It will be held at the National Marine Fisheries Service (NMFS) Alaska Fisheries Science Center (Seattle, Washington) during March 20-24, 2000.

The formal review panel will consist of five scientists (in addition to the Chairman): (1) two additional SSC members; (2) two external experts; and (3) one expert from within the west coast groundfish scientific community. In addition, the Groundfish Management Team (GMT) and Groundfish Advisory Subpanel (GAP) will each designate one representative to contribute to the review, but the GMT and GAP representatives will not serve as formal panel members. The principal investigators involved in recent scientific studies on this issue will be invited to present their work to the review panel. The process will also be open for other scientists to present relevant work to the review panel (at the discretion of the Chairman).

The terms of reference for the review panel are:

- Review the current body of existing scientific work and any additional (relevant) work presented during the review panel meeting. All scientific contributions must be well documented with draft papers provided to the review panel in advance of the meeting.
- Evaluate the appropriateness of the current Council F_{msy} proxies (i.e., $F_{40\%}$) for *Sebastes* species and $F_{35\%}$ for other groundfish.
- Suggest procedures for incorporating uncertainty, risk, and the precautionary approach in establishing harvest rate policies.
- Provide a comprehensive report to the SSC and the Council that clearly documents the findings and recommendations of the review panel.

APPENDIX B

Panel Report

West Coast Groundfish Harvest Rate Policy Workshop
AFSC, Seattle, Washington: March 20-23, 2000
Sponsored by the Scientific & Statistical Committee of
the Pacific Fishery Management Council

Panel Report

Stephen Ralston (chairman), James R. Bence, William G. Clark,
Ramon J. Conser, Thomas Jagielo, and Terrance J. Quinn II.

Scientific and Management Background

Through 1998 the policy of the Pacific Fishery Management Council (PFMC) was to set the Allowable Biological Catch (ABC) of a stock by applying the fishing mortality rate that produces Maximum Sustainable Yield (F_{MSY}) to an estimate of exploitable stock biomass. Policies of this kind are termed constant rate policies because, once the estimate of F_{MSY} is determined, the annual ABC is strictly proportional to estimates of exploitable biomass. However, owing to short data series and other technical issues, it generally has not been possible to directly estimate F_{MSY} reliably for any stock. Consequently, during the 1980s and into the early 1990s, one of several common surrogate or proxy estimates of F_{MSY} was used (e.g., $F_{0.1}$ or $F=M$).

Clark (1991) proposed the $F_{35\%}$ harvest rate as a more general and rational surrogate rate. $F_{35\%}$ is the fishing mortality rate that reduces the spawning potential *per recruit* to 35% of the unfished level. By reasonably assuming that fecundity is proportional to average weight, it is the rate of fishing that reduces the spawning biomass *per recruit* to 35% of what would exist if there were no fishing. Clark showed that this rate would produce a yield close to MSY for a range of life history parameters and productivity relationships that were intended to cover the great majority of well-studied groundfish stocks with long histories of exploitation (most of which were Atlantic stocks). He also showed that $F_{35\%}$ was very close to both $F_{0.1}$ and $F=M$ when the schedules of recruitment and maturity coincided, and were sensibly higher or lower when they differed. However, a later paper extended the original analysis to cases with random and serially correlated recruitment variation (Clark 1993), and concluded that $F_{40\%}$ would be a better choice overall than $F_{35\%}$. Mace (1994) also recommended $F_{40\%}$ on the basis of deterministic calculations. The current scientific consensus now indicates that $F_{40\%}$ is an appropriate default harvest rate for stocks with unknown productivity parameters.

The PFMC adopted $F_{35\%}$ as its standard surrogate in 1992, and switched to $F_{40\%}$ for *Sebastes* only in 1997, based principally on the conclusions of Clark (1993) and Mace (1994). In 1998 it then adopted the so-called "40-10" rule under Amendment 11 to the groundfish FMP. The 40-10 rule represented a departure from prior constant rate harvest policies, wherein the target fishing mortality rate is reduced for stocks whose biomass is below 40% of the estimated unfished biomass (B_0).

Common Confusion Over Relative Biomass and Relative Biomass per Recruit

In addition to recommending the $F_{35\%}$ strategy, Clark (1991) suggested a more robust biomass-based strategy that consists of simply maintaining spawning biomass at around 40% of the estimated unfished level. Perhaps partly because of the shared "40%" level, it is often supposed that the $F_{40\%}$ harvest rate will reduce spawning biomass to 40% of unfished biomass, but that is only true for stocks with highly resilient spawner-recruit relationships. For less resilient stocks, $F_{40\%}$ will reduce biomass to a lower level, possibly much lower, while still providing a yield near MSY. That is possible because yield is not very sensitive to equilibrium biomass over a wide range of biomass levels, so a yield near MSY can be obtained even when biomass is well below B_{MSY} . It is this feature of yield curves that makes it possible for a rate like $F_{40\%}$ to perform well in terms of yield over a wide range of spawner-recruit productivity curves. For some curves $F_{40\%}$ is well above F_{MSY} and for some of the curves it is well below, but in none of the cases considered is it so far above or below F_{MSY} that yield is much lower than MSY.

For the most likely sort of groundfish spawner-recruit relationships (i.e., asymptotic curves such as the Beverton-Holt model), and if other forms of stock compensation are negligible, B_{MSY} is likely to lie in the range of 25-40% of unfished biomass. Therefore, even if F_{MSY} was known and was implemented for a stock, the resulting biomass level would generally be less than 40% of B_0 on average. For some stocks, recruitment variations alone might then result in biomass levels falling below 25% of the unfished level, which is the overfished threshold as implemented in Amendment 11 to the groundfish FMP. Thus, fishing at $F_{40\%}$, which can be well above (or below) F_{MSY} , can be expected to result in biomass levels that are occasionally or on average very low for some stocks. Thus, given the new requirement of biomass-based overfished thresholds (Department of Commerce 1998), the relationship between harvest rates and biomass levels becomes more critical.

Declines of Pacific Coast Stocks Fished at $F_{35-40\%}$

Ralston (1998) showed that a number of Pacific coast rockfish stocks declined to low levels during the last two decades, contributing to concerns about the wisdom of the $F_{35\%}$ policy. His findings, as well as analyses conducted by the GMT during the preparation of Amendment 11, led to a series of workshops, including this latest review. This panel received a number of papers dealing with the productivity of the stocks in question and considered arguments for and against retaining the $F_{35\%}/F_{40\%}$ rate (in conjunction with the 40-10 rule) for all stocks.

We believe there are at least three possible factors that are responsible for the observed declines in groundfish stocks:

1. Normal operation of the $F_{35\%}/F_{40\%}$ strategy.

As explained above, either an $F_{35\%}$ or $F_{40\%}$ harvest rate will often lead to biomass levels that are well below what many people commonly expect, even when the rate is no larger than F_{MSY} . When it is larger, as will happen for some stocks, resulting biomasses can be very low. The important point is that both F_{MSY} and the proxy rate are calculated to achieve a certain level of yield, not biomass. In addition, harvesting at $F_{35\%}/F_{40\%}$ should be viewed as a risk-neutral policy

in that, being a compromise intermediate rate, some stocks will be over-exploited and some stocks will be under-exploited, with no penalty imposed for over-exploitation.

2. *Higher than intended harvest rates.*

Recent assessments show that in many cases, actual fishing mortality rates were well above $F_{35\%}$. This can happen in any fishery when quotas are set on the basis of current biomass estimates, which are subsequently revised downward in a later assessment.

3. *Apparently low productivity of Pacific coast stocks.*

The spawner-recruit estimates that have accumulated over the last twenty years on Pacific coast groundfish stocks indicate very low resiliency in the spawner-recruit relationships — at or below the lowest values estimated for well-studied stocks elsewhere in the world (Myers *et al.* 1999). It is not surprising then, that the estimated productivity of these stocks is in many instances lower than the range of values considered plausible by Clark (1991) in his derivation of the $F_{35\%}$ strategy.

Because these low productivity estimates are so common among Pacific coast groundfish stocks, and so uncommon elsewhere, there is some suspicion that they result from some unrecognized flaw common to all of the Pacific coast groundfish assessments. However, with the exception of discards (see below), the panel has no reason to doubt the accuracy of west coast groundfish stock assessments. The same methods and models have produced estimates of higher productivity elsewhere (e.g., in Alaska). For the time being, therefore, we believe that all of the assessment results should be taken at face value, and that the Council's harvest strategy should be reconsidered in light of the apparently low productivity of many of the stocks.

The reason for anomalously low productivity in this region is not certain, but it may well be linked to the climatic regime shift that occurred in the eastern Pacific ocean around 1977-78. Since then, ocean conditions have been generally more favorable for many Alaskan stocks and have been less favorable for many Pacific coast stocks. Sometime in the future conditions on the west coast are likely to change again. Still, there is no assurance that this will occur in the near future and so, in the interim, the PFMC should manage groundfish stocks according to their current productive capacity.

The panel reviewed results presented by Williams (see Appendix A), which suggest that discards of small fish could contribute to the perception of low groundfish productivity. To the extent that this occurs, its effect is to reduce apparent recruitments and therefore to make groundfish stocks appear to be less resilient. This scenario depends on: (1) an increasing exploitation rate over time and (2) substantial unaccounted for discarding of the smallest fish captured. While groundfish exploitation rates have certainly risen, and substantial unaccounted for discards of small fish is likely in some fisheries, discards are generally not documented for these stock and cannot be quantified at present. Clearly more research on this issue is desirable and, in general,

the panel stresses that a full accounting of total catch is necessary for the PFMC to adequately manage any of the resources under its authority.

Panel Recommendations for Default Groundfish Harvest Rates

The panel reviewed the information presented by each presenter (see Appendix A), as well as other recently published material (e.g., Myers *et al.* 1999). Of particular importance were the works of Brodziak, Dorn, MacCall, and Parrish because each of these studies broadly re-analyzed the information presented in historical PFMC stock assessments in an attempt to estimate F_{MSY} for each stock and their F_{spr} equivalents (i.e., the spawning potential per recruit fishing mortality rate). Significantly, each of these studies indicated that in many instances groundfish productivity, as estimated from the results of stock assessments, is insufficient to support harvests at the $F_{35\%}$ or even $F_{40\%}$ rates.

With respect to the rockfishes (*Sebastes* spp.) the panel found the work of Dorn to be very compelling. His results showed that, when the genus is examined as a whole through the use of meta-analysis, west coast rockfish stocks (exclusive of Pacific ocean perch) have F_{MSY} rates that range between $F_{45\%}$ – $F_{67\%}$ for risk-neutral models, assuming either the Beverton-Holt or Ricker models with lognormal or gamma errors (four cases). However, gamma error models fit the data more poorly than models with a lognormal error structure and, as a consequence, the panel supported the use of Dorn's lognormal analysis only. For that subset of cases, the estimated F_{MSY} rates ranged $F_{45\%}$ – $F_{54\%}$ over the two recruitment models. The panel then adopted $F_{50\%}$ as a midpoint, risk-neutral, proxy for rockfish F_{MSY} . In addition, the panel recommends including the thornyheads (genus *Sebastolobus*) with the rockfish in the setting of default harvest rate proxies.

The panel discussed results for Pacific whiting and concluded that the information base for that species was the best available for any west coast groundfish. Harvests are currently determined using the 40-10 policy in association with a fishing mortality rate equal to $F_{40\%}$. This rate is based on a separate and distinct meta-analysis of worldwide *Merluccius* productivity that was conducted as part of the last stock assessment (Dorn *et al.* 1999) and seems appropriate as a risk-neutral harvest policy. Consequently, the panel does not recommend any changes in harvest rate for Pacific whiting.

For flatfishes (including Dover sole), the panel concluded that resiliency is typically higher than in other taxa (e.g., Brodziak *et al.* 1997, Mace and Sissenwine 1993, Myers *et al.* 1999). As a consequence, the panel recommends using a default rate of $F_{40\%}$ for all flatfish species in the groundfish FMP. This rate is consistent with the general findings of Clark (1993) and Mace (1994).

For all other species in the groundfish FMP (including sablefish and lingcod) the panel recommends an intermediate harvest rate of $F_{45\%}$. This intermediate rate was selected as a sensible risk-neutral alternative that would afford increased protection to all the remaining groundfish stocks. However, the level of certainty in setting this default rate is very low. Consequently, the panel makes two recommendations with respect to the estimation of groundfish productivity, i.e.,

- (1) Assessment authors are encouraged to evaluate the resiliency of the specific stocks they model. When such analysis produces scientifically credible estimates of productivity, the analyst is encouraged to present those findings as part of their stock assessment.

However, any productivity analysis should always include a measure of the uncertainty in the point estimates of management reference points (e.g., F_{MSY} , B_{MSY} , and B_0).

- (2) A proper consideration of risk is essential in the setting of optimum yields for west coast groundfish stocks. Utilization of a risk-neutral harvest rate proxy (e.g., $F_{50\%}$ for *Sebastes* and *Sebastolobus*) implies that some stocks within the group are quite likely to be over-exploited. Similarly, calculation of an ABC using an unbiased stock-specific point estimate of F_{MSY} will result in overfishing if the estimate is, by chance, too high. It is the PFMC's responsibility to account for these risks of overfishing through the use of a precautionary approach in the establishment of optimum yields. In addition, the NMFS Guidelines specify that status determination criteria must specify a maximum fishing mortality rate threshold that is less than or equal to F_{MSY} (Department of Commerce 1998). While this issue is not specifically addressed in this report, the choice of the threshold should depend on the level of uncertainty associated with the estimate of F_{MSY} or its proxy.

In summary, panel recommendations with respect to risk-neutral default harvest rate F_{MSY} proxies for west coast groundfish are:

Pacific whiting	$F_{40\%}$
<i>Sebastes</i> & <i>Sebastolobus</i>	$F_{50\%}$
Flatfish	$F_{40\%}$
Other groundfish	$F_{45\%}$

Due to a lack of detailed life history and stock status information, it will not be possible to implement these recommendations for many stocks. In particular, the "remaining rockfish" management unit (PFMC 1999) includes a number of species for which the ABC has been set using the $F=M$ harvest rate proxy (Rogers *et al.* 1996). Currently, the optimum yield (OY) of those species is reduced by 25% as a "precautionary adjustment" (PFMC 1999), amounting to an $F=0.75M$ policy. The panel discussed the remaining rockfish category in light of results presented in MacCall's production model analysis (Appendix A), which indicated that 0.40M may be a better proxy for an optimal exploitation rate. However, due to the review panel's unwillingness to fully endorse production modeling as a viable means of estimating groundfish productivity (see below), the panel recommended that the PFMC establish $F=0.75M$ as the default, risk-neutral policy for the remaining rockfish management category. This determination was consistent with results presented for Pacific ocean perch, for which $F_{MSY} \approx 0.80M$. Even so, concern was expressed within the panel that a more conservative harvest rate might be warranted, such as that used by the North Pacific Fishery Management Council, which in similar swept-area applications assumes that $q=1.0$. In either case, given the high degree of uncertainty underlying the technical basis of this recommendation, and the real possibility that MacCall's findings are accurate, precautionary adjustments in setting the OY of the remaining rockfish are recommended.

The panel discussed the hardship to the fishing industry that the immediate application of these new, more restrictive, rates will cause. The National Standard Guidelines for implementation of the Magnuson-Stevens Act specify (Department of Commerce 1998): "Overfishing

occurs whenever a stock of stock complex is subjected to a rate or level of fishing mortality that jeopardizes the capacity of a stock or stock complex to produce MSY on a continuing basis." The PFMC may, therefore, wish to consider the propriety and legality of a short-term phase-in of these new rates to ameliorate the immediate impact to the groundfish industry.

Surplus Production Models

During the workshop, methods considering an examination of the relationship between surplus production and stock biomass were discussed as potential alternatives to methods based on stock-recruit models for determining appropriate exploitation rates. The panel generally agreed that an examination of estimates of surplus production and their relationship with estimates of biomass or other variables is useful. However, the panel does not endorse the general replacement of a stock-recruitment based approach at this time, nor the requirement of using a biomass-based surplus production model as one approach for estimating MSY, F_{MSY} and B_{MSY} for all assessed stocks. The panel concluded that this is an area that could benefit from additional research.

There were three presentations dealing with biomass-based production model approaches on the agenda (Jacobson *et al.*, MacCall, and Parrish; see Appendix A). The fundamental premise of these approaches was to use the output from a detailed age-structured model as an accurate representation of exploitable stock biomass (i.e., assume $q = 1.0$) and to estimate the relationship between catches and changes in biomass to determine production. Most of the panel concluded that this kind of approach has potential application when applied to estimates generated from age-structured or delay-difference assessments. This is possible because absolute stock biomass estimates are generally available from the assessment models and, by definition, estimated surplus production can be calculated from the time series of catch and estimated biomass. The disadvantage of this approach, however, is that the various biological processes underlying stock compensation are not directly addressed, whereas in age-structured approaches these processes can be treated explicitly. Whether surplus production is estimated internally within the model (e.g., Jacobson *et al.*) or externally after the fact (MacCall, Parrish), is an issue deserving of more study (see also results from Ianelli).

Although the full panel saw benefits to explicit consideration of biomass production implied by assessments, some panelists expressed significant reservations regarding the use of production models to determine F_{MSY} and related quantities. These reservations were largely based on the view that this approach discards important information contained in the original age-structured model results. For example, age-structure can influence production because young fish generally have higher weight-specific growth rates than older fish. As a result, the same biomass can lead to different levels of production, depending upon the age composition of the population. Likewise, changes in selectivity over time will change the amount of surplus production at a given biomass. Although such variation in surplus production could be dealt with as correlated process error (Jacobson *et al.*) this converts variation explained by the age-structured model into additional error. In any event, age-structured analyses can provide specific information on the nature of compensation (e.g., in individual growth, maturation, or recruitment), which is not possible from an examination of the aggregate surplus production-biomass relationship alone.

Other panelists argued that estimates of F_{MSY} from surplus production models might be more robust than those that depend upon solely on stock-recruitment relationships. The idea here is that (1) error in assessment model estimates of biomass may cancel-out because production estimates involve differencing model biomass estimates, and (2) potentially biased estimates of recruitment (e.g., discards of small fish) play a less critical role in the analysis. Simulations presented by MacCall at the second Groundfish Productivity Workshop in Monterey, CA suggested this was the case. However, given the few number of replicate simulations and the limited suite of scenarios in that paper, the panel did not view this work as definitive.

Estimation of B_0 , B_{40} and Related Problems

Although variable rate biomass-based harvest policies were not the primary focus of the workshop, the newly implemented 40-10 harvest policy was, nonetheless, the subject of much discussion. While in practice it is possible to consider F_{MSY} proxies in isolation from biomass targets and thresholds, in principle these two subjects are inextricably linked.

The main concern about the 40-10 harvest policy is that it involves the calculation of two biomass reference points, i.e., the virgin biomass that would exist in the absence of fishing (B_0) and the exploited biomass that is 40% of that pristine level ($B_{40\%}$). Within the PFMC, it appears that parameter B_0 is usually obtained from a stock assessment model and estimates of what biomass may have been in the far past.

A number of problems are likely to occur in the estimation of this parameter. First, its estimated value may be far larger than any historical observed biomass due to vagaries of parameter estimation and the age composition of the population at the start of the data series (e.g., Pacific ocean perch; see Ianelli in Appendix A). In some cases, it may be justifiable to constrain the value of B_0 to be near the historical maximum or some other value, as long as a clear rationale is provided and the sensitivity of the constraint is examined.

A second problem is that models are frequently configured to assume that the age composition is at equilibrium at the start of the modeled period. If this assumption fails, then the estimate of parameter B_0 may be biased. Third, there is no guarantee that under any fishing mortality regime, including zero fishing, that the population will rebuild to this level. The reason for this is that the amount of recruitment needed to produce historical levels of spawning biomass may not occur in the future. Given that many West Coast stocks have been on a "one-way trip" downward, a sensible harvest policy would first reverse the decline, and then rebuild to a level that could be expected based on current and expected future conditions. Once that level of rebuilding is accomplished, it may then be possible to rebuild toward a level consistent with historical patterns.

Therefore, some alternatives for calculating B_0 that look toward the future instead of the past should probably be considered. Two clear alternatives involve determining: (1) whether a spawner-recruit model is used to project the population forward and (2) if not, what exact values of the recruitment time series are to be used in forecasting future biomass. If a spawner-recruit model is used, then it should be possible to determine pristine biomass and B_{MSY} as reference

points automatically. These points can then be implemented in the harvest policy, as is done by the North Pacific Fishery Management Council. However, it is often quite difficult to assert that a reliable spawner-recruit relationship is known, so typically such a relationship would not be invoked. Nevertheless, it is often wise to provide for reduced recruitment at low spawning biomass levels, particularly if the stock has been fished down to a point where recruitment is believed to have been impacted. Some recent modeling efforts with ADMB and Bayesian considerations (e.g., Pacific hake) lend hope to better determining MSY parameters.

If a spawner-recruit relationship is not used, then a projection of future unfished equilibrium biomass can be made by multiplying contemporary recruitment values by the corresponding spawner biomass per recruit (SPR) function. For example, the average recruitment over the time series might be used with an SPR function at a fishing mortality of 0 to arrive at the expected equilibrium unfished biomass in the future, to be used as B_0 . From this information $B_{40\%}$ could be obtained. This type of approach is especially appropriate if it is known there has been a change in stock productivity. A caveat to doing this, however, is that it can be very difficult to detect a change in productivity, so the rationale for restricting the time period must be carefully considered.

Whichever approach is used, it should be documented carefully and properly justified. The same methodology should be used for all biomass reference points and it should be clearly stated whether a reference point is based on SPR calculations that are fully independent of spawning biomass, or whether recruitments have been adjusted downward by a spawner-recruit relationship. We think justification for the calculation of biomass reference points should address consistency between the assumptions used in their derivation and those underlying F_{MSY} estimates or proxies.

We note that another type of calculation is required by the NMFS overfishing guidelines, which could lead to further confusion. Namely, a threshold level that provides for a 10-year rebuilding to a target level such as B_{MSY} must be found (Department of Commerce 1998). This level is also a function of the recruitment series used and depends on whether a spawner-recruit relation exists. Consequently, for consistency the same process that is used for determining other reference points should be used here. The PFMC has apparently been allowed to use $B_{25\%}$ for this threshold, but it is unclear how rebuilding plans, which are triggered when biomass drops below this value, will interface with the 40-10 rule, which in itself, is an automatic rebuilding plan. Other Councils are currently experiencing this confusion as well, so hopefully there will be more flexibility and clarity in the NMFS overfishing guidelines in the future.

Some Relevant Published Literature

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Brodziak, J. In search of optimal harvest policies for west coast groundfish. Working paper June 15, 1999.

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Cook, R. Review of $F_{35\%}$ and $F_{40\%}$ as MSY proxies for west coast groundfish. Final report of consultancy to NMFS office of Science and Technology.

Dorn, M. Advice on west coast rockfish harvest rates from Bayesian meta-analysis of *Sebastes* stock-recruit relationships. (distributed at the March 1999 workshop in Monterey, CA).

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Hastie, J. Major events that have shaped current rockfish management. (handout distributed at the March 2000 workshop in Seattle, WA).

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Williams, E. H. The effects of unaccounted discards and mis-specified natural mortality on estimates of spawner-per-recruit based harvest policies. (distributed at the March 2000 workshop in Seattle, WA).

WEST COAST GROUND FISH PRODUCTIVITY WORKSHOP
Scientific & Statistical Committee, Pacific Fisheries Management Council
Room 2079, Building 4, Alaska Fisheries Science Center
7600 Sand Point Way NE, Seattle, Washington

AGENDA

Monday, March 20

- 1:00 pm Workshop Introduction
James Hastie: *An historical overview of Pacific Fishery Management Council groundfish harvest policy.*
William Clark: *$F_{35\%}$ revisited after ten years.*
Alec MacCall: *Designing fishery management and stock rebuilding policies for conditions of low frequency climate variability.* (preview of a paper to be presented at the PICES meeting in San Diego later this week)

Tuesday, March 21

- 8:00 am R. A. Myers: *The meta-analysis of the maximum reproductive rate for fish populations to estimate harvest policy; a review.*
Martin Dorn: *Advice on west coast rockfish harvest rates from Bayesian meta-analysis of stock-recruit dynamics.*
Ray Hilborn: *Exploitation rate reference points for west coast rockfish: are they robust and are there better alternatives?*
12:30 pm Lunch
1:30 pm Larry Jacobson: *Try and estimate F_{msy} in every stock assessment model!*
David Sampson: *FINDFMSY: a fishery simulator for exploring constant harvest rate policies.*

Wednesday, March 22

- 8:00 am Richard Parrish: *A synthesis of the surplus production and exploitation rates of 10 west coast groundfish species.*
Alec MacCall: *Summary of known-biomass production model fits to west coast groundfish stocks.*
Jon Brodziak: *In search of optimal harvest policies for west coast groundfish.*
12:30 pm Lunch
1:30 pm James N. Ianelli: *Simulation analyses testing the robustness of harvest rate determinations from typical west-coast rockfish stock assessment data.*
Erik Williams: *The effects of unaccounted discards and mis-specified natural mortality on estimates of spawner-per-recruit based harvest policies.*

Thursday, March 23

- 8:00 am Discussion / Public comment
12:00 Lunch
1:00 pm Panel deliberation

Friday, March 24

- 8:00 am Panel deliberation (if required)

APPENDIX C

Glossary of Terms

ABC	allowable biological catch; the product of the fishing mortality rate that produces MSY (or its proxy) and the current exploitable biomass of a stock.
B	The current exploitable biomass of a stock.
B_{unfished}	the size of a stock (in biomass) if there were no fishing.
B_{msy}	the size of a stock (in biomass) if it is fished indefinitely at a constant rate equal to F_{msy} .
$B_{40\%}$	the size of a stock when it is 40% of B_{unfished} ; this is currently the precautionary threshold if B_{msy} has not been explicitly estimated.
$B_{25\%}$	the size of a stock when it is 25% of B_{unfished} ; this is currently the overfished threshold if B_{msy} has not been explicitly estimated.
$B_{10\%}$	the size of a stock when it is 10% of B_{unfished} .
F_{msy}	the fishing mortality rate that produces MSY.
$F_{40\%}$	the fishing mortality rate that reduces the reproductive output of a female to 40% of what it would be in the absence of fishing.
$F_{45\%}$	the fishing mortality rate that reduces the reproductive output of a female to 45% of what it would be in the absence of fishing.
$F_{50\%}$	the fishing mortality rate that reduces the reproductive output of a female to 50% of what it would be in the absence of fishing.
GMT	Groundfish Management Team; a task-oriented advisory committee to the Council that deals principally with management issues.
M	the natural mortality rate of a stock, i.e., the expectation of death due to all other sources of mortality other than fishing (e.g., predators, parasites, starvation, etc.).
MSY	maximum sustainable yield; in theory, the largest amount of catch that can be obtained on a continuing basis by applying a constant harvest rate.
OY	optimum yield; the amount of fish that is prescribed on the basis of MSY from the fishery as reduced by any relevant economic, social, or ecological factors.
risk-averse	(e.g. as in a risk-averse estimate of F_{msy}) more likely to be an underestimate than an overestimate of the actual F_{msy} (precautionary)

- risk-neutral (e.g. as in a risk-neutral estimate of F_{msy}) equally likely to be an overestimate or an underestimate of the actual F_{msy}
- risk-prone (e.g. as in a risk-prone estimate of F_{msy}) more likely to be an overestimate than an underestimate of the actual F_{msy}
- SAFE Stock Assessment and Fishery Evaluation; the Council's annual report on the status of groundfish resources.
- SPR spawning potential per recruit; a way of rescaling fishing mortality rate to standardize its effect on the reproductive potential of a individual fish entering the exploitable phase of the population.
- SSC Scientific and Statistical Committee; an advisory body to the Council that deals primarily with scientific and technical issues.

GROUND FISH ADVISORY SUBPANEL STATEMENT ON
DEFAULT MAXIMUM SUSTAINABLE YIELD FISHING RATE WITHIN THE HARVEST RATE POLICY

The Groundfish Advisory Subpanel (GAP) continues to recommend, as it did in April, the new proposed rates be phased in to avoid significant adverse effects to the fishery. The phase-in can be accomplished for those species not under rebuilding plans by applying the new rates as new stock assessments are conducted. The GAP notes the calculations required to apply the new rates are nearly as extensive as those needed to perform an assessment.

For species under rebuilding plans, the GAP anticipates the rebuilding strategy will guide appropriate rates.

PFMC
06/28/00

DEFAULT MAXIMUM SUSTAINABLE YIELD FISHING RATE WITHIN THE HARVEST RATE POLICY

Situation: At the April meeting, the Council heard a presentation on the results of a harvest policy workshop that evaluated current scientific research and analysis relating to groundfish productivity and appropriate harvest rates. In most cases, stock assessment scientists have not yet been able to compute maximum sustainable yield (MSY) fishing rates, abbreviated as F_{MSY} . The groundfish fishery management plan (FMP) stipulates default F_{MSY} values that may be superseded by better information. The workshop panel concluded these default values may be too aggressive and could result in continued stock declines. The panel recommended alternative F_{MSY} values. Implementation of these lower harvest rates will reduce harvest levels for several important groundfish stocks in the short term, and will also affect rebuilding plans. Preliminary estimates are that some harvest levels could be reduced 15% to 30% in 2001 solely as a result of revision of F_{MSY} values. The Scientific and Statistical Committee (SSC) generally concurred with the panel conclusions and agreed to more fully consider the panel's final report. The Groundfish Advisory Subpanel (GAP) and some public testimony at the April meeting expressed concern about the impact of such reductions on commercial and recreational fishing opportunities and the health of fishing communities. They urged the Council to consider phasing in reductions over time, rather than applying the lower harvest rates immediately in 2001.

At this meeting, the Council will hear the SSC's evaluation of those results. Council staff provided a list of questions to help the SSC focus its comments on phase-in and uncertainty. The Council will consider adopting the proposed default MSY fishing rates and how they should be implemented.

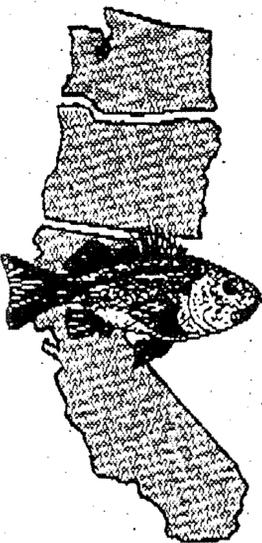
Council Action:

1. Final Adoption of Default MSY Fishing Rates

Reference Materials:

1. West Coast Groundfish Harvest Rate Policy Workshop Panel Report (Attachment D.13.a.).
2. Memo from Don McIsaac to SSC (Attachment D.13.b.).
3. Public Comment D.13.

PFMC
06/14/00



Pacific Marine Conservation Council

"Dedicated to the health and diversity
of our marine life and habitat"

6 June 2000

Pacific Fishery Management Council
2130 SW Fifth Avenue, Suite 224
Portland, OR 97201

Comments on June 2000 PFMC agenda item D. 13., Default Maximum Sustainable Yield (MSY) Fishing Rate within the Harvest Rate Policy.

Chairman Lone and Council Members,

The Pacific Marine Conservation Council (PMCC), a coalition of commercial and sport fishers, marine scientists, and conservationists, respectfully submits these comments on the issue of designating a default MSY fishing rate for west coast groundfish.

Information resulting from papers, presentations, and discussions at the West Coast Groundfish Harvest Rate Policy Workshop indicates that current harvest rates are too aggressive for some groundfish species. This may be due to productivity levels of some groundfish stocks being lower than initially thought. Panel recommendations to the Council are explicitly risk-neutral default harvest rates ranging from $F_{40\%}$ for flatfish and Pacific whiting to $F_{50\%}$ for *Sebastes* and *Sebastolobus*. PMCC supports implementation of the Panel's recommendation concurrent with the implementation of additional management actions to mitigate for risk for the following reasons:

1. The Council should be developing and implementing risk-averse management, as is stated in the national standard guidelines. "(f)(5)(iii) Criteria used to set target catch levels should be explicitly risk averse, so that greater uncertainty regarding the status or productive capacity of a stock or stock complex corresponds to greater caution in setting target catch levels. Part of the OY may be held as a reserve to allow for factors such as uncertainties in estimates of stock size and DAH. If an OY reserve is established, an adequate mechanism should be included in the FMP to permit timely release of the reserve to domestic or foreign fishermen, if necessary." The numbers proposed as default harvest rates by the panel are explicitly stated as being risk-neutral.

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FILE

2. The west coast groundfish fishery is composed of multi-species complexes with varying life histories and productivity levels. This complicates the issue of designating a default harvest rate for all rockfish and contributes to the risk of overfishing certain species. This risk is described in the following quotes from the Council's Groundfish Management Team and Scientific and Statistical Committee. "While use of an unbiased default rate may be risk-neutral for a group of related species as a whole, it nevertheless involves risk; because actual stock productivity for some species will be higher than the default, while for others it will be lower. In particular this concern applies to the "other groundfish" category, where more dissimilar species are grouped together.", and "While the proxy values were recommended as risk-neutral values for the groups, some individual species in the aggregation are less productive than the average and may be overfished if the group proxy is applied."

Existing information levels on many groundfish stocks contribute to, and exacerbate levels of uncertainty regarding the issue of setting a default harvest rate for groundfish and the potential for some species to be overfished. For this reason additional management tools should be applied to mitigate for the risk of overfishing.

3. PMCC is also concerned about the current overfished definition level of $0.25 \cdot B_0$ and offers the following information as an alternative for the prevention of recruitment overfishing.

The following three thresholds were examined and evaluated by J. Musik (2000; "Criteria to define extinction risk in marine fishes", Fisheries 24(12):6-14.) for their usefulness in avoiding recruitment overfishing: "(1) the stock size corresponding to 50% of the maximum predicted by the stock-recruitment relationship ($50\% R_{max}$), (2) the minimum stock size that would produce a good year class where environmental conditions were favorable, and (3) the stock size corresponding to 20% of various estimates of virgin stock size. They concluded that when the data are available, methods based on $50\% R_{max}$ were the most conservative and safest in terms of avoiding recruitment overfishing, and that methods based on $20\% B_0$, although widely applied, performed poorly. They recommended using the latter method."

This same paper went on to describe risk factors associated with the following life history traits (J. Musik 2000; "Criteria to define extinction risk in marine fishes", Fisheries 24(12):6-14). "Musik (1999) noted that late-maturing, long-lived animals have low intrinsic rates of increase and, therefore, very low resilience to extraordinary mortality." "He suggested that animals with vonBertalanffy growth coefficients (k) < 0.10 and/or intrinsic rates of increase (r) $< 10\% \text{ year}^{-1}$, were particularly vulnerable." Rockfish are included in the list of species meeting these criteria. This information should be utilized to craft a harvest policy that is sensitive to variations in life history traits.

The following are PMCC's recommendations for management tools to be implemented concurrent with the recommendations of the Panel to mitigate for the risk of overfishing and adhere to the recommendations of risk-adverse management in the national standard guidelines.

1. Implementation of an observer program to improve knowledge and data on such issues as, gear selectivity, total mortality, rebuilding rates of overfished species and collection of species-specific information on age, maturity, fecundity, location, and conditions of capture. "The Panel stresses that a full accounting of total catch is necessary for the PFMC to adequately manage any of the resources under its authority." In the interim, bycatch information from the Enhanced Groundfish Data Collection Project can be utilized as best available science for calculating bycatch rates and a full retention program with validation should be developed and implemented.
2. Expansion of the current trawl footrope restrictions to include slope rockfish. Bank and darkblotched rockfish, both part of the slope complex, are currently listed as overfished by NMFS (Report to Congress - Status of Fisheries in the United States, October 1999). Many of the species in the slope complex are unassessed and concern has been expressed regarding population declines of slope species such as shorttraker and rougheye rockfish.
3. Utilization of closed areas and marine protected areas as management tools. The use of closed areas for rebuilding overfished species has been recommended by the Council's Legal Gear Committee. The following quote comes from S. Parker et.al. 2000; "Management of Pacific Rockfish", Fisheries 25(3):22-30. "Managers should buffer fishing pressure against variability in stock recruitment levels and unforeseen fishing mortality effects by protecting a portion of each population and its habitat through the use of marine protected areas. Experimental marine protected areas should be implemented as part of an adaptive management framework to develop effective criteria for conserving rockfish populations. They should be designed to protect multiple species, their habitats, demographic and genetic structure, and community structure."
4. A lack of information will prohibit the application of the default F_{msy} rate for many species. The need for a precautionary adjustment in the $F=0.75M$ rate for species in the "remaining rockfish" category should be evaluated. This rate has been labeled risk-neutral by the Panel, and due to the level of information on many of these species additional management to mitigate for risk is warranted.

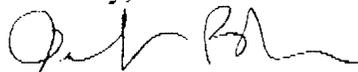
I have attached a copy of the American Fisheries Society position paper on the management of rockfish (S. Parker et.al. 2000; "Management of Pacific Rockfish", Fisheries 25(3):22-30) with my comments. I would draw your attention to the Conclusion and Needed Actions sections as you deliberate over the issue of appropriate default harvest rates for groundfish.

In conclusion, PMCC recommends that the Council implement the rates proposed by the MSY Harvest Rate Policy Panel and develop additional management tools (such as those proposed above) to mitigate for the risk of overfishing and adhere to the recommendations of risk-adverse management in the national standard guidelines. The risk neutral nature of the proposed default MSY harvest rates makes them inappropriate if implemented in the absence of additional management. These recommendations are made to address the continued risk of overfishing less productive rockfish stocks and to develop risk averse management for the purpose of long-term sustainability of the west coast groundfish fishery.

PMCC agrees with the idea of phasing in the new harvest rates to prevent sudden adverse social and economic effects. An appropriate time-line should be identified allowing for a reasonable phase-in period. This period should be concurrent with new stock assessments where appropriate, however the default rate should be applied to all species within the phase-in period regardless of the development of a new assessment.

Thank you for the opportunity to comment on this issue.

Sincerely,



Jennifer Bloeser

Management of Pacific Rockfish

By S. J. Parker, S. A. Berkeley, J. T. Golden, D. R. Gunderson, J. Heifetz, M. A. Hixon, R. Larson, B. M. Leaman, M. S. Love, J. A. Musick, V. M. O'Connell, S. Ralston, H. J. Weeks, and M. M. Yoklavich

POLICY

The American Fisheries Society (AFS) recognizes the need for conservative and robust management of Pacific rockfishes because of naturally low population growth, the overfished state of many of the stocks, and complex nature of the mixed-stock fisheries (60-plus species). The AFS recommends that catch information be collected on a species-specific basis, and that management targets also be established on a species-specific basis including species taken as bycatch. Such management will require accurate studies of discards at sea. Reduction in rockfish discards should be a management priority in all fisheries which capture significant numbers of rockfish. The AFS further recommends establishment of adequate fishery independent surveys to more accurately assess and monitor rockfish stocks. The AFS supports the establishment of systems of Marine Protected Areas to protect the habitat of Pacific rockfish and to promote recovery of stocks. Such areas should be established along with traditional management measures to control fishing mortality. Regardless of the management strategy used, substantial decreases in fishing mortality must be achieved soon to avoid stock collapses. The AFS encourages its members to become involved by providing technical information needed for protection of rockfish to international, federal, state, and provincial policy makers so decisions are made on a scientific, rather than emotional or political, basis.

A. Issue definition

The Pacific rockfishes (genus *Sebastes*) comprise the core of the U.S. Pacific Coast bottom fish fishery. The genus consists of more than 100 species worldwide, with more than 60 found off the California, Oregon, and Washington coasts, more than 30 found further north in Canada and Alaska, and 28 in the Northwest Pacific (Clay and Kenchington 1986; Kendall 1991; Lea et al. 1999). A closely related and commercially important genus, also commonly referred to as rockfish, is *Sebastolobus*, the thornyheads, containing three Pacific Coast species. The rockfish are an extremely successful group and are represented in every habitat from Mexico to the Aleutian Islands, and from intertidal waters to depths greater than 1,500 m. Despite this diversity, the attributes they share make them extremely vulnerable to fishing pressure. Using AFS productivity criteria, rockfishes are classified in the very low productivity category (Musick 1999a, 1999b). Species in this category cannot sustain high fishing mortality because their reproductive strategies limit them to

relatively low intrinsic rates of increase (Adams 1980). As part of the Society's objective to promote the conservation, development, and wise use of fisheries, this paper describes the interaction between the life history patterns of rockfish and fishing mortality, and recommends management actions to ensure stable rockfish populations for the future.

B. Background

Life history. Pacific rockfish are some of the longest-lived fishes known, with maximum ages for many species spanning more than 50 years, and some approaching 150 years (Archibald et al. 1981; Leaman and Beamish 1984; Love et al. 1990). The age of 50% maturity is variable among species but is typically 5–7 years, and may be as late as 20 years in some species (Wyllie Echeverria 1987; Barss 1989; Love et al. 1990; O'Connell and Fujioka 1991). Several studies have shown geographical variation in age-at-maturity depending on latitude and depth (Gunderson et al. 1980; Pearson and Hightower 1991; Eldridge and Jarvis 1994;

Gunderson 1996). Many species have sex-specific growth rates, which can result in differential age-at-maturity and sex-specific natural mortality rates (Love et al. 1990; Lenarz and Wyllie Echeverria 1991). Typically, their growth pattern results in many species attaining marketable size at or prior to maturity, and some attaining lengths greater than 50 cm at the age of 50% maturity (Love et al. 1990; Haldorson and Love 1991; Beverton 1992; Gunderson 1997). Delayed maturity, a long reproductive life span, and reproducing multiple times are adaptive responses to a low probability of successful reproduction in any given year (Giesel 1976; Leaman and Beamish 1984). This reproductive strategy is the rule for rockfish.

Although rockfish are sometimes reported as being ovoviviparous (bearing live young without maternal nutrition), many studies have confirmed that they are a primitive viviparous group and supply nutrients to developing embryos (Boehlert and Yoklavich 1984; Boehlert et al. 1991; Wourms 1991; Hopkins et al. 1995; MacFarlane and Bowers 1995;



Beckmann et al. 1998). The number of eggs produced at the 50% maturity age commonly range from 2,000 to 500,000 eggs per year, with maximum-length individuals of some species producing several million eggs (Gunderson et al. 1980; Love et al. 1990; Haldorson and Love 1991). Most species copulate in the fall, but sperm may be stored and fertilization may not take place until several weeks later (Wyllie Echeverria 1987; Love et al. 1990). An exception is in the *Sebastes* genus where buoyant, egg masses are released and fertilization is believed to be external (Percy 1962; Erickson and Pikitch 1993). Copulation has been observed in very few species of *Sebastes*, so little is known about courtship or mating behavior (Helvey 1982; Shinomiya and Ezaki 1991; Gingras et al. 1998). The female retains the embryos for 4-5 weeks until hatching (Boehlert and Yoklavich 1984), and parturition generally occurs in winter or spring for more southerly populations and spring or summer in northerly populations (O'Connell 1987; Yoklavich et al. 1996). In most species, reproduction occurs annually, but the production of multiple broods occurs in some species and may be related to environmental conditions (Wyllie Echeverria 1987; Love et al. 1990).

Generally, the larvae are found in the upper mixed zone of the ocean for a variable period of time, before metamorphosing into juveniles, which move closer to shore as they grow during the spring months (Larson et al. 1994). After several more months, juveniles of many species move to deeper adult habitats (Love et al. 1998a). Adults are typically associated with structure, though some species are found on flat muddy bottoms and others are semi-pelagic (Richards 1986; Matthews 1991; O'Connell and Carlile 1993; Krieger 1998). Some closely related species are segregated spatially at the scale of microhabitats (Larson 1980; Hallacher and Roberts 1985; Leaman 1991; Stein et al. 1992; Murie et al. 1993). As adults, rockfish are thought to be relatively sedentary, though some species may make considerable movements (Percy 1992; Lea et al. 1999). Tagging studies to observe movement patterns are confounded because rock-

fish possess well-developed swim bladders and are subject to embolism, so many do not survive being brought to the surface. However, some investigators have deflated rockfish swimbladders prior to tagging, or used *in situ* tagging, thus increasing survivorship. These studies demonstrated that some species show site fidelity and some ability to home after minor displacements, though some have shown substantial movements (Mathews and Barker 1983; O'Connell 1991; Percy 1992; Stanely et al. 1994; Carlson et al. 1995). Species-specific movements depend on latitude, and oceanographic conditions (Leaman 1991).

Relatively poor ocean conditions for the past two decades may have reduced recruitment success in some California-Oregon species (Ralston and Howard 1995). In contrast, in waters off Alaska and northern British Columbia above average recruitment has occurred in recent years for some rockfish species (e.g., Pacific ocean perch, *Sebastes alutus*) (Richards and Olsen 1996; Heifetz et al. 1999). A dominant feature of rockfish reproduction is a pattern of infrequent and irregular years with successful recruitment during periods with favorable environmental conditions, and many years with poor recruitment (Leaman and Beamish 1984; Botsford et al. 1994; Ralston and Howard 1995). However, an entire year class may not experience favorable environmental conditions because of variation in the timing of larval release. Recent research by Berkeley and Markle (1999) has shown that older black rockfish (*S. melanops*) release larvae earlier in the season followed by progressively younger fish, and that successful recruitment may come from a relatively restricted time period within the spawning season. This pattern has also been observed in dark-blotched rockfish (*S. crameri*) (Nichol and Pikitch 1994) and yellowtail rockfish (*S. flavidus*) (Eldridge et al. 1991). In another study, Larson et al. (1998) found that recruits of shortbelly rockfish (*S. jordani*) exhibited reduced genetic variability compared to the adult population, suggesting that surviving young of the year are the products of reproduction by only a small fraction of the adult population.

Reproductive success appears then to be restricted to narrow spatial and temporal windows when conditions are favorable for larval survival.

Although many general life history traits are known for the *Sebastes* genus, few species have been studied in detail (Moser 1967; Leaman 1991; Love et al. 1998b). This is another common theme with rockfish: a lack of stock status and biological information, especially on commercially exploited species. Basic parameters such as maximum age, natural mortality rates, fecundity, and age at maturity have only been measured for a limited number of the exploited species, especially the diverse near-shore species (Love et al. 1990). Even for many commercially harvested species, much needed information concerning stock identification, genetic diversity, spawning behavior, bycatch levels, total removals, and migration patterns are not known or are based on limited data from small geographic areas.

Fishery history and status.

Washington, Oregon, and California waters. Rockfish have been commercially harvested since the mid-1800s in California, but not until the 1940s along much of the northwest coast (Lenarz 1987). In the mid-1960s, foreign factory trawlers targeted Pacific ocean perch, with annual catches exceeding 20,000 metric tons (mt) until passage of the Magnuson-Stevens Fishery Conservation and Management Act in 1976 (Ianelli and Zimmerman 1998). Currently, rockfish are harvested mainly with bottom trawl gear (89%), with other gears used especially near shore and in high relief areas (hook and line (9%) and other gears (2%)) (PacFIN 1999a; PacFIN 1999b). Recreational catches have been decreasing steadily from 8,000 mt in the early 1980s, and have recently amounted to near 2,000 mt (PFMC) 1999). Much of the recreational harvest has been focused on nearshore species such as black rockfish, blue rockfish (*S. mystinus*), and copper rockfish (*S. caurimus*) (RecFIN database 2000, Pacific States Marine Fisheries Commission, Gladstone, OR). For these species and other nearshore species, recreational harvest is much greater than commercial harvest and has had dramatic impacts on population abundance

AFS POLICY STATEMENT

and structure, especially in California (Love et al. 1998b; Mason 1998). Typically, the Pacific Fishery Management Council (PFMC) sets optimum yield recommendations for the Washington-Oregon-California region on an annual basis for individual species or species complexes, and regulates their harvest (including discard) through the use of quotas, trip limits, gear restrictions, and time/area closures, to ensure a year-round fishery (PFMC 1993; Ralston 1998). Total harvest of rockfish in the Washington-California management area ranged between 22,000–50,000 mt

assessments (Ralston 1998; NMFS 1999a, PFMC 1999). Only 1 of 12 near-shore rockfish species impacted by commercial live-fish and recreational fisheries has been fully assessed. Of those that have full assessments, 5 of 10 are considered above or near target biomass, 1 is below the target, and 4 are overfished (less than 25% of original stock biomass). The implementation of the Sustainable Fisheries Act of 1996 now requires rebuilding plans for stocks identified as overfished and includes decreases in fishing mortality. In 1999, the PFMC instituted rebuilding plans

for bocaccio (*S. paucispinis*), and Pacific ocean perch, which were at levels of 2%, and 13% of the estimated "virgin" biomass (PFMC 1999). It is expected that rebuilding plans for canary rockfish (*S. pinniger*) and cowcod (*S. levis*) will be instituted in 2000 (PFMC 1999). The standard man-

agement scheme for rockfish off the U.S. coast has been to manage for a fishing mortality of $F_{40\%}$, as a rate that will approach the maximum sustainable yield. This rate is defined as the fishing mortality that reduces the spawning potential per recruit to 40% of the unfished condition (Clark 1993). New evaluations of this fishing rate question this target based on the particular life-history constraints of each species (Ralston 1999). Evidence has accumulated for substantial declines in the abundance of many species of rockfish from Washington to California (Gunderson 1996; Ralston 1998; Love et al. 1998a; Love et al. 1998b; PFMC 1999). These studies and fishery independent surveys have tracked juvenile abundance, recreational harvest, and commercial harvest over the past 15–20 years and show dramatic declining trends of abundance. The impacts of the developing live-fish fishery on near-shore rockfish species in addition to the normal recreational harvest are unknown because the status of most of these species has never been assessed (Love and Johnson 1998). Because the largest, oldest, most fecund individuals are selectively captured as fisheries intensify, age distributions have become truncated with the loss of significant spawning biomass and a distinct segment of the population that may determine recruitment success in some years (Berkeley and Markle 1999). For example, large decreases in the biomass of large, hence old, females and a corresponding decrease in mean age has been documented for black rockfish, canary rockfish, and Pacific ocean perch, among others (Gunderson 1977; Love et al. 1998b; Berkeley and Markle 1999). Given that rockfish are categorized as very low productivity species using AFS criteria, many of these species would now be listed as *vulnerable* and warrant further consideration for protection (Musick 1999a). Indeed, the brown rockfish (*S. auriculatus*), copper rockfish, and quillback rockfish (*S. maliger*) of Puget Sound are under status review for listing under the Endangered Species Act (NMFS 1999b). An additional 11 rockfish species from Puget Sound are not under review because of insufficient information on stock identification and species-specific trends in abundance.

One of the main obstacles in harvest management of rockfish has been the accurate assessment of bycatch. Even with conservative harvest limits, rockfish are captured at significant levels in many different fisheries. Discard levels for rockfish vary with a number of factors but are estimated at usually between 15% and 30% of the catch (PFMC 1997). Much of the discard is a result of the management approach (species-specific or assemblage groups with trip or period landing limits), other regulations (such as gear characteristics), and market conditions (Pikitch et al. 1988). Actual levels are not known because no observer program exists to document bycatch and discard. Some species are not marketed at all, and most are only marketable after exceeding 30 cm in length, resulting in undocumented discard for almost all species captured. Because most are dead or moribund at capture, mortality rates of discarded rockfish approach 100%. The mortality rate for those entrained in trawls but escaping because of their small size has not been estimated. With no accurate levels of bycatch available, there is little confidence in total harvest levels or in harvest composition for many rockfish fisheries.

It is expected that the PFMC will institute rebuilding plans for canary rockfish (*Sebastes pinniger*) in 2000.

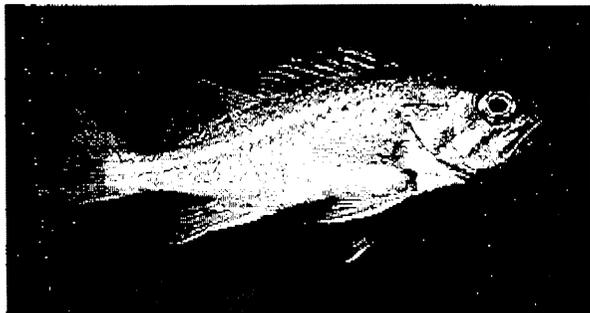
during the 1990s, and has been steadily decreasing throughout the decade (PFMC 1999). The catch has been worth more than \$30,000,000 annually (PFMC 1999).

Data on the harvest of individual species are limited because many species are categorized as "near-shore," "shelf," and "slope" complexes for management purposes (PFMC 1999). Estimates of species composition are dependent on sub-sampling of a variable number of trips among the ports (Sampson et al. 1997). In recent years, a rapidly growing live-fish fishery (fish marketed alive) has developed in California and Oregon, placing new commercial fishing pressure on near-shore rockfish species traditionally harvested in the recreational fishery, such as China rockfish (*S. nebulosus*) and grass rockfish (*S. rastrelliger*) (Love and Johnson 1998; Bloeser 1999; W. H. Barss, Oregon Department of Fish and Wildlife, Newport, pers. comm.).

Of the 54 species of rockfish that are commercially harvested and managed by PFMC, only 10 have had full stock

assessments (Ralston 1998; NMFS 1999a, PFMC 1999). Only 1 of 12 near-shore rockfish species impacted by commercial live-fish and recreational fisheries has been fully assessed. Of those that have full assessments, 5 of 10 are considered above or near target biomass, 1 is below the target, and 4 are overfished (less than 25% of original stock biomass). The implementation of the Sustainable Fisheries Act of 1996 now requires rebuilding plans for stocks identified as overfished and includes decreases in fishing mortality. In 1999, the PFMC instituted rebuilding plans

Evidence has accumulated for substantial declines in the abundance of many species of rockfish from Washington to California (Gunderson 1996; Ralston 1998; Love et al. 1998a; Love et al. 1998b; PFMC 1999). These studies and fishery independent surveys have tracked juvenile abundance, recreational harvest, and commercial harvest over the past 15–20 years and show dramatic declining trends of abundance. The impacts of the developing live-fish fishery on near-shore rockfish species in addition to the normal recreational harvest are unknown because the status of most of these species has never been assessed (Love and Johnson 1998). Because the largest, oldest, most fecund individuals are selectively captured as fisheries intensify, age distributions have become truncated with



Alaskan waters. Rockfish have been commercially harvested off of Alaska since the early 1900s, but in the early 1960s a massive Pacific ocean perch trawl fishery by the U.S.S.R. and Japan rapidly developed. Catches peaked in the mid 1960s, when a total of nearly 500,000 mt were caught off of Alaska (Heifetz et al. 1999; Ito et al. 1999). This apparent overfishing resulted in a precipitous decline in catches in the late 1960s, which continued through the 1970s. By the mid-1980s catches were less than 10,000 mt. A similar trend occurred off Canada, with peak catches of about 66,000 mt in 1966 followed by a steep decline thereafter (Westrheim 1987). Currently, the largest fisheries off the Pacific Coast occur in Alaska with a total catch of rockfish of about 42,200 mt in 1999 (NPFMC 1999). Historically, bottom trawls have accounted for most of the commercial harvest of rockfish, though a sizeable portion is also captured by longline. Recently, pelagic trawls have been used for Pacific ocean perch, and black rockfish have been taken mostly by jig gear.

Life history and stock status information is lacking for many species of rockfish managed in Alaskan waters as well. The North Pacific Fishery Management Council (NPFMC) categorizes the information available on each stock into one of six tiers. Stocks categorized in tiers 1 through 3 are comparable to PMFC stocks with full assessments (Pacific ocean perch and thornyheads are the only 2 of 32 species of rockfish with this level of information) (NPFMC 1999). However, the NPFMC has taken a conservative approach to rockfish management and no species are considered overfished in the waters of Alaska. Since 1988 in this region, the rockfish have been divided into management assemblages based on their habitat, distribution, and commercial catch composition. Beginning in 1991, the NPFMC divided the assemblages into several subgroups; established to protect the most sought-after commercial species in the assemblage from possible overfishing.

The NPFMC sets annual harvest levels for each management group after considering factors such as economics and bycatch. These harvest levels are typically less than or equal to the maximum allowable levels based on species- or assemblage-specific stock

assessments. Even with low harvest rate strategies however, sedentary and spatially isolated species such as yelloweye rockfish (*S. ruberrimus*) and shorttraker rockfish (*S. borealis*) require a spatial component added to management to prevent localized depletion (O'Connell et al. 1999).

The NPFMC and the Alaska Department of Fish and Game regulate the harvest (including discard) through the use of time/area closures and maximum allowable bycatch restrictions to ensure that area-specific total mortality levels are not exceeded. A mandatory observer program for vessels greater than 60 ft in length has been in place since early 1990s to collect biological data and provide data critical for estimating discard rates and total mortality for individual rockfish species.

Other management measures that may have provided some benefit to rockfish have included a trawl ban in the Eastern Gulf of Alaska and a rebuilding plan for Pacific ocean perch (Janelli and Heifetz 1995). The NPFMC recently passed an amendment to require full retention of demersal shelf rockfish, allowing sale of bycatch up to the allowable bycatch rate with the remainder of fish forfeited to the state. The Alaska Board of Fisheries is considering similar regulations for all rockfish species taken in state-managed fisheries. Efforts are also underway to explore alternative methods to assess rockfish abundance because of problems associated with current trawl survey methodology (Heifetz et al. 1999; Quirun et al. 1999).

Management approach. Management of Pacific rockfishes has been complicated and slow at best in its adaptation to new information (Leaman 1991; Ralston 1998). Populations have shown little response to the management measures used to date, mostly because these measures fail to consider the constraints that reproductive strategies of rockfish

impose on the population's ability to recover from reductions in abundance (Giesel 1976; Leaman 1991). Long-term sustainability requires the use of the precautionary principle when setting and estimating fishing mortality (Botsford et al. 1997; Dayton 1998). The necessary management action must be to decrease fishing mortality to restore population stability, structure, and diversity. This means that management should consider not just the magnitude of fishing mortality, but how it is distributed spatially and demographically as well. With these goals, fishing mortality can be reduced and managed through a number of diverse, yet complementary actions. No single action is robust to human error or ingenuity, so all management actions must be implemented in concert and with constant evaluation and enforcement. Obviously, a direct reduction in total mortality is needed given the reproductive constraints of rockfishes and the status of many of the assessed species. Along with lower harvest levels, changes in the quota management system (e.g., use of low trip limits, short fishing periods, a year round fishery) must occur to decrease or eliminate regulatory-induced discard, and observe the bycatch and discard that does occur. Given the uncertainties associated with stock assessment and the mixed-species nature of rockfish fisheries, regulating landings through trip limits and estimating bycatch while ensuring an adequate stock size for recovery could result in extremely low or only incidental harvest levels for some species that are not overfished. This is essentially



The quillback rockfish (*S. maliger*) is under status review for listing under the Endangered Species Act.

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the approach that the PFMC took in their rebuilding plans for bocaccio and Pacific ocean perch; with similar actions planned for canary rockfish and cowcod in 2000 (PFMC 1999).

Another aspect of a diverse management plan is to reduce fishing effort through a decrease in the number of vessels or a decrease in fishing time. Although the efficiency of remaining vessels can increase through time, a substantial reduction in vessels would quickly reduce effort and decrease regulatory-induced discard because fewer trips would be made when approaching a harvest period limit or a vessel's limit for a target species. Some efforts are underway from within the fishing industry to reduce the size of the fleet to a more sustainable number of vessels and to train fishers for careers in other areas.

In addition to reduced harvest rates, a significant portion of each population and its habitat must be protected in no-take reserves or Marine Protected Areas (MPAs), where populations may be protected from harvest of any kind (Murray et al. 1999). Marine protected areas can be used to protect ecosystem structure and function, increase scientific understanding of management actions, and enhance non-extractive activities, while benefiting fish populations (Lauck et al. 1998; Hall 1998; Murray et al. 1999). Several small marine reserves currently exist in California and Washington, but these were not designed for use as commercial fishery refuges (McArdle 1998; Palsson 1998). However, evaluations of these approaches, and models of MPA systems in Alaska appear to show promise for rockfish populations (Soh et al. 1998).

An effective system of MPAs must consider the ecology and community structure of those species to be protected as well as the dynamics of the entire ecosystem. For example, Walters and Bonfil (1999) showed that the mobility of some species could reduce the protection afforded by MPAs. However, it is generally recognized that we have sufficient understanding of the management problems associated with many species of rockfish to design and implement effective MPAs (Yoklavich 1998). To be effective, these systems must be designed to meet specific goals and undergo intensive periodic evaluations to measure the ecosystem response

(Allison et al. 1998; Roberts 1998; Starr 1998). Evaluation of MPA effectiveness will require intensive sampling and habitat evaluation of the reserve area as well as adjacent areas for comparison. Because implementing MPAs will not have immediate effects at the ecosystem level, sampling and evaluation will need to occur for a significant period of time (starting prior to MPA implementation) and requires a long term commitment for success (Carr and Reed 1993; Palsson 1998).

Conclusion. Several life history characteristics of Pacific rockfish require that they be managed more conservatively than most marine fishes. Applying the precautionary principle to these species will require decreases in fishing mortality rates and management strategies that protect the physical habitat, allow for a full complement of age classes, and prevent recruitment overfishing throughout the entire geographic range of the stock. Uncertainty associated with actual harvest levels, spawning biomass, and annual recruitment must be buffered with conservation measures such as reduced fishing mortality, long-term species-specific monitoring, habitat protection, and protection of a significant portion of the population through the use of appropriately designed MPAs (Lauck et al. 1998). The population dynamics of rockfishes require that these management actions be taken quickly, but as part of a multifaceted adaptive management framework to have the greatest potential to address these issues while allowing a significant mixed-species fishery to continue.

C. Needed actions

The AFS recognizes the need for conservative management of the Pacific rockfishes because of the low rebound potentials and over-fished state of many of the species and complex nature of the mixed-species fisheries (60-plus species). The end result must be robust to uncertainty with a low fishing mortality on each species, dictated by the biological constraint of a limited and unpredictable ability for population growth. Because large changes in management strategy will take time, both to implement and to have effects, we recommend reductions in fishing mortality through changes in

the current management system, as well as the development of MPAs for use as supplemental fisheries management tools as follows.

- Reduce fishing mortality by establishing reduced harvest levels and designing management systems to reduce bycatch and discard.

- Determine total mortalities by species, including mortalities associated with recreational and subsistence fishing to allow the total catch of each species to be monitored with high confidence.

- Establish mechanisms to limit harvest to the targets established each year, and set limits for each species, not groups of species, where weak stocks can be overfished.

- Collect species-specific information on age, maturity, fecundity, location and conditions of capture. Baseline data collection on unexploited species should begin before major fisheries develop.

- Document and monitor bycatch and discard rates at sea to calculate accurate estimates of fishing mortality. Develop mechanisms to reduce the bycatch of rockfish in non-rockfish fisheries, and to reduce the capture of unmarketable sizes or species in all fisheries.

- Establish adequate fishery independent surveys and develop new survey techniques to monitor population abundance and promote accurate stock assessments.

- Managers should buffer fishing pressure against variability in stock recruitment levels and unforeseen fishing mortality effects by protecting a portion of each population and its habitat through the use of marine protected areas. Experimental marine protected areas should be implemented as part of an adaptive management framework to develop effective criteria for conserving rockfish populations. They should be designed to protect multiple species, their habitats, demographic and genetic structure, and community structure.

- In addition to reductions in fishing mortality through direct reductions in catch and through population protection, decreases in fishing effort must occur. Therefore, managers should immediately implement programs that effectively reduce fishing effort, such as fleet-size reduction,

training for alternative careers, and community assistance programs.

• All of these recommendations require substantial effort and infrastructure for implementation and evaluation. The AFS recommends high priority for funding of research and management activities necessary to ensure stable Pacific rockfish populations in the future. ➤

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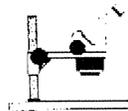
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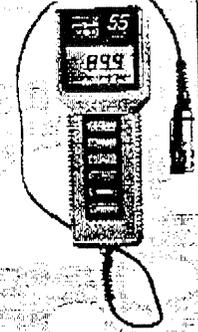
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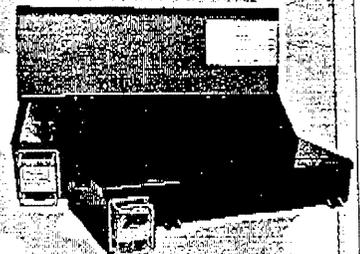
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**CENTER FOR MARINE CONSERVATION
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ENVIRONMENTAL DEFENSE**

June 21, 2000

Pacific Fishery Management Council
2130 SW Fifth Avenue, Suite 224
Portland, OR 97201

Comments on June 2000 PFMC agenda item D. 13., Default Maximum Sustainable Yield (MSY) Fishing Rate within the Harvest Rate Policy.

Chairman Lone and Council Members,

The Center for Marine Conservation (CMC), the Natural Resources Defense Council (NRDC), and Environmental Defense (ED) respectfully submit these comments on the issue of designating a default MSY fishing rate for west coast groundfish. CMC, NRDC, and ED represent over 100,000 members on the west coast with an interest in healthy ocean ecosystems. We have carefully tracked harvest rate policies for west coast groundfish, and CMC has actively participated in the development of harvest policies as a member of the Council's Groundfish Advisory Panel and a participant in the Groundfish Harvest Rate Policy workshop.

Unfortunately, there is a growing list of west coast groundfish that are classified as "overfished" and in need of rebuilding. While it is true that oceanic conditions played a role in the groundfish decline, the fundamental problem is that fishing rates exceeded the rates of reproduction of these fish. The current crisis developed because the fisheries management system was unable to recognize and respond in time to the groundfish decline. Now the fish are in trouble and so is the industry that relies on them.

As the Council considers adoption of new MSY proxies (default MSY fishing rate), we have a simple question to ask: what has been learned from this painful groundfish decline? We think there is a simple answer to this question: the groundfish decline has provided a very clear lesson in the wrong way to deal with uncertainty and risk. We have seen how people and fish suffer when proof is required before catch limits can be reduced, because "proof" in fisheries science tends to come too late. It would have been better to use precautionary management 5 or 10 years ago, and reduce catch limits when scientists warned of the risks.

We urge the Council to demonstrate that a lesson has been learned from the groundfish decline; adopt MSY proxies that will prevent groundfish from being fished faster than they can reproduce. This is consistent with National Standard 1 of the Magnuson-Stevens Act which requires FMPs to contain measures to "prevent overfishing." 16 USC 1851 (a)(1).

To prevent overfishing, MSY proxies will have to be adjusted to lower fishing rates than the risk-neutral estimates that were made by the Groundfish Harvest Rate Policy review panel. These risk-neutral estimates of Fmsy are composite values for several groups of species, and composite values are likely to allow overfishing for up to half of the species in each group. Adoption of MSY proxies that are risk-neutral is contrary to the National Standard Guidelines which state that MSY estimates "must incorporate appropriate consideration of risk." 50 CFR § 600.310 (c)(2)(ii).

We urge the Council to adopt MSY proxies that incorporate appropriate consideration of risk, and are not likely to allow overfishing for any groundfish species. Using risk-neutral estimates derived from groups of species does not meet this goal. Instead, the Council should adopt risk-averse MSY proxies such as F60 for Sebastes species.

Thank you for the opportunity to comment,



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Marine Ecologist, Environmental Defense

**West Coast Groundfish Harvest Rate Policy Workshop
AFSC, Seattle, Washington: March 20-23, 2000
Sponsored by the Scientific & Statistical Committee of
the Pacific Fishery Management Council**

Panel Report

Stephen Ralston (chairman), James R. Bence, William G. Clark,
Ramon J. Conser, Thomas Jagielo, and Terrance J. Quinn II.

Scientific and Management Background

Through 1998 the policy of the Pacific Fishery Management Council (PFMC) was to set the Allowable Biological Catch (ABC) of a stock by applying the fishing mortality rate that produces Maximum Sustainable Yield (F_{MSY}) to an estimate of exploitable stock biomass. Policies of this kind are termed constant rate policies because, once the estimate of F_{MSY} is determined, the annual ABC is strictly proportional to estimates of exploitable biomass. However, owing to short data series and other technical issues, it generally has not been possible to directly estimate F_{MSY} reliably for any stock. Consequently, during the 1980s and into the early 1990s, one of several common surrogate or proxy estimates of F_{MSY} was used (e.g., $F_{0.1}$ or $F=M$).

Clark (1991) proposed the $F_{35\%}$ harvest rate as a more general and rational surrogate rate. $F_{35\%}$ is the fishing mortality rate that reduces the spawning potential *per recruit* to 35% of the unfished level. By reasonably assuming that fecundity is proportional to average weight, it is the rate of fishing that reduces the spawning biomass *per recruit* to 35% of what would exist if there were no fishing. Clark showed that this rate would produce a yield close to MSY for a range of life history parameters and productivity relationships that were intended to cover the great majority of well-studied groundfish stocks with long histories of exploitation (most of which were Atlantic stocks). He also showed that $F_{35\%}$ was very close to both $F_{0.1}$ and $F=M$ when the schedules of recruitment and maturity coincided, and were sensibly higher or lower when they differed. However, a later paper extended the original analysis to cases with random and serially correlated recruitment variation (Clark 1993), and concluded that $F_{40\%}$ would be a better choice overall than $F_{35\%}$. Mace (1994) also recommended $F_{40\%}$ on the basis of deterministic calculations. The current scientific consensus now indicates that $F_{40\%}$ is an appropriate default harvest rate for stocks with unknown productivity parameters.

The PFMC adopted $F_{35\%}$ as its standard surrogate in 1992, and switched to $F_{40\%}$ for *Sebastes* only in 1997, based principally on the conclusions of Clark (1993) and Mace (1994). In 1998 it then adopted the so-called "40-10" rule under Amendment 11 to the groundfish FMP. The 40-10 rule represented a departure from prior constant rate harvest policies, wherein the target fishing mortality rate is reduced for stocks whose biomass is below 40% of the estimated unfished biomass (B_0).

Common Confusion Over Relative Biomass and Relative Biomass per Recruit

In addition to recommending the $F_{35\%}$ strategy, Clark (1991) suggested a more robust biomass-based strategy that consists of simply maintaining spawning biomass at around 40% of the estimated unfished level. Perhaps partly because of the shared “40%” level, it is often supposed that the $F_{40\%}$ harvest rate will reduce spawning biomass to 40% of unfished biomass, but that is only true for stocks with highly resilient spawner-recruit relationships. For less resilient stocks, $F_{40\%}$ will reduce biomass to a lower level, possibly much lower, while still providing a yield near MSY. That is possible because yield is not very sensitive to equilibrium biomass over a wide range of biomass levels, so a yield near MSY can be obtained even when biomass is well below B_{MSY} . It is this feature of yield curves that makes it possible for a rate like $F_{40\%}$ to perform well in terms of yield over a wide range of spawner-recruit productivity curves. For some curves $F_{40\%}$ is well above F_{MSY} and for some of the curves it is well below, but in none of the cases considered is it so far above or below F_{MSY} that yield is much lower than MSY.

For the most likely sort of groundfish spawner-recruit relationships (i.e., asymptotic curves such as the Beverton-Holt model), and if other forms of stock compensation are negligible, B_{MSY} is likely to lie in the range of 25-40% of unfished biomass. Therefore, even if F_{MSY} was known and was implemented for a stock, the resulting biomass level would generally be less than 40% of B_0 on average. For some stocks, recruitment variations alone might then result in biomass levels falling below 25% of the unfished level, which is the overfished threshold as implemented in Amendment 11 to the groundfish FMP. Thus, fishing at $F_{40\%}$, which can be well above (or below) F_{MSY} , can be expected to result in biomass levels that are occasionally or on average very low for some stocks. Thus, given the new requirement of biomass-based overfished thresholds (Department of Commerce 1998), the relationship between harvest rates and biomass levels becomes more critical.

Declines of Pacific Coast Stocks Fished at $F_{35-40\%}$

Ralston (1998) showed that a number of Pacific coast rockfish stocks declined to low levels during the last two decades, contributing to concerns about the wisdom of the $F_{35\%}$ policy. His findings, as well as analyses conducted by the GMT during the preparation of Amendment 11, led to a series of workshops, including this latest review. This panel received a number of papers dealing with the productivity of the stocks in question and considered arguments for and against retaining the $F_{35\%}/F_{40\%}$ rate (in conjunction with the 40-10 rule) for all stocks.

We believe there are at least three possible factors that are responsible for the observed declines in groundfish stocks:

1. *Normal operation of the $F_{35\%}/F_{40\%}$ strategy.*

As explained above, either an $F_{35\%}$ or $F_{40\%}$ harvest rate will often lead to biomass levels that are well below what many people commonly expect, even when the rate is no larger than F_{MSY} . When it is larger, as will happen for some stocks, resulting biomasses can be very low. The important point is that both F_{MSY} and the proxy rate are calculated to achieve a certain level of

yield, not biomass. In addition, harvesting at $F_{35\%}/F_{40\%}$ should be viewed as a risk-neutral policy in that, being a compromise intermediate rate, some stocks will be over-exploited and some stocks will be under-exploited, with no penalty imposed for over-exploitation.

2. *Higher than intended harvest rates.*

Recent assessments show that in many cases, actual fishing mortality rates were well above $F_{35\%}$. This can happen in any fishery when quotas are set on the basis of current biomass estimates, which are subsequently revised downward in a later assessment.

3. *Apparently low productivity of Pacific coast stocks.*

The spawner-recruit estimates that have accumulated over the last twenty years on Pacific coast groundfish stocks indicate very low resiliency in the spawner-recruit relationships — at or below the lowest values estimated for well-studied stocks elsewhere in the world (Myers *et al.* 1999). It is not surprising then, that the estimated productivity of these stocks is in many instances lower than the range of values considered plausible by Clark (1991) in his derivation of the $F_{35\%}$ strategy.

Because these low productivity estimates are so common among Pacific coast groundfish stocks, and so uncommon elsewhere, there is some suspicion that they result from some unrecognized flaw common to all of the Pacific coast groundfish assessments. However, with the exception of discards (see below), the panel has no reason to doubt the accuracy of west coast groundfish stock assessments. The same methods and models have produced estimates of higher productivity elsewhere (e.g., in Alaska). For the time being, therefore, we believe that all of the assessment results should be taken at face value, and that the Council's harvest strategy should be reconsidered in light of the apparently low productivity of many of the stocks.

The reason for anomalously low productivity in this region is not certain, but it may well be linked to the climatic regime shift that occurred in the eastern Pacific ocean around 1977-78. Since then, ocean conditions have been generally more favorable for many Alaskan stocks and have been less favorable for many Pacific coast stocks. Sometime in the future conditions on the west coast are likely to change again. Still, there is no assurance that this will occur in the near future and so, in the interim, the PFMC should manage groundfish stocks according to their current productive capacity.

The panel reviewed results presented by Williams (see Appendix A), which suggest that discards of small fish could contribute to the perception of low groundfish productivity. To the extent that this occurs, its effect is to reduce apparent recruitments and therefore to make ground-fish stocks appear to be less resilient. This scenario depends on: (1) an increasing exploitation rate over time and (2) substantial unaccounted for discarding of the smallest fish captured. While groundfish exploitation rates have certainly risen, and substantial unaccounted for discards of small fish is likely in some fisheries, discards are generally not documented for these stock and cannot be quantified at present. Clearly more research on this issue is desirable and, in general,

the panel stresses that a full accounting of total catch is necessary for the PFMC to adequately manage any of the resources under its authority.

Panel Recommendations for Default Groundfish Harvest Rates

The panel reviewed the information presented by each presenter (see Appendix A), as well as other recently published material (e.g., Myers *et al.* 1999). Of particular importance were the works of Brodziak, Dorn, MacCall, and Parrish because each of these studies broadly re-analyzed the information presented in historical PFMC stock assessments in an attempt to estimate F_{MSY} for each stock and their F_{spr} equivalents (i.e., the spawning potential per recruit fishing mortality rate). Significantly, each of these studies indicated that in many instances groundfish productivity, as estimated from the results of stock assessments, is insufficient to support harvests at the $F_{35\%}$ or even $F_{40\%}$ rates.

With respect to the rockfishes (*Sebastes* spp.) the panel found the work of Dorn to be very compelling. His results showed that, when the genus is examined as a whole through the use of meta-analysis, west coast rockfish stocks (exclusive of Pacific ocean perch) have F_{MSY} rates that range between $F_{45\%}$ – $F_{67\%}$ for risk-neutral models, assuming either the Beverton-Holt or Ricker models with lognormal or gamma errors (four cases). However, gamma error models fit the data more poorly than models with a lognormal error structure and, as a consequence, the panel supported the use of Dorn's lognormal analysis only. For that subset of cases, the estimated F_{MSY} rates ranged $F_{45\%}$ – $F_{54\%}$ over the two recruitment models. The panel then adopted $F_{50\%}$ as a midpoint, risk-neutral, proxy for rockfish F_{MSY} . In addition, the panel recommends including the thornyheads (genus *Sebastolobus*) with the rockfish in the setting of default harvest rate proxies.

The panel discussed results for Pacific whiting and concluded that the information base for that species was the best available for any west coast groundfish. Harvests are currently determined using the 40-10 policy in association with a fishing mortality rate equal to $F_{40\%}$. This rate is based on a separate and distinct meta-analysis of worldwide *Merluccius* productivity that was conducted as part of the last stock assessment (Dorn *et al.* 1999) and seems appropriate as a risk-neutral harvest policy. Consequently, the panel does not recommend any changes in harvest rate for Pacific whiting.

For flatfishes (including Dover sole), the panel concluded that resiliency is typically higher than in other taxa (e.g., Brodziak *et al.* 1997, Mace and Sissenwine 1993, Myers *et al.* 1999). As a consequence, the panel recommends using a default rate of $F_{40\%}$ for all flatfish species in the groundfish FMP. This rate is consistent with the general findings of Clark (1993) and Mace (1994).

For all other species in the groundfish FMP (including sablefish and lingcod) the panel recommends an intermediate harvest rate of $F_{45\%}$. This intermediate rate was selected as a sensible risk-neutral alternative that would afford increased protection to all the remaining groundfish stocks. However, the level of certainty in setting this default rate is very low. Consequently, the panel makes two recommendations with respect to the estimation of groundfish productivity, i.e.,

- (1) Assessment authors are encouraged to evaluate the resiliency of the specific stocks they model. When such analysis produces scientifically credible estimates of productivity, the analyst is encouraged to present those findings as part of their stock assessment. However, any productivity analysis should always include a measure of the uncertainty in the point estimates of management reference points (e.g., F_{MSY} , B_{MSY} , and B_0).
- (2) A proper consideration of risk is essential in the setting of optimum yields for west coast groundfish stocks. Utilization of a risk-neutral harvest rate proxy (e.g., $F_{50\%}$ for *Sebastes* and *Sebastolobus*) implies that some stocks within the group are quite likely to be over-exploited. Similarly, calculation of an ABC using an unbiased stock-specific point estimate of F_{MSY} will result in overfishing if the estimate is, by chance, too high. It is the PFMC's responsibility to account for these risks of overfishing through the use of a precautionary approach in the establishment of optimum yields. In addition, the NMFS Guidelines specify that status determination criteria must specify a maximum fishing mortality rate threshold that is less than or equal to F_{MSY} (Department of Commerce 1998). While this issue is not specifically addressed in this report, the choice of the threshold should depend on the level of uncertainty associated with the estimate of F_{MSY} or its proxy.

In summary, panel recommendations with respect to risk-neutral default harvest rate F_{MSY} proxies for west coast groundfish are:

Pacific whiting	$F_{40\%}$
<i>Sebastes</i> & <i>Sebastolobus</i>	$F_{50\%}$
Flatfish	$F_{40\%}$
Other groundfish	$F_{45\%}$

Due to a lack of detailed life history and stock status information, it will not be possible to implement these recommendations for many stocks. In particular, the “remaining rockfish” management unit (PFMC 1999) includes a number of species for which the ABC has been set using the $F=M$ harvest rate proxy (Rogers *et al.* 1996). Currently, the optimum yield (OY) of those species is reduced by 25% as a “precautionary adjustment” (PFMC 1999), amounting to an $F=0.75M$ policy. The panel discussed the remaining rockfish category in light of results presented in MacCall's production model analysis (Appendix A), which indicated that 0.40M may be a better proxy for an optimal exploitation rate. However, due to the review panel's unwillingness to fully endorse production modeling as a viable means of estimating groundfish productivity (see below), the panel recommended that the PFMC establish $F=0.75M$ as the default, risk-neutral policy for the remaining rockfish management category. This determination was consistent with results presented for Pacific ocean perch, for which $F_{MSY} \approx 0.80M$. Even so, concern was expressed within the panel that a more conservative harvest rate might be warranted, such as that used by the North Pacific Fishery Management Council, which in similar swept-area applications assumes that $q=1.0$. In either case, given the high degree of uncertainty underlying the technical basis of this recommendation, and the real possibility that MacCall's findings are accurate, precautionary adjustments in setting the OY of the remaining rockfish are recommended.

The panel discussed the hardship to the fishing industry that the immediate application of these new, more restrictive, rates will cause. The National Standard Guidelines for implementation of the Magnuson-Stevens Act specify (Department of Commerce 1998): “Overfishing occurs whenever a stock of stock complex is subjected to a rate or level of fishing mortality that jeopardizes the capacity of a stock or stock complex to produce MSY on a continuing basis.” The PFMC may, therefore, wish to consider the propriety and legality of a short-term phase-in of these new rates to ameliorate the immediate impact to the groundfish industry.

Surplus Production Models

During the workshop, methods considering an examination of the relationship between surplus production and stock biomass were discussed as potential alternatives to methods based on stock-recruit models for determining appropriate exploitation rates. The panel generally agreed that an examination of estimates of surplus production and their relationship with estimates of biomass or other variables is useful. However, the panel does not endorse the general replacement of a stock-recruitment based approach at this time, nor the requirement of using a biomass-based surplus production model as one approach for estimating MSY, F_{MSY} and B_{MSY} for all assessed stocks. The panel concluded that this is an area that could benefit from additional research.

There were three presentations dealing with biomass-based production model approaches on the agenda (Jacobson *et al.*, MacCall, and Parrish; see Appendix A). The fundamental premise of these approaches was to use the output from a detailed age-structured model as an accurate representation of exploitable stock biomass (i.e., assume $q = 1.0$) and to estimate the relationship between catches and changes in biomass to determine production. Most of the panel concluded that this kind of approach has potential application when applied to estimates generated from age-structured or delay-difference assessments. This is possible because absolute stock biomass estimates are generally available from the assessment models and, by definition, estimated surplus production can be calculated from the time series of catch and estimated biomass. The disadvantage of this approach, however, is that the various biological processes underlying stock compensation are not directly addressed, whereas in age-structured approaches these processes can be treated explicitly. Whether surplus production is estimated internally within the model (e.g., Jacobson *et al.*) or externally after the fact (MacCall, Parrish), is an issue deserving of more study (see also results from Ianelli).

Although the full panel saw benefits to explicit consideration of biomass production implied by assessments, some panelists expressed significant reservations regarding the use of production models to determine F_{MSY} and related quantities. These reservations were largely based on the view that this approach discards important information contained in the original age-structured model results. For example, age-structure can influence production because young fish generally have higher weight-specific growth rates than older fish. As a result, the same biomass can lead to different levels of production, depending upon the age composition of the population. Likewise, changes in selectivity over time will change the amount of surplus production at a given biomass. Although such variation in surplus production could be dealt with as correlated process error (Jacobson *et al.*) this converts variation explained by the

age-structured model into additional error. In any event, age-structured analyses can provide specific information on the nature of compensation (e.g., in individual growth, maturation, or recruitment), which is not possible from an examination of the aggregate surplus production-biomass relationship alone.

Other panelists argued that estimates of F_{MSY} from surplus production models might be more robust than those that depend upon solely on stock-recruitment relationships. The idea here is that (1) error in assessment model estimates of biomass may cancel-out because production estimates involve differencing model biomass estimates, and (2) potentially biased estimates of recruitment (e.g., discards of small fish) play a less critical role in the analysis. Simulations presented by MacCall at the second Groundfish Productivity Workshop in Monterey, CA suggested this was the case. However, given the few number of replicate simulations and the limited suite of scenarios in that paper, the panel did not view this work as definitive.

Estimation of B_0 , B_{40} and Related Problems

Although variable rate biomass-based harvest policies were not the primary focus of the workshop, the newly implemented 40-10 harvest policy was, nonetheless, the subject of much discussion. While in practice it is possible to consider F_{MSY} proxies in isolation from biomass targets and thresholds, in principle these two subjects are inextricably linked.

The main concern about the 40-10 harvest policy is that it involves the calculation of two biomass reference points, i.e., the virgin biomass that would exist in the absence of fishing (B_0) and the exploited biomass that is 40% of that pristine level ($B_{40\%}$). Within the PFMC, it appears that parameter B_0 is usually obtained from a stock assessment model and estimates of what biomass may have been in the far past.

A number of problems are likely to occur in the estimation of this parameter. First, its estimated value may be far larger than any historical observed biomass due to vagaries of parameter estimation and the age composition of the population at the start of the data series (e.g., Pacific ocean perch; see Ianelli in Appendix A). In some cases, it may be justifiable to constrain the value of B_0 to be near the historical maximum or some other value, as long as a clear rationale is provided and the sensitivity of the constraint is examined.

A second problem is that models are frequently configured to assume that the age composition is at equilibrium at the start of the modeled period. If this assumption fails, then the estimate of parameter B_0 may be biased. Third, there is no guarantee that under any fishing mortality regime, including zero fishing, that the population will rebuild to this level. The reason for this is that the amount of recruitment needed to produce historical levels of spawning biomass may not occur in the future. Given that many West Coast stocks have been on a “one-way trip” downward, a sensible harvest policy would first reverse the decline, and then rebuild to a level that could be expected based on current and expected future conditions. Once that level of rebuilding is accomplished, it may then be possible to rebuild toward a level consistent with historical patterns.

Therefore, some alternatives for calculating B_0 that look toward the future instead of the past should probably be considered. Two clear alternatives involve determining: (1) whether a spawner-recruit model is used to project the population forward and (2) if not, what exact values of the recruitment time series are to be used in forecasting future biomass. If a spawner-recruit model is used, then it should be possible to determine pristine biomass and B_{MSY} as reference points automatically. These points can then be implemented in the harvest policy, as is done by the North Pacific Fishery Management Council. However, it is often quite difficult to assert that a reliable spawner-recruit relationship is known, so typically such a relationship would not be invoked. Nevertheless, it is often wise to provide for reduced recruitment at low spawning biomass levels, particularly if the stock has been fished down to a point where recruitment is believed to have been impacted. Some recent modeling efforts with ADMB and Bayesian considerations (e.g., Pacific hake) lend hope to better determining MSY parameters.

If a spawner-recruit relationship is not used, then a projection of future unfished equilibrium biomass can be made by multiplying contemporary recruitment values by the corresponding spawner biomass per recruit (SPR) function. For example, the average recruitment over the time series might be used with an SPR function at a fishing mortality of 0 to arrive at the expected equilibrium unfished biomass in the future, to be used as B_0 . From this information $B_{40\%}$ could be obtained. This type of approach is especially appropriate if it is known there has been a change in stock productivity. A caveat to doing this, however, is that it can be very difficult to detect a change in productivity, so the rationale for restricting the time period must be carefully considered.

Whichever approach is used, it should be documented carefully and properly justified. The same methodology should be used for all biomass reference points and it should be clearly stated whether a reference point is based on SPR calculations that are fully independent of spawning biomass, or whether recruitments have been adjusted downward by a spawner-recruit relationship. We think justification for the calculation of biomass reference points should address consistency between the assumptions used in their derivation and those underlying F_{MSY} estimates or proxies.

We note that another type of calculation is required by the NMFS overfishing guidelines, which could lead to further confusion. Namely, a threshold level that provides for a 10-year rebuilding to a target level such as B_{MSY} must be found (Department of Commerce 1998). This level is also a function of the recruitment series used and depends on whether a spawner-recruit relation exists. Consequently, for consistency the same process that is used for determining other reference points should be used here. The PFMC has apparently been allowed to use $B_{25\%}$ for this threshold, but it is unclear how rebuilding plans, which are triggered when biomass drops below this value, will interface with the 40-10 rule, which in itself, is an automatic rebuilding plan. Other Councils are currently experiencing this confusion as well, so hopefully there will be more flexibility and clarity in the NMFS overfishing guidelines in the future.

Some Relevant Published Literature

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- Hastie, J. Major events that have shaped current rockfish management. (handout distributed at the March 2000 workshop in Seattle, WA).
- Hilborn, R., A. Parma, and M. Maunder. Harvesting strategies for WC groundfish. (handout distributed at the February 1999 workshop in Newport, OR).

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- Jacobson, L. D., J. R. Weinberg, and S. X. Cadrin. Try and estimate F_{MSY} in every stock assessment model! (distributed at the March 2000 workshop in Seattle, WA).
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- Nowlis, J. S. Alternative proxies for B_{MSY} and the overfished threshold. (distributed at the March 1999 workshop in Monterey, CA).
- Nowlis, J. S. Maximum sustainable yield options paper. (distributed at the March 1999 workshop in Monterey, CA).
- Parrish, R. H. A synthesis of the surplus production and exploitation rates of 10 west coast groundfish species. (distributed at the March 2000 workshop in Seattle, WA).

Sampson, D. B. FINDMSY: a fishery simulator for exploring constant harvest rate policies. (distributed at the March 2000 workshop in Seattle, WA).

Thompson, G. Optimizing harvest control rules in the presence of natural variability and parameter uncertainty. (distributed at the March 1999 workshop in Monterey, CA).

Thompson, G. A comparison of risk aversion in management and estimation. (distributed at the March 1999 workshop in Monterey, CA).

Williams, E. H. The effects of unaccounted discards and mis-specified natural mortality on estimates of spawner-per-recruit based harvest policies. (distributed at the March 2000 workshop in Seattle, WA).

APPENDIX A — Agenda

WEST COAST GROUND FISH PRODUCTIVITY WORKSHOP
Scientific & Statistical Committee, Pacific Fisheries Management Council
Room 2079, Building 4, Alaska Fisheries Science Center
7600 Sand Point Way NE, Seattle, Washington

AGENDA

Monday, March 20

- 1:00 pm Workshop Introduction
James Hastie: *An historical overview of Pacific Fishery Management Council groundfish harvest policy.*
William Clark: *F_{35%} revisited after ten years.*
Alec MacCall: *Designing fishery management and stock rebuilding policies for conditions of low frequency climate variability.* (preview of a paper to be presented at the PICES meeting in San Diego later this week)

Tuesday, March 21

- 8:00 am R. A. Myers: *The meta-analysis of the maximum reproductive rate for fish populations to estimate harvest policy; a review.*
Martin Dorn: *Advice on west coast rockfish harvest rates from Bayesian meta-analysis of stock-recruit dynamics.*
Ray Hilborn: *Exploitation rate reference points for west coast rockfish: are they robust and are there better alternatives?*
12:30 pm Lunch
1:30 pm Larry Jacobson: *Try and estimate F_{msy} in every stock assessment model!*
David Sampson: *FINDFMSY: a fishery simulator for exploring constant harvest rate policies.*

Wednesday, March 22

- 8:00 am Richard Parrish: *A synthesis of the surplus production and exploitation rates of 10 west coast groundfish species.*
Alec MacCall: *Summary of known-biomass production model fits to west coast groundfish stocks.*
Jon Brodziak: *In search of optimal harvest policies for west coast groundfish.*
12:30 pm Lunch
1:30 pm James N. Ianelli: *Simulation analyses testing the robustness of harvest rate determinations from typical west-coast rockfish stock assessment data.*
Erik Williams: *The effects of unaccounted discards and mis-specified natural mortality on estimates of spawner-per-recruit based harvest policies.*

Thursday, March 23

- 8:00 am Discussion / Public comment
12:00 Lunch
1:00 pm Panel deliberation

Friday, March 24

- 8:00 am Panel deliberation (if required)

PACIFIC FISHERY MANAGEMENT COUNCIL

2130 SW Fifth Avenue, Suite 224
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CHAIRMAN
Jim Lone

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MEMORANDUM

DATE: June 9, 2000
TO: Cindy Thompson, Chair
SSC Members
FROM: Don McIsaac 
SUBJECT: F_{MSY} Harvest Rate Considerations

At the last Council Meeting, we committed to reviewing the dialogue by Council Members on the subject of further work by the SSC regarding considerations in finalizing the F_{MSY} harvest rate. Our goal was so as to develop specific questions consistent with the purpose and intent of the discussion at the Council table. Jim Glock, Dan Waldeck and I have prepared the attached assignment to the SSC, with some valued help from others. Please review this material in advance of the June Council meeting; the agenda Dan has prepared allows for about two hours of concentrated SSC time on this matter.

Please note that this assignment, and Council action, focuses on the F_{MSY} harvest rate issue. Considerations on risk neutrality and precautionary elements in the management process beyond the F_{MSY} harvest rate stage, such as ABC calculations, Harvest Guideline settings, *et cetera* will be examined at future Council meetings.

Should you have further questions on the attached assignment, please contact Jim Glock or Dan Waldeck.

Cc: Jim Lone
Council Members
Jim Glock
Dan Waldeck
John Coon
Jim Seger
Jim Hastie
Steve Ralston
Mark Powell
Jennifer Bloeser

Council Questions to the SSC Regarding Finalizing the F_{MSY} Harvest Rate Report

In April, the SSC provided the Council a preliminary review of recommendations from the Harvest Rate Policy Workshop. At that time, the SSC committed to providing a final review of the F_{MSY} harvest rate recommendations at the June 2000 Council meeting (see attached – Supplemental SSC Report B.3., April 2000). The Council posed several questions to the SSC directed at clarifying scientific elements of policy considerations that can be categorized into three general areas: implementation of the workshop recommendations; characterizing accuracy, precision, risk and uncertainty; and incorporating precautionary adjustments into Council decision-making about the new harvest rates. In addition, as a fourth area, there was a request to define some key terms. To facilitate SSC review towards issues of greatest importance to the Council, Council staff committed to developing specific language for the general set of questions. These questions follow. Please consider these four general question areas and develop responses for bulleted questions within each for the June Council meeting.

1. Does the SSC agree with the findings/recommendations of the Panel?

- Does the SSC agree with the point estimates of F_{MSY} ?
- Are these estimated values risk-neutral (e.g., is there an equal probability that the true value is either above or below the point estimate)?
- Can one quantitatively describe the variability and uncertainty distribution around the point estimates? If so, please describe.

2. How should the recommendations be implemented?

- Please consider the following alternatives for Council action. From a quantitative, scientific perspective what are the pros and cons of each and is there one the committee can recommend? If so, why?
 - Implement Now.** Incorporate the new rates, across the board, into the 2001 specifications process. A rationale for this strategy would be that concern about stock status is high enough to warrant immediate reductions in harvest (biological concerns outweigh socio-economic considerations). If biological concerns warrant immediate implementation, how would one determine the appropriate quantitative adjustments, given the lack of assessments for many stocks? How would you recommend rudimentary, interim assessments be prepared?
 - Implement in Stages** (i.e., some now, others later). Implement new F_{MSY} harvest rates immediately where new assessments are available, and examine recent assessments to see if necessary components are available for incorporating the new rates. For stocks without assessments or where recent assessments lack the necessary information, new rates would be incorporated when the next assessment is done. A rationale for this strategy would be to seek balance between practical Considerations, socio-economic considerations and biological concerns. Please identify which recent stock assessments contain the information necessary to calculate the new ABC values in time for 2001.
 - Implement as per GAP Proposal** (i.e., phased in as new assessments are conducted, see attached – Supplemental GAP Report B.3., April 2000). Assessment authors could calculate F_{MSY} rates based on the Panel's recommendations when completing new stock assessments or updates. These rates would then be applied to the species/ complexes in question. A rationale for this strategy would be to prevent sudden, additional adverse social and economic effects, because of the biological uncertainty involved. Since stock assessments are conducted on a rotating basis, this would allow the new harvest rates to come into effect with the adoption of the new assessments.

3. What precautionary adjustments have already been taken and what are additional quantitative-based options?

- What precautionary adjustments are already taken in the management process?
- In the third paragraph of the attached April SSC statement, the committee recommends a precautionary adjustment be developed at the stage of developing the F_{MSY} value. Can the SSC specifically identify any precautionary or risk-adverse adjustment options, and if so, what are the quantitative benefits of each?
- In the third paragraph of the attached April SSC statement, two reasons are cited to warrant precaution in applying target F values for the fishery. For number 1, is there information on the range of average productivity for species within any complex managed by the Council? For number 2, can the chance referred to be quantitatively or qualitatively assessed (exceeding, and conversely not reaching, the true F_{MSY})? If so, please describe.

4. Definitions of key words related to default harvest rates.

Jim Glock and Dan Waldeck: Need a short list here for Burnie.

- Finally, please develop working definitions for the following terms, from the perspective of Council action considerations.
- Risk neutral
- Risk prone
- F_{SPR}

PFMC
06/07/00

PRELIMINARY FEEDBACK ON THE 2000 STOCK ASSESSMENT REVIEW
PANEL MEETINGS (DRAFT STOCK ASSESSMENTS FOR 2001)

Situation: Three of the four 2000 Stock Assessment Review (STAR) Panel meetings have been completed and preliminary conclusions are available. The Groundfish Management Team will present a brief summary of the panel meetings and preliminary conclusions. The intent is to provide the Council and public with advance notice of potential harvest level changes next year, including any new rebuilding plans on the horizon.

Council Action:

1. Council discussion and guidance.

Reference Materials:

1. None.

PFMC
06/13/00

FISHING CAPACITY REDUCTION MEASURES

Situation: Overcapacity has been identified as the number one problem facing the groundfish industry for a number of years. Capacity reduction is a central part of the draft groundfish strategic plan, and the Council regularly receives letters on this issue (Public Comment D.15.). The Council has discussed a number of alternative approaches, such as buyback, permit stacking, and individual quotas for the limited entry sector, and limited entry for the open access sector. During its April meeting, the Ad-Hoc Groundfish Strategic Plan Development Committee discussed the possibility the moratorium on individual quota programs might lapse with the existing sunset language in existing legislation. At that time, the committee recommended the Council consider moving forward as quickly as possible to implement a permit stacking proposal for the three-tier sablefish fishery and perhaps for the trawl fishery as well. In addition, the Council has already established a control date for limited entry in the open access sector, but has not begun to develop a limited entry program.

On May 18, 2000, the National Marine Fisheries Service (NMFS) published an interim final rule specifying procedures for requesting and conducting fishing capacity reduction programs (Attachment D.15.a.). A capacity reduction program, according to the summary statement, pays harvesters in a fishery with too much fishing capacity either to surrender their fishing permits for that fishery or both to surrender all their fishing permits and withdraw their fishing vessels from all fishing. The public comment period on the interim rule ended June 19, at which time it was to take effect. The Council may wish to consider this interim rule in discussing alternatives for capacity reduction.

Council Action:

1. Initiate process to select capacity reduction measures.

Reference Materials:

1. NMFS Capacity Reduction Program Interim Final Rule dated May 18, 2000 (Attachment D.15.a.).
2. Letter of June 6, 2000 from John Warner to Members of Congress (Public Comment D.15.).

PFMC
06/14/00

June 2000

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Charleston
Oregon, 97420

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June 06, 2000

RECEIVED

JUN 06 2000

PFMC

Dear Members of Congress

The West Coast Fishermen's Alliance is a group of fixed gear fishermen and their families who are dedicated to preserving our way of life through sustainable fisheries and conservation of our natural marine resources. Our organization is comprised of approximately 80 fishermen located in Washington, Oregon and California. The types of fishing gear that we use are Fixed Gear Hook and Line, Fixed Pot gear, Hook and line, vertical drop gear and troll rockcod gear. All of the gear types that we use catch fish at a fairly slow rate, so it is easy for us to limit the amount of bycatch that we encounter. Our gear types also have very little interaction with habitat, some of the gear we use has no contact with the bottom at all. We can alter our harvest tactics to be species specific in mixed stock complexes allowing us to harvest selected species while avoiding stocks that are prohibited or threatened.

The West Coast Ground fish fishery is currently in a transitional period moving from a fishing down process, that has taken place over the past 30 years, to a fishery that is managed on the principals of sustainability. During this process dramatic changes will occur in the size and composition of the fishing fleet and its infrastructure.

These changes need to be orchestrated in a manor that will allow a fleet and enough infrastructure to remain intact so that after this transition into sustainable fishing, our fishing communities will again be able to carry on with the fishing tradition that is their heritage. If the infrastructure is allowed to collapse there will never be enough economic benefit from the resource to warrant rebuilding. We will loose our marinas, fuel facilities and processing capabilities, and access to federal dredging of our harbors.

Excessive Harvest Capacity:

Every fishery on the West Coast has excessive harvest capabilities! This has compounded the problem in a ground fish fishery that has been plagued in the past few years with declining

stocks, severe cutbacks on harvest and ex vessel price fluctuation. We desperately need a buy back plan that will take vessels out of the fishery and possibly allow permit stacking, on a case by case basis(fishery by fishery). I think stacking could work well in the Trawl fleet after the transition has taken place. Fisheries Managers needs to manage the resource for what the resource will support in terms of harvest pressure, Do not try to manage the resource to fit our existing fleet profile. The economics of the fishery will dictate the composition of the fleet as it evolves in the future.

We need also to provide incentives for people to get out of fishing, such as re-wording the capital construction fund language to allow use of those funds outside the fishing industry with out paying penalties. Also capital gains tax deferral for those who don't have capital construction accounts. This would allow Ex Fishers the opportunity to reinvest outside the fishery with all money's received from the sale of there fishing business and apply it to there new form of employment or business, and then repay the deferred tax after 5 or 10 year. This would allow fishers to move into another way of life and have a chance to become successful, and not become a burden on society

Limited Entry Open Access:

The ground fish fishery still has one segment of the fleet that is not limited with a cap on vessels, that is the Open Access Fishery. There numbers have grown from a few hundred vessels in 1994 to several thousand at current estimates. We believe that it is essential that a cut off date be established for entering this fishery with defining criteria for those who will be included in that fishery. It will be impossible for vessels in this fleet to remain viable if entry is unrestricted and unregulated.

Management Flexibility

Management measures that will be developed in the near future should be designed with an element of flexibility so that harvesters can have the opportunity to select the most appropriate type of fishing gear to harvest a particular species. This flexibility will allow harvester to avoid impacting species that are depleted and harvesters would be able to continue fishing in some sensitive habitat with out damaging it in the process.

Bycatch and Rebuilding:

One of the main contributing factors to the rapid decline and severe restrictions on the ground fish fishery is Bycatch and discard mortality. Bycatch is something that is caught by a fisherman accidentally while fishing for something else. A term that has just recently come to my attention is "Unavoidable Bycatch" I don't believe there is such a thing as unavoidable bycatch! What we need to do is allow the fishermen the opportunity to use harvest practices that will enable them or give them the ability to avoid situations that create bycatch.

Discards are those items that are discharged over the side for various reasons, they can be categorized as either regulatory or economic discards. With regard to fish many of these discards have a high mortality rate, meaning that many of these fish are either dead or dying when discarded. Discard mortality is wasted resource and should be reduced to the lowest possible rate. The rates at which the bycatch and discards occur in the ground fish industry is un-quantified. In the absence of this important information the Pacific Fisheries Management

Council is mandated to manage the groundfish stocks conservatively. This practice amplifies the economics impacts to the groundfish industry.

Observers:

There are 83 separate species of ground fish on the West Coast we know the life cycles of only 10% of them! The PFMCA has been mandated by the Magnuson Stevens Sustainable Act to assess all the ground fish species on the West Coast. As this takes place over the next 10 years I am sure we will find that many are over fished, and some will be considered threatened and require rebuilding.

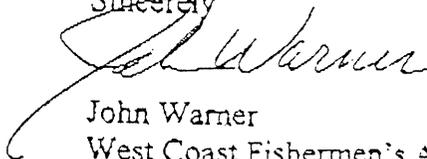
It has been determined by PFMCA that an observer program in the groundfish industry is the most effective way to quantify bycatch, discards and estimate mortality. In addition to this observers would be able to take data from those discarded fish (size, sex, depth, location, and complex). This data is currently not available for research. Observers are the key resolving many of the issues that face us in the ground fish industry today. Without them and the data they will produce we will not be able to identify harvest practices that generate excessive bycatch and discard mortality nor will we be able to quantify the composition of bycatch with any level of accuracy. How would we truly and accurately quantify rebuilding is occurring with our scientific observation? We support the implementation of an observer program in the West Coast Ground Fish fleet as soon as possible.

Disaster Relief:

As the 2000 West Coast ground fish season approaches it is becoming apparent that it will be the beginning of an economic and social disaster on the West Coast that will last for three to five years, many fishermen will not survive economically. I believe that the extent of this catastrophe will by far eclipse the salmon problems that we are so familiar with today. The rebuilding of some of the rock fish species on the coast could take several human lifetimes. If disaster aid becomes available to West Coast ground fishers a portion of this money should be funneled to the fleet for the purpose of conducting research. i.e. (establishing the location and extent of essential fish habitat) with side scan sonar, or by taking grab samples of the bottom. Also many of the vessels that will be idled could be used in collecting near shore data, on species assemblages and habitat. There is virtually no data on species or habitat inside of the thirty fathom depth curve (1 Fm. = 6 ft.) that information is desperately needed to allow managers to make informed decisions about near shore harvest sustainability and complexity. The use of disaster funds in this way would keep the fleet working, and support the infrastructure during transition. While collecting needed data for science and fisheries management that will move use closer to a sustainable fishery.

In closing I would like to encourage each of you to become more active in our groundfish fishery management. For fishery managers to meet the challenges of the future they will need all of your support.

Sincerely



John Warner
West Coast Fishermen's Alliance

West Coast Fishermen's Alliance

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June 06, 2000

Senator, Ron Wyden
Senate Hart Office Building
Washington D.C. 20510

Dear Ms Froelich:

Enclosed is a short description of '**PERMIT STACKING**' proposed for the West Coast fixed - gear groundfish fleet. Our organization supports this management change in the sablefish fishery and assisted in developing the proposal.

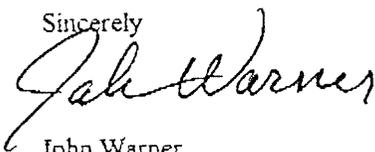
Please let Senator Wyden know about this proposal and make him aware of the fact that permit stacking has industry-wide support!

Permit stacking addresses the recent concerns of excess harvest capacity and ITQ management that Congress has been struggling with. This plan is being considered by the Pacific Fishery Management Council as a remedy for many of the problems we are facing in the West Coast groundfish disaster crisis. To be more specific it is an industry-supported, industry-funded, capacity reduction program that will measurably reduce harvest capacity, while producing conservation benefits.

The fixed-gear fleet has been working on a plan to reduce harvest capacity for several years. We believe that the most efficient way to provide actual fleet capacity reduction is to allow the fleet to fund its own harvest capacity reduction plan. This would require lifting the moratorium on ITQ's detailed in M-S Act Section #303-104-297(d).

The ITQ moratorium served the intended purpose; NMFS and the regional management councils have become increasingly aware of the potential problems associated with ITQ management. With this increased awareness both scientists and managers will be able to objectively look at ITQs fishery by fishery and use it as a management tool only where deemed to be appropriate, while using sustainable harvest as their primary objective.

Sincerely



John Warner
West Coast Fishermen's Alliance

Permit Stacking West Coast Groundfish Limited Entry Fixed-Gear Descriptive Proposal:

Fixed-Gear groundfish harvesters, with the support of PFMC staff, have developed a program that allows stacking groundfish permits. This proposed management change is in response to the economic hardship associated with declining value of the resource and reduction in harvest levels associated with the West Coast groundfish disaster.

An outline of permit stacking, including the provisions required to make it successful in the fixed-gear segment of the West Coast groundfish fleet, is provided below.

Permit stacking allows people who are willing to take financial risk, the opportunity to remain economically viable. Permit stacking allows Limited Entry Permits to be combined for the purpose of increased harvest opportunity. This is accomplished by combining the associated fishing rights from two or more vessels onto a single vessel. The benefits derived from this type of system are directly financed by the individuals who purchase those additional harvest opportunities. This eliminates the potential taxpayer burden (funding) associated with other capacity reduction programs.

This fleet restructuring plan would provide conservation benefits, but is primarily a business strategy that would stabilize the fixed-gear fleet economically, increase fleet efficiency, while reducing harvest effort.

When stacking occurs in the fleet fishers would need to have adequate time to harvest the additional product associated with the combined permits. Because of the ITQ moratorium, we now are harvesting under derby-style management that is extremely dangerous and has negative economic impacts on the fishery. Processor's have a take it or leave it attitude with derby-style fisheries resulting in fishermen receiving a substantially lower price for their product. We as an industry need the ability to take advantage of market opportunities that add value to ex-vessel prices.

WHO PARTICIPATES ?

All limited entry sablefish endorsed fixed-gear permit holders in the West Coast groundfish fishery. This includes both pot and longline gear types. Because the fixed-gear groundfish industry consists of an unequal distribution of permits between pot, and longline fishers (33 pot permits vs. 135 longline) the proposal includes waiving the gear endorsement and length endorsement enabling pot permit owners to participate equally in this capacity reduction plan.

FINANCING:

This program would be completely financed by the fishing businesses that would benefit from it. A vessel owner who participates in the stacking option would be paying for his increased harvest opportunity by purchasing another permit from a willing seller.

The difficult problem of allocating amounts of fish to each permit has already been accomplished. The Pacific Fishery Management Council allocated sablefish using a "tier system" in 1998. Each permit is assigned a cumulative limit that is caught in a directed derby-style fishery of 7 to 10 days at the present time.

ECONOMIC BENEFITS:

Fishing Businesses:

Provides immediate economic relief in the form of increased harvest opportunity. Permit stacking will lower overhead costs by increasing revenue per cumulative period, thus increasing the fleets efficiency, or increasing the CPUE (catch per unit of effort). Present conditions of sky rocketing fuel prices, escalating over head costs, coupled with declining harvest opportunities, leaves our fleet in serious economic distress and in urgent need of relief that will allow us to remain a viable element of the ground fish industry.

Communities:

Maintaining the economic viability of our local groundfish fleets, helps to maintain the infrastructures of our coastal communities. If the fishing infrastructure is allowed to collapse on the West Coast it will never be rebuilt. The commercial properties that were once occupied by fish processors, ice plants, and fuel facilities will be replaced with tourist shops, restaurants, and condominiums; displacing and destroying our fishing culture.

The steady business activities of a healthy groundfish fleet would stabilize the cyclical nature of our fishery based coastal economies and would help build confidence in our future. We realize that harvest capacity reduction also means reducing the size and characteristics of our infrastructure. This reduction needs to be done in a way they leaves adequate infrastructure in each port to support the smaller more efficient, and diversified fishing fleets of the future.

To ensure that groundfish resource benefits are shared among the coastal communities an appropriate mix of small businesses i.e. (vessels), must be maintained. This can be accomplished through a cap on the number of permits allowed to be combined. The proposal includes a cap of three permits on a single vessel. Second generation transfers would require the owner be onboard when the vessel participates in the groundfish fishery. This minimizes the threat of corporations and foreign interest buying up fishing rights.

Conservation benefits:

Decreased discards will result because fewer vessels will be fishing for and bumping up against their respective cumulative limits. If the fleet was reduced to its smallest number allowed by the stacking plan it would reduce the discards produced by regulatory trip limits quotas by 66%. Fewer fishing trips results in less fishing gear interactions with sensitive habitat, providing yet another conservation benefit. Permits would be purchased at true market value, limiting the amount of capital available for reinvestment and expansion into any of our otherwise over capitalized fisheries.

Summary:

Permit stacking is doable in the short term, non-controversial, provides immediate economic benefits, and has positive conservation aspects. This plan is totally funded by industry, and can realistically accomplish measurable and meaningful harvest capacity reduction without causing excessive capital infusion into other over capitalized fisheries. This plan would be relatively easy to enforce within the parameters of the existing process.

Stacking Provisions:

- 1: The Vessels initial Limited Entry Groundfish permit would have to fit the vessels length in order to be eligible to stack additional permits.
- 2: For the purpose of stacking, length and gear endorsements would be removed. Tier poundage will be accumulated by participants, i.e. a bottom tier longline permit could be stacked on a middle tier pot vessel. The additional poundage could then be harvested with pot gear.
- 3: A limit of three permits per vessel would ensure that the minimum fleet size would not fall below 58 vessels, leaving ample opportunity for processors to access their fare market share of product.
- 4: Stacking in a derby fishery forces a vessel to catch an additional tier limit in the single limit time frame. The increased pressure to take risks and fish harder by a factor of two or three creates unreasonable hardship. Industry recognizes the need for an extended season and requests the ITQ moratorium be lifted to allow additional time for fishers to harvest their combined tier allocations. A six month sablefish season, April - September, eliminates the dangers of a derby fishery. An extended season provides increased market opportunity as well as increasing the value of the resource.
- 5: When stacked permits are un-stacked original length and gear endorsements would be reapplied. Un-stacking permits is envisioned either when stock rebuilding is accomplished and a vessel is unable to catch the increased quota or if a fisher desires to reduce his level of effort, in the case of sickness or in preparation for retirement from the fishery.

PRELIMINARY EVALUATION OF THE EFFECTS OF PERMIT STACKING ON SEASON LENGTH AND LIMITS IN THE 3-TIERED, LIMITED-ENTRY, FIXED-GEAR FISHERY FOR SABLEFISH

Prepared by Dr. James Hastie
of the Northwest Fisheries Science Center

The draft version of the Strategic Plan presented to the Council at this meeting identifies the development of a voluntary stacking program for the 3-tiered sablefish fishery as a high priority. In support of that discussion, this document summarizes the results of a modeling exercise intended to provide insight into the changes in season length and cumulative limits that would be required to maintain the desired level of "overhead" in the fishery. As such, this analysis is predicated on the assumption that the moratorium on new IQ programs remains in force.

If the moratorium were to lapse in 2000, a season length of at least two months would be anticipated in 2001. Since season length would be far less constraining under those circumstances, the number of permits that might reasonably be used for stacking would be higher and the distribution of stacked permits would be quite different than portrayed in this analysis. Without the need for overhead, cumulative limits would fall to the point where the cumulative limits times the number of endorsed permits in each tier equalled the target poundage for the fishery. Given the current target, the Tier 1 limit would be 66,510 lb, with limits for Tiers 2 and 3 roughly 30,000 lb and 17,000 lb, respectively. A conservative expansion of the currently estimated permit catching capacities to reflect a 2-month season suggests that at least 62 permits could catch at least 200,000 lb--about three Tier-1 limits--in that amount of time. Of course, this represents the ability of these 62 permits to catch the equivalent of 186 Tier-1 limits, and there are only 164 sablefish-endorsed permits, and just 27 of those are Tier 1. Given this circumstance, the ultimate disposition of stacked permits in a 2-month fishery without overhead considerations would be highly uncertain.

In the modeling scenario developed for this analysis, 30 permits are assumed to be stacked in a fishery with the same target poundage as in 2000. The primary criterion used in determining which permits would add an additional permit was the poundage difference between the estimated catching capacity of the permit and the amount of its current cumulative limit. The degree to which that catching capacity has actually be utilized in recent fisheries was also considered. Determining which permits would be included in the group providing the stacked permits was more complicated. Factors included in developing a ranking permits according to their likelihood of being stacked included 1) the difference between a permit's current limit and its projected landings; 2) the difference between a permit's current limit and its recent sablefish landings; 3) the value of its sablefish limit poundage relative to recent earnings from other groundfish and non-groundfish species; and 4) ownership of multiple permits and whether any such permits are currently leased.

To simplify the modeling, no more than one permit was stacked on any other, and the original permit attached to a vessel was always retained by that vessel if it remained in the fishery. In other words, a vessel currently having a Tier-2 permit was only evaluated with regard to adding another permit, not with regard to selling it and buying two Tier-3 permits. The analysis does not evaluate how many permits would be stacked if the opportunity were available. No consideration of the cost of obtaining permits or the effects of doing so on vessel profitability was included. Permits selected to add another permit were assigned a permit from a tier having a limit poundage that was less than, or near, the estimated difference between their catching capacities and existing limit poundages.

The number of 30 stacked permits was selected, during the evaluations described above, because it did not appear that many more permits would have an ability to make full use of an additional limit, given the time constraints placed on the fishery. Therefore, 30 probably represents a reasonable estimate of the largest number of permits that would be stacked under a voluntary program subject to existing overhead considerations. Uncertainties regarding the limit poundage that would be realized through stacking, as well as the time that would be available to catch it, could discourage some potential stackers from doing so. Additionally, market conditions might be such that the expected financial benefits from stacking would not exceed the costs of permit acquisition for many vessels that have the physical capability of landing additional

limits. Because those who acquire additional permits to stack will be buying permits conveying access to a suite of groundfish species--not just sablefish--the status of rockfish allocation, fixed-gear rockfish endorsements, changes in groundfish limits for 2001 (and beyond), and the ability to obtain higher rockfish limits through stacking will also affect the willingness of individuals to purchase permits for stacking. On the basis of current ownership of multiple permits and permits that have few or no landings in recent fisheries, a reasonable estimate for the minimum number of stacked permits would be in the 7-10 range.

Table 1 provides a summary of permit shifts used in this scenario. The pool of 30 stacked permits is drawn from all three tiers: 3 from Tier 1, 9 from Tier 2, and 18 from Tier 3. This represents about 11% of the Tier-1 permits, and about 20% of the permits in each of the other tiers. The stacked Tier-1 permits were distributed to one permit in each of the three tiers. Of the 9 stacked Tier-2 permits, 3 went to Tier-1 permits, 2 to Tier-2 permits, and 4 to Tier-3 permits. Of the 18 stacked Tier-3 permits, 3 were assigned to Tier-1 permits, 7 to Tier-2 permits and 8 to Tier-3 permits.

Each of the two models used to provide recommendations for the 2000 fishery (Attachment D.6.a) was used to project limit size and season length under this assumed distribution of permits. Table 2 summarizes the overhead results using these model configurations, with the addition of stacking. Also, the last row shown for each model indicates the estimated amount of overhead if this stacked fleet were provided with the season length and limits recommended for the 2000 fishery (with that model). The righthand columns illustrate the difference in the contribution to estimated overhead between the group of permits fishing a single limit and those fishing two.

Table 3 provides a more detailed summary of limit amounts, season lengths and overhead for the two model configurations. For each case, the 2000 model results without stacking are provided first, for comparative purposes. With stacking, an 8-day fishery, under Model 1, would meet the worst-case overhead goal of exceeding 15%, however the expected overhead is slightly below the current minimum target of 25%. As a result, both models indicate that in order to meet both overhead standards, the fishery would need to be constrained to 7 days. This would represent a reduction of 2 days from the 2000 Model-1 recommendation and 1 day from the Model-2 recommendation. Due to the greater reduction in length under Model 1, the limits available for a 7-day fishery with 30 stacked permits would be about 6% higher than recommended for a 9-day fishery in 2000. Because the 8-day scenario is so close to achieving the overhead objectives, reduction of another full day produces much higher overhead than necessary (41%). Projected limits for 7 days under the more conservative Model 2 are lower than the Model-2 recommendations for 2000, but the estimated overhead is closer to the minimum standards.

Assuming that sufficient overhead will continue to be a concern, the difference between these results and projections for the 2000 fishery underscores the need for a management structure which will allow final parameters for the fishery to be determined after a deadline has passed marking the close of permit stacking that can be utilized during that year's fishery.

Table 1.--Distribution of 3-tiered sablefish endorsements in the hypothetical modeling of 30 stacked permits.

	Original tier assignment			Total
	1	2	3	
# of Tier 1 endorsements after stacking	25	1	1	27
# of Tier 2 endorsements after stacking	3	36	4	43
# of Tier 3 endorsements after stacking	3	7	84	94
Total endorsements after stacking	31	44	89	164
# of stacked permits	3	9	18	30
Tier 1 only	17			17
Tier 2 only		24		24
Tier 3 only			63	63
Tier 1+1	1			1
Tier 1+2	3	1		4
Tier 1+3	3		1	4
Tier 2+2		2		2
Tier 2+3		7	4	11
Tier 3+3			8	8

Table 2.--Comparison of estimated overhead for the entire fleet with values for vessels stacking permits or fishing a single permit in the hypothetical stacking scenario.

	Fleet overhead	Overhead among vessels with:	
		stacked permits	single permits
Model 1 configuration			
8 days	22%	9%	33%
7 days	41%	18%	61%
9 days & 2000 limits	19%	8%	26%
Model 2 configuration			
7 days	30%	10%	46%
8 days & 2000 limits	25%	8%	38%

Table 3.--Comparison of recommendations for the duration and cumulative limits for the 2000 primary fishery with projections for a fishery in which 30 underutilized permits were stacked.

	Tier 1	Tier 2	Tier 3	Total	Worst Case (1-day differential)
# of permits	27	43	94		
Model 1: (less conservative)					
with a general landings reduction of 1% and landings reductions for permits not fishing in [1999:1998:1997] of (30%:20%:10%) and/or landings reductions for achieving less than [50%:70%] of their available 1999 limit (20%:10%)					
Tier-specific capacity reductions	2%	13%	33%		
Model results for the 2000 fishery					
Duration				9 days	
Cumulative Limit	81,278	36,731	21,101	5,757,435	5,757,435
Expected landings	68,009	29,664	14,774	4,500,524	4,711,315
Overhead	20%	24%	43%	28%	22%
Model results with 30 stacked permits					
Duration				8 days	
Cumulative Limit	77,753	35,139	20,186	5,507,774	5,507,774
Expected landings				4,496,899	4,711,315
Overhead				22%	17%
Duration				7 days	
Cumulative Limit	86,054	38,890	22,341	6,095,734	6,095,734
Expected landings				4,309,769	4,711,315
Overhead				41%	29%
Model 2: (more conservative)					
with a general landings reduction of 2% but smaller landings reductions for permits not fishing in [1999:1998:1997] of (20%:10%:10%)					
Tier-specific capacity reductions	4%	15%	35%		
Model results for the 2000 fishery					
Duration				8 days	
Cumulative Limit	85,712	38,735	22,252	6,071,510	6,071,510
Expected landings	64,706	29,083	14,817	4,390,424	4,711,315
Overhead	32%	33%	50%	38%	29%
Model results with 30 stacked permits					
Duration				7 days	
Cumulative Limit	80,095	36,197	20,794	5,673,622	5,673,622
Expected landings				4,355,905	4,711,315
Overhead				30%	20%

FDC date	State	City	Airport	FDC number	SIAP
05/04/00	TX	Houston	George Bush Intercontinental Airport/Houston.	FDC 0/4632	ILS RWY 8, AMDT 18G. This Replaces FDC 0/4292.
05/05/00	ID	Driggs	Driggs-Reed Memorial	FDC 0/4702	GPS-A, ORIG-A.
05/05/00	IN	Evansville	Evansville Regional	FDC 0/4678	NDB OR GPS RWY 22, AMDT 12. GPS RWY 32, ORIG.
05/05/00	MO	Fort Leonard Wood	Waynesville Regional Arpt at Forney Field.	FDC 0/4721	
05/05/00	OH	Middletown	Hook Field Muni	FDC 0/4746	LOC RWY 23, AMDT 7D.
05/08/00	IN	Evansville	Evansville Regional	FDC 0/4786	VOR OR GPS RWY 4, AMDT 5.
05/09/00	GUA	Agana	Guam Intl	FDC 0/4825	GPS RWY 24R ORIG.
05/09/00	IL	Freeport	Albertus	FDC 0/4819	NDB RWY 6, ORIG-A.
05/09/00	IL	Freeport	Albertus	FDC 0/4820	LOC RWY 24, ORIG-A.
05/09/00	IL	Freeport	Albertus	FDC 0/4821	VOR OR GPS RWY 24, AMDT 6A.
05/09/00	MO	Fredericktown	Fredericktown Regional	FDC 0/4809	RNAV RWY 19, ORIG. This replaces FDC 0/4021.
05/09/00	MO	Fredericktown	Fredericktown Regional	FDC 0/4810	RNAV RWY 1, ORIG. This replaces FDC 0/4054.
05/09/00	MO	Marshall	Marshall Memorial Muni	FDC 0/4833	RNAV RWY 36, ORIG-A.
05/09/00	MO	Marshall	Marshall Memorial Muni	FDC 0/4834	RNAV RWY 18, ORIG-A.
05/09/00	WI	Madison	Dane County Regional-Truax Field.	FDC 0/4827	ILS RWY 18, AMDT 7B
05/10/00	CA	Burbank	Burbank-Glendale-Pasadena	FDC 0/4849	NDB RWY 8 AMDT 2A. This replaces FDC 0/4211 IN TL00-11

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BILLING CODE 4910-13-M

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

15 CFR Part 902

50 CFR Part 600

[Docket No. 980812215-0109-02; I.D. 072898D] 648-AK76

Magnuson-Stevens Act Provisions; Fishing Capacity Reduction Program

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Interim final rule; request for public comments.

SUMMARY: NMFS issues interim final framework regulations specifying procedures for requesting and conducting fishing capacity reduction programs (reduction programs). A reduction program pays harvesters in a fishery with too much fishing capacity either to surrender their fishing permits for that fishery or both to surrender all their fishing permits and withdraw their fishing vessels from all fishing. Reduction costs can be paid by post-reduction harvesters, taxpayers, or others. The intent is to decrease excess harvesting capacity, increase the economic efficiency of harvesting, and

facilitate the conservation and management of fishery resources in each fishery in which NMFS conducts a reduction program.

DATES: This interim final rule is effective June 19, 2000. Comments must be received on or before June 19, 2000.

ADDRESSES: Copies of the Regulatory Impact Review may be obtained from Michael L. Grable, Chief, Financial Services Division, NMFS, 1315 East-West Highway, Silver Spring, MD 20910-3282. Written comments should be sent to Michael L. Grable at the above address. Comments also may be sent, via facsimile, to (301) 713-1306. NMFS will not accept comments sent by e-mail or the Internet. Comments involving the reporting burden estimates or any other aspects of the collection of information requirements contained in this interim final rule should be sent to both Michael L. Grable and to the Office of Information and Regulatory Affairs, Office of Management and Budget (OMB), Washington, D.C. 20503 (ATTN: NOAA Desk Officer).

FOR FURTHER INFORMATION CONTACT: Michael L. Grable, (301) 713-2390.

SUPPLEMENTARY INFORMATION:

Background

Many U.S. fisheries have excess fishing capacity. Excess fishing capacity decreases earnings, complicates management, and imperils conservation. To provide for fishing capacity reduction programs, Congress amended the Magnuson-Stevens Fishery

Conservation and Management Act (Magnuson-Stevens Act) by adding section 312(b)-(e) (16 U.S.C. 1861a(b)-(e)). To finance reduction costs, Congress amended Title XI of the Merchant Marine Act, 1936 (Title XI), by adding new sections 1111 and 1112. The Title XI provisions involving fishing capacity reduction loans have been codified at 46 U.S.C. App. 1279f and g.

This action adds a subpart L to 50 CFR part 600 establishing framework regulations for requesting and conducting fishing capacity reduction programs. These framework regulations were published as a proposed rule on February 11, 1999 (64 FR 6854-6869), with a public comment period that ended on April 12, 1999.

While NMFS received numerous comments on the proposed rule (addressed in more detail below), it believes further comment on the revised capacity reduction referenda provisions would be useful.

Comments on Proposed Rule and Responses

NMFS received comments from 24 entities. Most of the comments are from organizations that represent the views of many parties. All but one of the comments supported fishing capacity reduction, although many comments disagreed with some aspects of the proposed rule. The following summarizes the comments and gives NMFS' responses.

Comment Issue 1: Five comments addressed interest rates for loans financing capacity reduction costs.

Three comments said that a reduction loan interest rate 2 percent higher than the interest cost for borrowing loan capital from the U.S. Treasury is unnecessary, burdensome, and counterproductive.

One comment said that the interim final rule should state whether the reduction loan interest rate is fixed or adjustable and that the interest rate projected for reduction planning purposes can change before reduction implementation.

One comment said that there should be no interest prepayment penalties.

Response: A reduction loan interest rate 2 percent higher than NMFS' interest cost is required by the statute (46 U.S.C. App. 1279g).

Reduction loan interest rates depend on prevailing yields on comparable maturity Treasury obligations at the time the U.S. Treasury Department establishes the interest rate NMFS must pay on loan capital borrowed from the U.S. Treasury. The actual interest rate NMFS charges for a specific reduction loan could be higher or lower than the interest rates projected for reduction planning purposes. The projection of an interest rate could occur many months before the disbursement of reduction loan funds. The interim final rule revises the proposed rule to more fully address this issue (see § 600.1012(b) and (c) and the definition of "Treasury percentage" in § 600.1000).

All reduction loan interest rates are fixed rather than adjustable. There is no prepayment penalty.

Comment Issue 2: Ten comments involved the reduction program process.

Six comments said that referenda about industry fee systems should occur earlier in the reduction process. Most believed that, until referenda first demonstrate the fishing industry's willingness to pay for financed reduction programs, fishery management councils (FMCs) will be reluctant to process fishery management plan (FMP) amendments complementing reduction programs and industry will be reluctant to submit reduction bids. Some also believed that industry will be reluctant to prepare business plans until after successful referenda.

Three comments said that the reduction process would be shorter if all its components were concurrent.

One comment said that the process for reduction loans should be kept as simple as possible, or the fishing industry will seek subsidized reduction programs rather than financed ones.

Two comments said that pre-bidding referenda should involve ranges of projected reduction results, with a minimum acceptable level.

Response: NMFS based the proposed rule's process for financed reduction programs on two concepts. First, industry reduction proponents and an FMC should demonstrate their commitment to a reduction program by establishing, at the time of making a reduction program request, everything necessary for prompt and reliable reduction program completion. Second, reduction bidding results need to be known before a referendum asks post-reduction harvesters to commit themselves to repaying a reduction loan.

NMFS acknowledges that FMCs may be reluctant to invest the time and resources necessary to prepare and process FMP reduction amendments, and industry may be reluctant to submit reduction bids, unless referenda have first demonstrated the industry's willingness to pay for financed reduction programs. The interim final rule revises the proposed rule in many places to better address these concerns (see, particularly, § 600.1010).

The interim final rule provides for pre-bidding referenda and, if necessary, a post-bidding referendum as well. The necessary pre-bidding referendum can occur at any time after an FMC requests a reduction program and before NMFS proposes a plan and regulations to implement the program. Each pre-bidding referendum is based on a reduction loan amount not greater than the maximum specified in the business plan being sufficient to reduce at least the minimum amount of fishing capacity specified in the business plan. A post-bidding referendum occurs only if the maximum reduction loan amount is insufficient to reduce at least the minimum amount of fishing capacity.

If an initial pre-bidding referendum occurs before the FMC adopts any FMP reduction amendment necessary, the referendum is based on the FMP reduction amendment that the business plan specifies. If afterwards, the referendum is based on the FMP reduction amendment that the FMC adopts.

If the initial pre-bidding referendum is successful, the reduction process proceeds. If the referendum precedes any FMP reduction amendment necessary, a second pre-bidding referendum is required if, in NMFS' judgment, the adopted FMP reduction amendment differs materially from the FMP reduction amendment that the business plan specifies. A material difference would, for example, be a post-reduction harvesting allocation for

the harvesters who must repay a reduction loan that is less than the allocation specified in the business plan. The second pre-bidding referendum is to determine whether the referendum voters approve an industry fee system despite any such material difference.

If the initial pre-bidding referendum is unsuccessful, the reduction process then either ceases or is suspended pending an appropriate amendment of the business plan.

The interim final rule requires the business plan to specify the maximum amount of a reduction loan and the minimum amount of fishing capacity this must be sufficient to reduce. The interim final rule also requires the business plan to provide guidance about when pre-bidding referenda should occur.

Under the interim final rule, a reduction request from an FMC based on a business plan serves as the FMC's endorsement, in principle, of all aspects of the business plan that depend on the FMC's action (see § 600.1003(g)). Endorsement in principle does not, however, mean that the FMC will eventually vote to recommend implementing the business plan's concept of an FMP reduction amendment. Implementing any FMP reduction amendment necessary remains subject to all the requirements applicable to all other FMP amendments. Endorsement in principle merely means that the FMC has taken whatever action the FMC deems necessary to endorse the business plan (including the business plan's proposed FMP reduction amendment) by requesting NMFS to initiate a reduction program based on the business plan. Subsequent consideration, in accordance with the ordinary Magnuson-Stevens Act process, of the FMP reduction amendment may result either in no FMP amendment or one that differs from the business plan specifications.

Nevertheless, an FMC may not make a reduction request based on a business plan that the FMC does not endorse in principle. If an FMC cannot endorse the business plan in principle, the FMC should not make a reduction request.

If reduction bidding achieves, with a reduction loan not greater than the maximum amount that the business plan specifies, at least the minimum amount of fishing capacity reduction that the business plan specifies, then a post-bidding referendum does not occur. A post-bidding referendum occurs only if bidding does not achieve at least the minimum reduction for not more than the maximum reduction loan.

Any necessary post-bidding referendum is to determine whether the referendum voters approve an industry fee system for a reduction less than the minimum.

This pre- and post-bidding approach should solve several problems. First, the approach should solve the problem of an FMC not wanting to make a large time and resource investment in an FMP reduction amendment without assurance that the industry is willing to repay a reduction loan. The business plan's survey (§ 600.1003(n)(12) in the interim final rule) of potential referendum voters should provide an FMC with enough assurance for the FMC to make a reduction request based upon that business plan. A successful pre-bidding referendum reinforces this assurance before an FMC invests time and resources in an FMP reduction amendment.

Second, allowing a second pre-bidding referendum should solve the problem of an actual FMP reduction amendment that differs materially from the FMP reduction amendment specified in the business plan.

Third, allowing a post-bidding referendum should solve the problem of reduction bidding results that do not achieve at least the minimum amount of fishing capacity reduction that the business plan specifies for a reduction loan whose principal amount is not greater than the maximum that the business plan specifies.

Finally, the approach eliminates the need for a linear processing sequence that precludes concurrent work on different parts of the reduction process. The revision allows the FMP reduction amendment process to proceed concurrently with the rest of the reduction process that occurs before NMFS proposes a plan and regulations to implement a reduction program. All other components of the reduction process, up to NMFS' publication of a plan and regulations implementing each reduction program, may now occur before an FMC prepares and processes, and NMFS approves, an FMP reduction amendment. The FMP reduction amendment must still, however, be in place before NMFS proposes the reduction plan and implementing regulations.

A completed business plan, however, remains essential both to an FMC's reduction request and the pre-bidding referendum that follows. Without a completed business plan, the FMC cannot fully know what it is endorsing in principle, NMFS does not fully know what the FMC and the industry is requesting, and referendum voters do not fully know for what they are voting.

The interim final rule requires that the business plan specify the maximum reduction cost and the minimum reduction that must be achieved for that cost. This achieves the same result as specifying ranges of projected reduction results, with a minimum acceptable level.

Comment Issue 3: Five comments involved payment and collection of the reduction loan repayment fee.

All 5 comments, to one degree or another, said that the proposed rule's fee payment and collection provisions are too costly, burdensome, or complicated.

One comment said that fish buyers in California, Washington, and Oregon collect other fees for state and industry groups, and that the interim final rule should allow the payment and collection of the reduction loan repayment fee to conform to established regional practices.

One comment said that the fee payment and collection provisions provide an incentive for "kickbacks" based on misreported fish deliveries, and that this could change the assumptions upon which accurate catch reporting depends.

One comment said that these provisions do not accommodate fish buyers paying for fish on a periodic, rather than a trip, basis.

One comment said that collecting the fee that repays reduction loans is not the fish buyers' business, and that the fish buyers' cost of collecting the fee could itself be considered an illegal fee under the Magnuson-Stevens Act.

One comment said that, because bank rules about interest bearing accounts vary widely from state to state, some fish buyers might be able to offset some fee collection costs by interest earnings while others might not. The comment said that this violates section 301(a)(4) of the Magnuson-Stevens Act.

One comment said that fee collection audits are unrestricted.

One comment said that fish buyers are the enforcers of fee collection, without protection against fish sellers who might sue them. If a fish buyer deducts the fee over a fish seller's protest, the fish buyer risks the fish seller's legal action. Fish buyers refusing to buy fish from fish sellers who refuse to pay the fee (the alternative to deducting the fee over the fish seller's protest) is inconsistent with the business of buying fish.

One comment said that the proposed rule's provision about state confidentiality requirements not preventing NMFS' access to fish tickets places fish buyers in an impossible position.

One comment said that many fish buyers will be unaware of their fee collection responsibilities.

Response: The proposed rule is a framework rule involving matters common to all reduction programs. Some aspects of a framework rule will apply, without exception, to all reduction programs. Other aspects of the framework rule may be inappropriate for application to some reduction programs in some reduction fisheries. Nevertheless, these aspects provide a framework against which everyone can measure the circumstances of different reduction programs in different reduction fisheries. The rule's fee collection, deposit, disbursement, accounting, record keeping, and reporting procedures are of the latter type. § 253.27(q)(10), § 253.36(f), and § 253.37(h) of the proposed rule provide sufficient opportunity for approaches in each reduction program different from the framework approach. Nevertheless, the interim final rule revises the proposed rule to require business planners to consult with fish buyers before including in their business plan any special circumstances in their reduction fishery that might require some fee provisions different from the framework provisions (see § (n)(9)). Thus, the interim final rule provides opportunity for reduction program to accommodate the circumstances of, and practices, in different fisheries as long as accommodation does not jeopardize the intent and purpose of the framework rule provisions.

There are substantial penalties for misreporting catches and otherwise failing to pay and collect the fees due. The rule's fee accounting and reporting provisions require documentation that provides ample audit opportunity, and NMFS intends to audit sufficiently to ensure compliance.

NMFS believes the time at which fish sellers deliver fee fish to fish buyers is the most appropriate time for the fish sellers to pay and the fish buyers to collect the fee. The interim final rule, however, revises the proposed rule to provide for paying and collecting fees on bonuses at the time the bonuses first become known rather than at the time the fish sellers deliver the fee fish involving the bonuses to fish buyers (see § 600.1013(c)(2)).

The Magnuson-Stevens Act requires fish buyers to collect the fee. Interest earnings on collected fee revenues might allow, depending on state banking regulations, some fish buyers to offset some of the costs of discharging this statutory obligation.

A reduction loan can involve up to \$100 million repaid on a incidental

basis amortized over 20 years by many fish sellers, and collected by many fish buyers, as a small percentage of variable revenue from many fishing trips. This loan collection environment is susceptible to considerable nonperformance and fraud. Due diligence requires audit and, where necessary, enforcement.

Auditing is not, however, unrestricted. The rule restricts audits to those "reasonably necessary...to ensure proper fee payment, collection, deposit, disbursement, record keeping, and reporting." The rule also restricts audits to "reasonable times and places..." NMFS does not intend any greater auditing burden than reasonable due diligence requires for the proper repayment of reduction loans. Audits may either be random (deterrent) or triggered by circumstances that indicate fee payment and collection activities inconsistent with this rule's requirements, but will not be more frequent or burdensome than needed to fulfill due diligence.

NMFS does not anticipate that fish sellers will violate these regulations by refusing to pay the fee. If any do, this does not excuse fish buyers from failing to comply with these regulations, either by collecting the fee over the fish seller's protest or by refusing to buy fish from fish sellers from whom fish buyers are unable to collect the fee as the Magnuson-Stevens Act requires.

The interim final rule does not contain the proposed rule's provision about fish tickets and state confidentiality requirements.

The interim final rule requires fish buyers to maintain the records and to submit the reports specified in § 600.1014(d) (or whatever alternative records and reports might be specified, under § 600.1014(j), in the implementation regulations for each reduction program). If landing records that a state requires contain some or all of the data that § 600.1014(d) requires and state confidentiality provisions do not prevent NMFS' access to the records maintained for the state, then fish buyers can use those records to meet appropriate portions of the § 600.1014(d) requirements. If, however, state confidentiality provisions make those records unavailable to NMFS, then fish buyers will be required to maintain separate records that meet the requirements of § 600.1014(d).

Where it becomes necessary to audit the reports that fish buyers submit in compliance with § 600.1014(d), trip tickets (or equivalent accounting records establishing the pounds of fish purchased and the price paid) are essential audit documentation. If, for

any reason, any state law or regulation makes it illegal for fish buyers to keep separate records that involve some or all of the same data as the landing records that the fish buyers keep for state purposes, then a financed reduction program will not be possible unless there is a change in the state law or regulations to give NMFS access to the records necessary for administration of reduction loans. The interim final rule revises the proposed rule accordingly (see § 600.1003(n)(11)(i) and § 600.1014(f) and (g)).

Existing regulations require many fish buyers to have dealer permits, so NMFS often knows who the authorized fish buyers are. The rule also requires each business plan to include information about fish buyers who can, after reduction, reasonably be expected to have fee collection responsibilities. The rule requires NMFS to notify, both by a **Federal Register** notice and by mailed notification to fish buyers of whom NMFS is aware, all fish buyers about their fee collection responsibilities.

Comment Issue 4: Four comments involved exempting reduction requests preceding publication of the proposed rule from some aspects of the interim final rule.

All four comments generally said that various parties had expended much effort and expense on two reduction requests that substantially preceded NMFS's publishing the proposed rule. The proposed rule required the FMCs and the business planners for these two reduction requests to start at the beginning of a process of which they were unaware before NMFS published the proposed rule. Thus, these parties would have to expend additional time and money for the sole purpose of resubmitting their requests to conform with the interim final rule. This may be inequitable, because NMFS assured the parties involved that the lack of a proposed rule would not deter NMFS from processing their reduction requests as far as possible without an interim final rule. The interim final rule should ensure expeditious consideration of these two reduction requests.

Response: On November 27, 1997, the Pacific FMC submitted a request for a financed reduction program in the fishery for Pacific coast groundfish (limited entry trawl fishery). On October 10, 1997, the North Pacific FMC submitted a request for a financed reduction program in the fishery for Bering Sea and Aleutian Islands king and tanner crab. Industry proponents have since prepared business plans for each of these requests. The business planners and the FMCs have already expended considerable effort on these

business plans and reduction requests. Both requests and their acceptances preceded, by many months, the publication of the proposed rule. NMFS agrees that it is counterproductive to now require the FMCs to resubmit these two reduction requests. The FMCs do not, consequently, have to resubmit these two reduction requests in accordance with the process in the interim final rule. However, the business planners and the FMCs will have to submit some additional information required by the interim final rule. After review of both plans and the interim final rule, NMFS will specify this additional information.

Comment Issue 5: Six comments concerned proposed rule provisions that allow financed reduction programs to involve only fishing permits in the reduction fishery, rather than requiring reduction programs to involve all fishing permits held by reduction program participants. These comments were evenly divided between supporting and opposing these provisions.

Three comments supported the proposed rule provisions. These comments generally said that it is impractical and unreasonable to require post-reduction harvesters in reduction fisheries to pay for the cost of reducing fishing permits in non-reduction fisheries, and otherwise agreed with the proposed rule's preamble discussion of this aspect.

Three comments opposed the proposed rule provisions. These comments generally said that reducing only the fishing permits in the reduction fishery causes reduction program fishing vessels to shift their effort from the reduction fishery to any non-reduction fisheries for which the vessels also have fishing permits. The goal of each reduction program should be removing the fishing capacity involved in a reduction program from all fishing rather than just fishing in the reduction fishery. To enable this result, one of these comments said that the interim final rule must define the term "fishery" differently than the Magnuson-Stevens Act does.

One comment said that the proposed rule provisions are inconsistent with the objective in section 312(b)(2) of the Magnuson-Stevens Act because the proposed rule provisions merely shift reduction costs to other fisheries in which reduction participants' vessels might also have fishing permits rather than obtaining the maximum sustained reduction in fishing capacity at the least cost.

Another comment said that all reduction programs should involve

analysis of the reduction programs' impact on non-reduction fisheries and that it is unacceptable and contrary to the Magnuson-Stevens Act for improvements in a reduction fishery to occur at the expense of any other fishery.

Response: The Magnuson-Stevens Act authorizes conducting reduction programs, like fishery management plans, on a fishery-by-fishery basis. Each reduction program must occur within a fishery that meets the Magnuson-Stevens Act's definition of "fishery". This requires each reduction program to occur in "one or more stocks of fish which can be treated as a unit for purposes of conservation and management and which are identified on the basis of geographical, scientific, technical, recreational, and economic characteristics..." and to involve "fishing for such stocks..." The objective in section 312(B)(2) of the Magnuson-Stevens Act relates to each reduction program in each reduction fishery.

While section 312(b)(2)(A) of the Magnuson-Stevens Act authorizes reductions that include both fishing permit revocations and fishing vessel scrappings (or title restrictions that prevent future fishing), section 312(b)(2)(B) also authorizes reductions that are restricted to fishing permit revocations alone.

In a financed program, the post-reduction harvesters in the reduction fishery are paying for fishing capacity reduction. They are retiring excess capacity in their fishery. The Government is simply lending them the money to do this. NMFS should not require a borrower composed of post-reduction harvesters to spend any of the borrower's reduction loan proceeds on reducing fishing capacity that the borrower does not want to reduce. This includes reducing capacity in non-reduction fisheries, which benefits parties other than the borrower.

In a subsidized program, however, the taxpayers are paying the cost of reducing fishing capacity. The taxpayers can choose, through their Government, the fishing capacity reduction alternative that provides the broadest fishery conservation and management benefit. This may include withdrawing fishing vessels (either by scrapping them or imposing title restrictions that prevent their fishing) and revoking all fishing permits associated with the scrapped vessels that are not individually transferable. Individually transferable fishing permits in non-reduction fisheries could not, however, be revoked as part of such a reduction program (because these permits may be used by vessels other than the vessels

whose fishing is prevented by scrapping or title restriction). Revoking individually transferable fishing permits in non-reduction fisheries would require separate reduction programs in the non-reduction fisheries involved.

A financed reduction program is, in essence, a contribution from post-reduction harvesters in a reduction fishery to fisheries conservation and management in that fishery. It is a contribution that is in the best economic interest of the post-reduction harvesters, but, nonetheless, it is their voluntary contribution. NMFS should not limit the opportunities for satisfying the statutory purposes by requiring post-reduction harvesters willing to repay the cost of buying and retiring fishing permits in their reduction fishery to also pay the cost of buying and retiring fishing permits in non-reduction fisheries. It is not in the taxpayers' interest to do so, because the net effect may be to limit most reduction programs to those whose entire cost the taxpayers bear. This is true because harvesters in reduction fisheries are generally unlikely to approve industry fee systems in reduction fisheries for repaying reduction loans that benefit harvesters in non-reduction fisheries.

In the interim final rule's revision of the proposed rule, business planners have the option of reducing only fishing permits in the reduction fishery or both doing that and withdrawing fishing vessels by scrapping or title restriction. The latter enables the revocation of all permits, except individually transferrable ones in non-reduction fisheries, associated with withdrawn vessels. Although business planners may voluntarily choose to withdraw fishing vessels, either by scrapping them or imposing title restrictions that prevent their fishing, FMCs may not require business planners to do so.

There is, however, one exception where a financed reduction program should always include the reduction of fishing permits that involve species other than those in the reduction fishery. That exception is fishing permits that merely allow the incidental catch of non-reduction species during directed fishing for reduction species. Once the directed fishing permits are bought and retired, the incidental fishing permits are of no further use. In addition to being useless, the incidental fishing permits were always a corollary of the directed fishing permits, and should be revoked along with the directed fishing permits. Accordingly, the interim final rule revises the proposed rule in this respect (see § 600.1011(d)).

The interim final rule also revises the proposed rule to require business planners and FMCs to consider the effect on non-reduction fisheries of financed reduction programs that involve only fishing permits in the reduction fishery (see § 600.1003(l) and § 600.1003(n)(9)).

NMFS notes that there may be other potential alternatives to deal with this situation. One alternative might be combining fisheries for fishery conservation and management purposes, which might then allow a financed reduction program to relate to the combined fishery rather than just to one of the fisheries. Another alternative might be conducting a separate financed (indeed, even subsidized) program in a fishery that a reduction program in another fishery affects. Both these potential alternatives would avoid one group of post-reduction harvesters paying for another group's benefit.

Comment Issue 6: Two comments concerned post-reduction fish allocations in financed reduction programs that do not involve all the harvesters in the reduction fishery. For example, say, a reduction fishery involves both longline and pot gear, but the financed reduction program in that reduction fishery involves only fishing permits for the longline gear.

One comment supported, and one comment opposed, allocations of this type and the proposed rule's treatment of this issue. The supporting comment said that allocation of the post-reduction resource protects the investment of the post-reduction harvesters who must repay a reduction loan as well as the interest as the Federal Government in ensuring the reduction loan's repayment. The opposing comment said that the allocation might damage the operators of non-reduction fishing gear who may have been less responsible for overfishing and, thus, creating the crisis in the fishery to which the financed reduction program relates.

Response: NMFS believes post-reduction allocation is essential in financed reduction programs that involve fewer than all the harvesters in a reduction fishery.

Assume that a fishery is composed of "A" gear fishermen and "B" gear fishermen, each group has a pre-reduction allocation equal to 50 percent of the fishery's total allowable catch, and the "A" gear fishermen encumber themselves with a 20-year debt to pay for buying and retiring 50 percent of the "A" gear fishing permits. Unless their post-reduction allocation stays at 50 percent of the fishery's total allowable catch, there is no economic incentive for the "A" gear fishermen to pay for

buying half of the pre-reduction "A" gear fishing permits. Similarly, neither does the government have the requisite assurance that up to 5 percent of the "A" gear fishermen's post-reduction trip proceeds will be sufficient to repay the reduction loan over a 20-year period. Without post-reduction allocations, there is little economic incentive either for the reduction borrowers to borrow or for the reduction lender to lend, and the taxpayers may, consequently, be called upon to pay for most reduction programs of this type.

Moreover, it is inequitable for "A" gear fishermen to pay for a benefit that "B" gear fishermen receive without payment. Business plans for, and FMPs complementing, financed reduction programs that involve only one of several gear types within a reduction fishery must adequately address this critical issue sufficiently to provide economic incentive both for reduction borrowers and the reduction lender.

Financed reduction programs cannot usefully address the possibility that allocations to gear operators who some perceive as less responsible harvesters may have impacted allocations to other gear operators who some perceive as more responsible harvesters.

Comment Issue 7: Two comments involved consultation with fishing communities and other interested parties during reduction program development. One comment pointed out, in the context of reduction programs that involve only fishing permits in a reduction fishery, that the law requires this consultation. The other comment said that, if NMFS consults with conservation organizations (and other interested parties who are, presumably, not directly involved in the reduction fishery), "those entities must have their own substantiated fishery and economic data base [sic] to be considered a valid consulting participants [sic], or we will challenge their participation. No more rhetoric of how many people they represent, they will deal in facts and not personal agenda generalities."

Response: The statutory reduction provisions require consultation "as appropriate, with Councils, Federal agencies, State and regional authorities, affected fishing communities, participants in the fishery, conservation organizations, and other interested parties throughout the development and implementation of any..." reduction program.

Comment Issue 8: One comment addressed the potential for the eventual replacement of the fishing capacity that reduction programs remove from reduction fisheries (and other comments

also indirectly involved this issue). The comment expressed concern about the potential for post-reduction fishing capacity to gradually expand through the post-reduction adoption of new technology and the pre-reduction existence of latent fishing capacity. This comment said that analysis of the Fishing Capacity Reduction Demonstration Program and the Fishing Capacity Reduction Initiative in the Northeast multispecies fishery suggests that the existence of significant latent fishing capacity will result in little or no long-term reduction in the multispecies fishery's fishing capacity.

Response: The reduction programs in the Northeast multispecies fishery were authorized under the Interjurisdictional Fisheries Act rather than under the Magnuson-Stevens Act. The Interjurisdictional Fisheries Act does not address the issue involved in this comment, but the reduction provisions of the Magnuson-Stevens Act do. The reduction provisions of the Magnuson-Stevens Act require FMPs for reduction fisheries to prevent the replacement of fishing capacity removed by the program through a moratorium on new entrants, restrictions on vessel upgrades, and other effort control measures, taking into account the full potential fishing capacity of the fleet (16 U.S.C. 1861a(b)(1)(B)(i)).

The proposed rule addresses this statutory provision by requiring each reduction request (and, in the instance of financed reduction programs, each business plan) to demonstrate how the FMP complies with this statutory provision or will comply with it after an FMP reduction amendment. The interim final rule continues this requirement.

Comment 9: NMFS should evaluate the efficacy of each reduction program two years after the reduction program's implementation. The evaluation should help identify areas where capacity leaks back into the fishery and will help in designing future reduction programs. It will take a few more reduction programs to iron out the difficulties in designing efficient reduction programs, and post-program evaluation will be critical.

Response: NMFS agrees. NMFS will include post-reduction evaluations as part of the SAFE reports under 50 CFR 600.315(e).

Comment 10: Reduction is an extremely valuable tool to remove capital from fisheries in a rational and orderly fashion. Many of the proposed rule's elements will allow capacity reduction to move forward.

Response: NMFS agrees.

Comment 11: The proposed rule does not define "capacity". If this is intentional in order to provide

flexibility in constructing reduction programs this should be stated. The proposed rule's preamble uses "excess capacity", but does not define the term. "Excess capacity" could mean either that there are more vessels than necessary for maximum economic efficiency or that the capacity exceeds the resource's ability to support the capacity. The use of "full potential fishing capacity" highlights this problem. Defining these terms has enormous implications for interpreting the regulations and these definitions should undergo public comment before their adoption. Alternatively, the interim final rule should state that definitions for these terms will be included in the program implementation regulations.

Response: The term "excess capacity" did not appear in the proposed rule (the term appeared only once in the proposed rule's preamble).

The statutory term "full potential fishing capacity" appeared once in the proposed rule (in the definition of the term "non-replacement requirement") and once in the proposed rule's preamble.

The appropriate context in which to make distinctions between concepts like "more vessels in a fishery than are necessary for maximum economic efficiency" and "capacity in the fishery...[exceeding] what the resources can support" is implementation of the Magnuson-Stevens Act's provision that authorizes a reduction program only if the reduction program "is necessary to prevent or end overfishing, rebuild stocks of fish, or achieve measurable and significant improvements in the conservation and management of the fishery." Each reduction program must meet one of these criteria. For the sake of flexibility, NMFS does not qualify these criteria further. Each reduction request must make its best case on the merits of the request's own particulars.

Comment 12: "Reduction fishery" traditionally refers to fisheries that convert fish to meal and/or oil. Substitute "buyback fishery" for "reduction fishery".

Response: "Fishing capacity reduction" is the operative statutory term. NMFS chose, for brevity's sake, to define a fishery in which reduction is proposed or occurs as a "reduction fishery" rather than a "fishing capacity reduction fishery". The interim final rule defines the term "reduction fishery" sufficiently to distinguish this term from a fishery involving the production of fish meal and oil.

Comment 13: The interim final rule should "include criteria that will be used to determine..." a reduction loan's

repayment period. A repayment period can be longer than the maximum 5 percent repayment fee might otherwise indicate.

Response: The amount annually required to service debt is a function of principal, interest, and the repayment term. Business planners must propose an annual reduction loan debt service burden that post-reduction harvesters are likely to be willing to undertake in return for a finite reduction in fishing capacity. Harvester referenda must subsequently approve this. Subject to the statutory constraints (maximum 5 percent fee and maximum 20-year repayment period), NMFS will accommodate each business plan's debt service proposal unless the circumstances of the reduction program involved clearly warrant doing otherwise.

Comment 14: Failure to address how in-kind compensation (e.g., dock space, ice) affects the delivery value used to calculate the reduction loan repayment fee could result in "creative reimbursement arrangements to avoid fees." The interim final rule should avoid this result by addressing this issue.

Response: The fee rate required to repay reduction loans is applied to "delivery value". The proposed rule's definition of "delivery value" excludes in-kind compensation because "delivery value", as defined in the proposed rule, is the "full, fair market value...in an arm's length transaction..." Full, fair market value in an arm's length transaction cannot, by definition, include in-kind compensation. In-kind compensation cannot, consequently, be used to avoid the fee. Nevertheless, the interim final rule revises the proposed rule's definition of "delivery value" to clarify that the term includes "the value of in kind compensation or all other goods or services exchanged in lieu of cash." (see the definition of "delivery value" in § 600.1000).

Comment 15: The proposed rule's definition of "fee fish" requires fishing vessels in a post-reduction fishery to pay the reduction loan repayment fee on fish harvested incidentally to the targeted reduction species. The definition of this term should allow each reduction program to define the "fee fish" that will be used to calculate the fee. Some fisheries may have an incidental catch of "fee fish", and the interim final rule should "clearly state that incidental catches in non reduction program fisheries are not subject to the fee unless those fisheries are included in the referendum for a financed reduction program."

Response: The term "fee fish", as defined in the interim final rule, means all fish harvested from the reduction fishery. The term fee fish excludes fish harvested incidentally while fishing for fish not included in the reduction fishery. The term "reduction fishery", as defined in the interim final rule, means the fishery or portion of a fishery to which a program applies. The reduction fishery must specify each included species, as well as any limitations by gear type, size of fishing vessel, geographic area, and any other relevant factor. Except in extraordinary instances, the interim final rule's intent is to limit fee fish to those that are directly rather than incidentally harvested.

Comment 16: The proposed rule requires a reduction request to list all parties who are authorized to fish in the proposed reduction fishery and to specify the catch allocated to those parties for the past five years. The proposed rule also requires a business plan to analyze the proposed reduction loan's cost effectiveness based on the best historical fishing revenue and expense data available in the reduction fishery. NMFS is a likely source for this information, but these data are considered confidential at the individual fishing vessel level required by the regulations. The regulations in 50 CFR 600 Subpart E state that this type of information can only be released to NMFS employees or contractors, state employees, and Council staff or contractors. Thus, business planners will not have access to this information. The interim final rule should address this by requiring NMFS to provide, in an aggregate form, the data business planners need.

Response: The proposed rule intends catch allocation data to be aggregate data for all parties authorized to fish in the reduction fishery rather than individual data for each such party. The interim final rule revises the proposed rule to make this intent clearer (see § 600.1003(j) and § 600.1005(f)).

Section 253.27(q)(5)(1) of the proposed rule merely requires that business plans include the "Best historical fishing revenue and expense data (and any other relevant productivity measures) available in the reduction fishery." This neither requires these data to be provided at the individual fishing vessel or fishing permit level nor requires those data to be identified with specific fishing vessels or fishing permits. The interim final rule revises this aspect of the proposed rule to clarify that NMFS seeks the "best and most representative

historical...data... available..." (see § 600.1003(n)(5)(l)).

NMFS does not know, in every fishery that may become the subject of a reduction request (which includes fisheries managed by states), who may have the best available data. NMFS may have these data for some fisheries, but may not have them for others. The fishing industry itself generally is the source of these data, and, if adequate data have not been elsewhere gathered, business planners must arrange to make available sufficiently representative data from the industry in order to make the business planners' case.

This aspect of the rule does not require NMFS to violate data confidentiality, and NMFS intends, upon request, to make available to business planners, in a way that does not violate data confidentiality, whatever useful data NMFS has.

Comment 17: The proposed rule requires the FMCs to provide the names and addresses of fishing permit holders authorized to fish in a reduction fishery, but NMFS (as the permitting authority) has the most current information and should supply the information itself.

Response: NMFS has these data for fishing permits in Federal fisheries. Nevertheless, the referenda aspect of the statutory reduction provisions requires NMFS, "in consultation with the FMC..." to "identify, to the extent practicable, and notify all permit or vessel owners who would be affected by the..." (16 U.S.C. App. 1861a) reduction. The proposed rule was premised on the assumption that an FMC would ask NMFS for the data needed to complete this aspect of a reduction request, examine the data NMFS provided, and, where necessary, consult with NMFS about any aspect of the data before confirming the data by including them in a reduction request to NMFS. NMFS continues to believe this is the most appropriate approach. Moreover, reduction programs can involve state, as well as Federal, fisheries, and NMFS may not have these data for fishing permits in state fisheries.

The interim final rule revises the proposed rule to clarify that NMFS is a source of Federal fishing permit data (see § 600.1003(i) and § 600.1005(e)).

Comment 18: The proposed rule requires the FMCs to provide the names and addresses of likely post-reduction fish buyers, but NMFS has this information in NMFS' dealer permit database and should, consequently, remove this requirement.

Response: The proposed rule requires business planners, not FMCs, to provide this information (although FMCs must include business plans with reduction

requests). NMFS may not always have these data even for all Federal fisheries, let alone state fisheries. Where NMFS has these data, however, NMFS will be pleased to supply the data to business planners for their review, (where appropriate) revision, and inclusion in their business plans. Where NMFS does not have these data, business planners must produce the data for inclusion in their business plans.

Comment 19: Business planners must be able to gauge the amount of time NMFS will take to implement reduction. The regulations should specify a maximum time for the agency to do this.

Response: NMFS will process reduction requests as quickly as NMFS can, but cannot specify time limits for doing so.

Comment 20: Reduction amendments to FMPs may not always be necessary to accommodate reduction because "some Councils may be able to adjust management plans through a framework adjustment rather than a full plan amendment." The interim final rule should change "reduction amendment" to "reduction amendment or framework adjustment."

Response: The interim final rule revises the proposed rule's definition of the term "reduction amendment" to include framework adjustments (see the definition of this term in § 600.1000).

Comment 21: In some cases, latent fishing permits may be held by parties who do not own fishing vessels. The basis of the referendum voter lists should be explained ("in particular, whether it is based on vessels or permits"). The proposed rule "does not state if a reduction program could apportion voting rights based on landings, permit categories, days-at-sea usage, or other criteria." Referenda results "may require as much as one-third of the industry to fund a program they oppose." This could both be unfair and make designing successful reductions difficult. In a fishery where the few catch most of the fish, the many who catch few of the fish could force the former into a reduction they oppose. (The example given is a 100 permit fishery where 20 percent of the fishing permit holders catch 80 percent of the fish). "The interim final rule should clearly state how voting rights are apportioned...[and should allow apportionment] based on relative criteria determined by the designers of the program." The proposed rule does not specify what happens if an eligible voter is inadvertently omitted. The interim final rule should provide for an appeal process prior to referendum ballot distribution.

Response: Referenda voters under the statutory reduction provisions are "permit or vessel owners who would be affected by the program..." The rule mirrors the statutory language by including either fishing vessel owners or fishing permit owners as potential referenda voters. Nevertheless, because reduction programs can occur only in limited access fisheries, NMFS believes referenda voters will always be those who hold fishing permits at the time of the referenda.

The proposed rule requires each reduction implementation plan to include the names and addresses of all parties eligible to vote in a referendum. The interim final rule, however, revises the proposed rule to allow referenda before reduction implementation plans. This requires public comment about voter eligibility to occur earlier in the reduction process. Consequently, the interim final rule also revises the proposed rule to make the names and addresses of eligible voters subject to public comment by including them in the **Federal Register** notice that NMFS publishes when NMFS accepts a request for a financed reduction program (see § 600.1003(i) and § 600.1004(a)).

During the proposed rule's formulation, NMFS considered the possibility of apportioning referenda votes according to various criteria. NMFS believed, however, that the most equitable approach in the greatest number of cases is a one fishing permit/one vote rule. NMFS still believes this. NMFS believes that the concern in this comment might be better addressed by an FMC. This Council, by refusing to request a reduction program (based on a business plan that allows the many who catch little to force a reduction of their fishing permits on the few who catch much) unless it appears to be in the best conservation and management interest of the reduction fishery and in the best economic interest of all post-reduction harvesters in the reduction fishery. However, NMFS does not, for a variety of reasons, anticipate that this hypothetical situation will often occur. Initiating a financed reduction program requires NMFS, for example, to determine that post-reduction harvesters will be able to repay the reduction loan. If, prospectively, the cost of buying 80 percent of the fishing permits that produce 20 percent of the fish were so high that the remaining 20 percent of fishing permit holders could not, with 20 percent more fish to harvest, reasonably afford to repay that cost over 20 years at a maximum fee limited to 5 percent of ex-vessel landings, then NMFS could decide not to initiate the reduction program.

Comment 22: The interim final rule should address the impact of fishing vessels or fishing permits being sold, bankruptcies, and corporate dissolutions during the interim between bid acceptance and actual fishing capacity reduction.

Response: Bids are irrevocable offers. NMFS' acceptance of bids creates reduction contracts that entitle NMFS to specific performance of the contract obligations. This is as far as NMFS can reasonably go to ensure that reduction contracts culminate in the reduction results upon which referenda are based. NMFS will, as a matter of course, take whatever legal action may be available to NMFS to enforce specific performance of reduction contracts, but cannot predict the outcome of hypothetical future events. NMFS realizes that some circumstances (e.g., bankruptcy) could conceivably delay or prevent NMFS' enforcing specific performance, but NMFS will have to deal with these circumstances as they present themselves during the conduct of each reduction program. Nevertheless, the interim final rule revises the proposed rule to more specifically address the impact of these potential occurrences (see § 600.1011, particularly § 600.1011(f) and (g)).

Comment 23: "There may be a long period between bidding and actual implementation of the program. While at some point the bidders must commit to participation...they should...[be able to] withdraw up to the point...referendum ballots are prepared."

Response: The proposed rule requires NMFS immediately after bid closing to accept bids, notify bidders, and conduct a referendum.

The proposed rule also requires NMFS to tally all ballots and notify all referendum voters, within seven business days after the last day for receipt of ballots, of the referendum results.

Additionally, in response to other comments about the proposed rule, the interim final rule revises the proposed rule to restrict post-bidding referenda to situations in which bidding results are insufficient for the maximum reduction loan amount specified in the business plan to reduce the minimum amount of fishing capacity specified in the business plan (see § 600.1010(c)).

NMFS will do everything possible to keep the elapsed time between bid closing and actual reduction as short as possible. NMFS fully realizes the commercial necessity of doing so.

NMFS' reduction experience in the Northeast multispecies fishery demonstrates that irrevocable bids are essential to effective reduction. Irrevocability will limit bidding to fishing permit or fishing vessel owners who are serious about reduction. This will also prevent the situation in which bid results that initially conformed with a business plan's capacity reduction specifications become nonconforming because of subsequent bid withdrawals.

Comment 24: Invitations to bid "should include projections of the benefits of capacity reduction on the management plan for the subject species, notice of possible capital gains tax liabilities, and other limitations such as to CCF contributions. This information may not be readily apparent to permit holders."

Response: The reduction plan that NMFS publishes in the **Federal Register** will, for each financed reduction program, "describe in detail all relevant aspects of implementing..." each reduction program. NMFS believes the reduction plan may be the better place to discuss, if appropriate, any matters like those involved in this comment. Invitations to bid are contractual in nature, and NMFS believes they should focus only on contractual matters.

Comment 25: The interim final rule "should specify that NMFS will follow established standards for conducting referenda." The proposed rule does not specify that voting would be conducted by secret ballot, but the interim final rule should.

Response: NMFS does not know to what standards this comment refers. The interim final rule revises the proposed rule to clarify ballot confidentiality (see § 600.1010(d)(10)).

Comment 26: Where reduction programs involve withdrawing fishing vessels from fishing, the proposed rule requires state registered fishing vessels to always be scrapped (rather than either being scrapped or having their titles restricted). This complicates reduction programs involving both Federally registered and state registered fishing vessels, and may increase reduction cost or put owners of state-registered fishing vessels at a disadvantage. Some states may have the ability to impose title restrictions that will prevent the future use of state-registered fishing vessels in other fisheries. Fishing vessels not required to be scrapped should not be allowed to be sold to other countries if they exacerbate overcapacity in (presumably) any other fishery in the world. "Vessels should also not be allowed to be sold to foreigners and then enter a fishery in

U.S. waters that may not be subject to U.S. jurisdiction."

Response: Although some states may have this title-restriction ability, NMFS has no way of ensuring that these states will enforce such title restrictions for as long as the fishing vessels exist. Moreover, little may prevent a fishing vessel owner whose fishing vessel title has been restricted in one State from re-registering the vessel in another state that cannot or will not similarly restrict the vessel's title. Federal title restrictions for Federally-documented fishing vessels are effective for reduction purposes, but state title restrictions for state-registered fishing vessels may not always be effective.

For the reasons stated in the preamble to the proposed rule, NMFS does not believe it should, for fishing vessels involved in financed reduction programs, impose any non-statutory use restrictions. No foreign country need allow these fishing vessels to be registered under the country's national flag or harvest fisheries resources under the country's national jurisdiction if the country believes that this registration is inconsistent with: the country's economic interests, the country's fisheries conservation and management responsibilities, the country's obligations under treaties or international law, or any other aspect of the country's sovereign affairs. Finally, all vessels fishing in U.S. waters are subject to U.S. jurisdiction.

Comment 27: The interim final rule should state that reduction loan repayment is the only basis for post-reduction fee increases. The interim final rule should "describe the criteria NMFS will use to increase the fee amount rather than extend the period of the payback... This should include a determination that the increased fee will not result in a significant impact on ...[post-reduction fishermen or communities]."

Response: The only statutory authority NMFS has for any reduction fee (including the subsequent increase of an initial fee) is repayment of a reduction loan. Absent specific circumstances that clearly warrant the contrary, NMFS has no particular preference, in the instance of a reduction loan whose initial maturity was shorter than the statutory maximum, for either fee increases or longer repayment periods. NMFS will certainly attempt to avoid significantly adverse effects on post-reduction harvesters and fishing communities, but, where actual gross revenue experience in a reduction fishery clearly indicates the projected need for a fee increase in order to repay a reduction

loan within the maximum maturity, NMFS is obliged to increase the fee up to and including the maximum fee.

Comment 28: Harvesters base their referenda votes on the fee rate projected to be necessary to repay the reduction loan. Additional fees during the time that post-reduction harvesters are paying the reduction loan repayment fee may become an economic burden. The interim final rule should prohibit the adoption of additional fees (e.g., for observer programs, for research or enforcement costs) during the period the industry is paying back reduction loan.

Response: Neither the reduction framework rule nor reduction regulations implementing any reduction program can control matters not pertinent to fishing capacity reduction. Fees involving matters other than the repayment of reduction loans may become necessary or advisable at some time during the 20 years during which reduction loans are repayable. While NMFS will always attempt to avoid fees that have significant adverse impacts, neither the reduction framework rule nor reduction program implementation regulation can prohibit whatever non-reduction fees may become necessary or advisable in the future. Furthermore, a reduction program should make the fishery economical and paying reduction fees should not be overly burdensome.

Comment 29: The proposed rule's requirement that the fishing industry submit business plans and the FMCs make certain other submissions places an enormous burden on the industry and the Councils—or, for state requests, on the states—to prepare capacity reduction programs. This shifts the burden of preparation from the Secretary to the Council and the industry. This is a shift that has not been accompanied by an increase in Council resources. Business plans should not always be required. The interim final rule should allow flexibility in determining the lead authority for the preparation of a financed reduction program or, alternatively, NMFS should immediately identify resources that will be made available to Councils to meet the requirements imposed by the regulation.

Response: For the reasons stated in the preamble to the proposed rule, NMFS believes that the business plan requirements appropriately place, on a reduction's industry proponents, the burden of developing proposals for financed reduction programs. NMFS realizes that business plans require industry to undertake a large effort. This is, however, no different from planning

for other business investments. NMFS views financed reduction programs as post-reduction harvesters making business investments in their economic future by retiring some of their competition, thereby increasing their harvests of finite natural resources. NMFS can lend post-reduction harvesters the money required to make this investment. As a lender, however, it is not appropriate for NMFS to do the business planning that may determine whether the investment succeeds or fails. Moreover, no one is more qualified to do this business planning than the harvesters affected by the plan and who will be required to mortgage, in effect, up to 5 percent of their future gross revenue over as much as 20 years to repaying the reduction investment's cost. Reduction planning is expensive, but so is most business planning. Reduction planning may, however, from time-to-time be eligible for grants. The Saltonstall-Kennedy Fisheries Research and Development Program's fiscal year 2000 grant cycle includes reduction planning.

Although FMCs have the lesser burden of reviewing, rather than preparing, business plans, the burden is one that cannot reasonably be avoided. It is the FMCs' responsibility to manage and conserve the national fisheries. Determining if a reduction program will assist in this is integral to an FMC's mandate. The reduction framework rule is not the proper venue for addressing FMC personnel or resource matters.

Comment 30: "By failing to list the four possible funding sources included in the statute, the proposed rule sends a strong message that reduction programs must be industry funded. The interim final rule should clearly identify possible funding sources and ...emphasize that industry funding is only one way to finance a reduction program."

Response: Financed reduction programs, in which the direct beneficiaries of a reduction program repay the programs' cost, are the preferred way of funding most reduction programs. The proposed rule, however, also equally addressed subsidized reduction programs, in which the taxpayers or other contributors fund reduction program costs. These are the only two basic methods of funding reduction program costs. Under the proposed rule, if any portion of a reduction program's cost is funded by a reduction loan, the reduction program is a financed reduction program. All other reduction programs are subsidized reduction programs, even though three different statutory funding sources are included in this category: (1)

appropriations under the reduction provisions of the Magnuson-Stevens Act, (2) appropriations under the Saltonstall-Kennedy Act, and (3) contributions from States or other public or private sources. In the first 2 funding sources for subsidized reduction programs, Federal taxpayers provide the subsidy; in the third, State taxpayers or other public or private entities provide the subsidy. There appears to be no functional reason for the reduction framework rule to separately address the 3 different sources of subsidized funding.

Comment 31: Different industry groups may present competing business plans to the FMCs. The proposed rule does not provide criteria for deciding what industry groups have standing. "Do the FMCs decide which proposals are forwarded to the Secretary for review? How will specific reduction proposals be compared and how will the choice be made between them?" The interim final rule should allow the FMCs to decide what reduction request to forward to NMFS, but should clearly explain the criteria the FMCs should consider in making this decision.

Response: NMFS believes it is best to leave this to the FMCs' discretion. NMFS cannot, in a fishery subject to an FMC's jurisdiction, undertake a reduction program unless the FMC first requests NMFS to do so. Consequently, the FMCs have discretion to entertain reduction proposals from whatever industry reduction proponents the FMCs deem appropriate. The FMCs may reject proposals, merge or consolidate proposals, or accept proposals as submitted. If the industry proponents of a financed reduction program and the appropriate FMC cannot come to agreement about a prospective reduction program, it makes little sense for the FMC to request a financed reduction program. In financed reduction programs, NMFS believes the FMCs should defer to representative business planners who make a strong case for increasing the economic efficiency of post-reduction harvesters in the reduction fishery and, most particularly, for the widespread industry support that successful referenda require. Proposals for financed reduction programs that do not potentially enjoy widespread industry support will fail and waste much time, effort, and resources.

Comment 32: Reduction "is important for the preservation of natural resources and the economic stability of American fisheries."

Response: NMFS agrees.

Comment 33: The requirement that a proposed reduction be lawful at the time of reduction must be made clear.

No person or government body can guarantee what will be lawful in the future. Future judicial interpretation is always an unknown. As long as a proposed reduction is not known to be unlawful at the time it is requested, all such requirements should be deemed satisfied.

Response: All reduction programs will be lawful at the time of their occurrence, and NMFS agrees that no one can guarantee what will be lawful in the future.

Comment 34: The proposed rule is sufficient for fisheries under Federal jurisdiction. For state-managed fisheries, however, it would be useful to have a sample request and business plan accessible at NMFS' web site.

Response: The proposed rule outlined the required contents of reduction requests and business plans for both Federal and state fisheries. NMFS does not have any samples that NMFS could post at NMFS' web site. NMFS is, however, willing to advise all parties about reduction in any appropriate way NMFS can.

Comment 35: The proposed rule "has been thoughtfully and thoroughly developed..." and "has great merit and practical application ..." to the salmon driftnet and purse seine fishery in Bristol Bay, Alaska.

Response: NMFS notes this comment.

Comment 36: "In some cases...industry-funded license reductions may represent the only viable alternative to achieving needed reductions of capacity. In complex fisheries, overcapacity and inadequate management in any major fishery can lead to adverse consequences for other fisheries."

Response: NMFS agrees.

Comment 37: Where fishing permit reductions involve Bristol Bay and Chignik, the number of fishing permits bought back from local residents must be proportional with the number of fishing permits bought back from parties who do not reside in Alaska. 1,325 Bristol Bay salmon fishing permits were initially issued to residents of the Bristol Bay and Chignik watershed region. Today, only about 900 of these remain owned by local residents. Each fishing permit sold to non-residents of the local area results in the loss of 2 crewmen jobs from the local economy. This devastates the local economy.

Response: A framework rule involving matters common to all reduction programs is not the appropriate place to address this matter.

Comment 38: The "technical requirements for information ...[should not be] implemented in a way that the available databases and their managers

cannot accommodate. Flexibility to meet the data variability and personnel constraints should be clearly provided."

Response: It is not clear to what "technical requirements for information" this comment related. Requiring unavailable data is nonfunctional. The interim final rule is a framework rule common to all reduction programs, and NMFS will accommodate specific data or technical information circumstances that do not reasonably allow individual requests for reduction programs to comply with the framework rule. The interim final rule revises the proposed rule to provide flexibility in this and other respects (see § 600.1001(f)).

Comment 39: Reduction planners (either industry business planners or Government reduction planners) will be unqualified to fully understand fisheries complexity and to "comprehensively formulate a feasible...plan." Theoretical reduction plans might not achieve the intended purpose, and might have unplanned impacts on "the permit holder, vessel owner, financiers, and buyers (fish fee collectors)..." Experience demonstrates that "decisions are reached to appease political agendas, therefore, constituents of the fisheries will not take a plan or program at face value." Industry members will incur substantial expense in analyzing reduction plans. Reduction plans will involve a major economic impact on small fishery businesses. The "massive economic data that will be required..." may be nonexistent.

Response: Financed reduction programs are based on business plans that the fishing industry itself develops. When FMCs request financed reduction programs, they must base their requests on those business plans. If NMFS undertakes financed reduction programs, NMFS must, to the greatest extent possible, base these programs on those business plans. Moreover, all fishing permit holders or fishing vessel owners affected have the opportunity, through a referendum, to approve or reject the business plans upon which financed reduction programs are based. A financed reduction program is not possible unless at least two-thirds of those voting in a referendum approve the fee necessary to repay a reduction loan.

Subsidized reduction programs are based on implementation plans that NMFS develops from general FMC recommendations. The rule provides ample opportunity for the views of all affected parties to be heard and duly considered.

Whether to offer one's fishing capacity for reduction in either a

financed or subsidized reduction program is the voluntary decision of each fishing permit holder and/or fishing vessel owner.

Comment 40: A business plan should be subjected to a referendum of fishing permit holders and fishing vessel owners. Additionally, the fish buyers that are responsible for collecting the fee that repays a reduction loan should vote in a referendum about (presumably) the "fee collection, disbursement, and accounting..." aspects of the reduction. Moreover, a referendum committee of fishing vessel and fishing permit owners and fish buyers should review the results of all referenda involving financed reduction programs "to alleviate [sic] any questions by the fishery as to the valid tally of support or non-support..." A subsidized reduction program should also be subjected to a referendum of fishing permit and fishing vessel owners.

Response: The Magnuson-Stevens Act reduction provisions authorize referenda only for fee payers (fish sellers), not fee collectors (fish buyers). Fish buyers pay no fee, and cannot vote in referenda about fee payment. The statutory reduction provisions do not authorize referenda for subsidized reduction programs, where no one either pays or collects a fee. Those provisions do, however, require NMFS to consult with fish sellers, fish buyers, and all other affected parties through the development and implementation of subsidized reduction programs.

NMFS is the referendum authority under the statutory reduction provisions, and NMFS believes it can competently exercise this authority. NMFS does not, consequently, perceive a need for fish-seller and fish-buyer committees that will review referenda results. Moreover, the fact that referenda may sometimes follow irrevocable bidding precludes any referenda review or collaboration that lengthens the time between the submission of irrevocable bids and completing the reduction programs to which the bids relate.

Comment 41: It is good "that industry is expected to pay for...[reduction] in the long run.", but landing taxes are already high ("nearly 10 percent off the top for salmon in

Alaska...") This, combined with the high cost of business and depressed markets, threatens the survival of many family fishing businesses. Further landing taxes should be minimal. As an alternative, consider putting "a large tax [25 percent or more] on the sales of permits."

Response: In financed reduction programs, the industry's business plans project the amount by which fishing

capacity is reduced and the prospective fee rate necessary to pay for that reduction. Fee rates are based on post-reduction gross revenue that can only be projected over the life of the reduction loans, but all business is planned on the basis of future income that can only be projected. For a financed reduction loan to be possible, affected fishing vessel or fishing permit owners must vote in a referendum to approve the fee necessary to repay a reduction loan of a certain maximum amount whose disbursement in the form of reduction payments will reduce fishing capacity by a certain minimum amount. Business planners are unlikely to suggest a fee higher than post-reduction producers are reasonably likely to be able to pay, and, in the event they do, referenda voters are unlikely to approve a higher fee. Post-reduction fee rates may increase if post-reduction gross revenue proves to be lower than projected at the time of reduction, but may never exceed 5 percent of gross revenue. NMFS has no authority to consider the alternative this comment suggested.

Comment 42: The proposed rule is a "very well done plan on how to implement. It is believable, do-able, and very much needed in the fishing industry."

Response: NMFS notes this comment.

Comment 43: The comment applauds this avenue to reduce overcapitalization, return economic viability to fishing, and resolve many concerns (including bycatch and habitat) that the race for fish creates. Reductions reduces fishermen's pressure by eliminating "derby fisheries."

Response: NMFS agrees that fishing capacity reduction can help improve fisheries economics and fisheries conservation and management.

Comment 44: The fee for fish processed at sea cannot equitably be calculated in the same way as the fee for raw fish delivered ashore. Using appropriate recovery rates, NMFS should convert processed fish to the fish's round weight equivalent and calculate the fee based on the ex-vessel price for raw fish. If there is an ex-vessel price for raw fish delivered at sea, NMFS should use this. If not, NMFS should use the ex-vessel price for raw fish delivered ashore. Where all fish in a reduction fishery are processed and delivered at sea, NMFS must devise an appropriate proxy for a raw-fish, ex-vessel price. The fee should, in all cases, be based on the ex-vessel price for raw fish, rather than on the value that at-sea processing adds.

Response: NMFS considered this issue during the proposed rule's formulation, but elected in the proposed

rule to define "delivery value" and associated terms in a way that required payment of the reduction loan repayment fee based on fish in whatever form the fish existed at the time that the party who harvested the fish first delivered the fish for value to an unrelated fish buyer. This resulted, for fish harvested and processed at sea by the same party, in applying the fee rate to a higher delivery value than for fish delivered unprocessed and subsequently processed ashore by an unrelated fish buyer. There are good arguments for and against this approach, but, on balance, the more equitable way to resolve this issue is, as this comment suggests, to apply the fee to unprocessed fish. Doing so, however, creates considerable problems of its own.

One primary problem is a formula for accurately and efficiently converting the weight of processed fish to the weight of unprocessed fish. Another is a common value for unprocessed fish (prices may vary from time to time and from fish buyer to fish buyer). Nevertheless, the interim final rule revises the proposed rule to make the fee payable on the basis of the value of unprocessed fish. The interim final rule requires each business plan, for fisheries in which related parties both catch and process fish at sea, to formulate an accurate and efficient means of converting processed weight to unprocessed weight and of commonly valuing unprocessed fish (see, in § 600.1000, the definition of the terms "delivery value", "processed fish", and "unprocessed fish" and, in § 600.1003(n)(11), the new business plan requirement in this respect).

Comment 45: The framework rule represents an "excellent job of distilling common sense answers from some very difficult and complex issues."

Response: NMFS notes the comment.

Comment 46: The reduction loan repayment fee is the delivery value of fee fish times the fee rate. The definition of "delivery value", however, excludes "any deductions whatsoever" from the price that a fish buyer pays a fish seller when the fish seller first delivers fish to the fish buyer. This excludes "weighbacks" (small, unmarketable fish that the fish buyer deducts from the weight of delivered fish upon which the fish buyer calculates the delivery value). To comply with the statute's restriction of the fee to no more than 5 percent of ex-vessel value, the fee rate must be applied to the net weight of delivered fish (landed fish minus "weighbacks").

Response: Representative fish tickets provided with this comment deduct the weight of weighbacks from the gross weight of fee fish delivered before

applying the purchase price per pound to the resulting net weight. Under these circumstances, the fee is not, as the proposed rule defined the relevant term, applied to the weighbacks because the fish buyer did not pay any "delivery value" for the weighbacks because they were deducted from the total weight of delivered fish before calculating the "delivery value" on the net weight of delivered fish. The rule bases the fee on whatever value fish buyers pay fish sellers for fish subject to the fee (see the definition of the term "delivery value" in § 600.1000).

Comment 47: This comment supported fishing capacity reduction, but is frustrated that "the system" moves so slowly.

Response: NMFS will expedite the process as much as it possibly can, but fishing capacity reduction is a complex undertaking. The FMP amendment required to complement each reduction program may become a major source of delay in implementing each reduction program.

Comment 48: The reduction concept is "totally objectionable and immoral." Allowing "two thirds of the fishermen in a fishery..." to authorize the fee system required to repay a loan forces the other one third to repay a loan they do not want. The commenter objects to "forced loans." The commenter does not "believe in borrowing..." and "objects] to being forced to pay back a loan to stay fishing." Government should not be in the business of making loans. Reduction programs will not increase the price of post-reduction fish. The reduction concept "has the potential to force out small boat owners."

Response: NMFS notes the comment. The Magnuson-Stevens Act authorizes reduction programs and specifies the way in which they must be conducted. This rule implements the Act.

The reduction concept has the potential to reduce fishing capacity of every size, but decisions about whether to offer any fishing capacity for reduction are always the voluntary decisions of individual fishing permit and/or fishing vessel owners.

Comment 49: Reduction might have the collateral effect of putting some shoreline processors out of business, because fewer fishing vessels could result in the need for fewer shoreline processors.

Response: Absent concurrent reductions in total allowable catches, post-reduction harvests will require the same fish processing capacity as pre-reduction harvests. NMFS hopes that fewer harvesters catching the same amount of fish will not always mean a need for fewer processors, but it

sometimes unavoidably may. Nevertheless, the statutory objective of the reduction provisions of the Magnuson-Stevens Act is to reduce fishing capacity.

Comment 50: "Congress made it very clear in the Sustainable Fisheries Act of 1996 that all capacity reduction plans must achieve measurable and significant improvements in the conservation and management of the fishery in question..."

Response: The rule reflects this aspect of the statutory reduction provisions.

Summary of Revisions

The proposed rule was Subpart D of 50 CFR Part 253. The interim final rule, however, is subpart L of 50 CFR Part 600.

The following sections of the interim final rule revise the proposed rule:

(1) § 600.1000. This section is revised to add some terms, delete some terms, rename some terms, and amend the definition of some terms. Added terms include: "address of record", "bid", "business week", "fair market value", "fishing capacity reduction specifications", "net delivery value", "post-bidding referendum", "pre-bidding referendum", "processed fish", "reduction amendment specifications", "request", "treasury percentage", "unprocessed fish", and "vote". Deleted terms include: "consistency requirement", "control requirement", "Council", "necessity requirement", and "nonreplacement requirement". Renamed terms include: "program plan", which becomes "implementation plan"; "program regulations", which becomes "implementation regulations"; and "management plan", which becomes "controlling fishery management plan or program (CFMP)". Amended definitions include "borrower", "delivery value", "fee fish", "fish buyer", "fish delivery", "fish seller", "reduction amendment", "reduction fishery", and "reduction payment".

(2) § 600.1001(f). This section is added to provide for waivers of framework rule provisions in order to accommodate special circumstances in particular reduction fisheries.

(3) § 600.1002. This section is new. It encompasses four general requirements, three of which were, in the proposed rule, terms defined in § 253.25. This new section required conforming revisions of various other sections of the proposed rule.

(4) § 600.1003. Paragraph (g) of this section is revised to require each request for a financed reduction program to include the FMC's endorsement in principle of any reduction amendment

to the FMP that the business plan proposes. Paragraph (i) of this section is revised to clarify that NMFS is a source for the fishing permit data that this section requires in requests for financed reduction programs. Paragraph (j) of this section is revised to clarify that financed reduction program requests require aggregate, rather than individual, catch data. Paragraph (n)(11) of this section is revised to require the business plan included in each financed reduction request to evaluate the need for fee payment and collection provisions in each reduction fishery's implementation regulations different from the fee collection provisions in the framework rule.

(5) § 600.1005. Paragraph (e) of this section is revised to clarify that NMFS is a source for the fishing permit data that this section requires in requests for subsidized reduction programs. Paragraph (f) of this section is revised to clarify that financed reduction program requests require aggregate, rather than individual, catch data.

(6) § 600.1010. This section is revised extensively to provide for referenda preceding reduction amendments to FMPs as well as other referenda that may be required by no longer limiting referenda to those following reduction bidding. This also required appropriately revising other sections of the proposed rule that referenced referenda. Paragraph (d)(10) of this section is revised to establish the confidentiality of referenda ballots.

(7) § 600.1011. This section, particularly paragraphs (f) and (g), is revised to clarify the effect of reduction payments that NMFS is unable to make because of reduction contract non-performance.

(8) § 600.1012. This section is new. Paragraphs (b) and (c) of this section pertain to reduction loan interest rates, including the effect of any difference between prospective and actual reduction loan interest rates. The balance of this new section pertains to the reduction loan obligation, including principal amount, repayment term, and penalties for non-payment or non-collection.

(9) § 600.1013(c)(2). This paragraph is revised to clarify that the fee applicable to post-delivery fish bonuses is paid and collected when the bonuses first become known rather than when fish sellers first deliver fish to fish buyers.

(10) § 600.1015. This section is new. This provision is necessary to ensure prompt payment.

(11) § 600.1016. This section is new. This provision is necessary to ensure compliance.

The interim final rule further revises the proposed rule to make the rule briefer, clearer, and more internally consistent.

NOAA codifies its OMB control numbers for information collection at 15 CFR part 902. Part 902 collects and displays the control numbers OMB assigned to NOAA's information collection requirements pursuant to the Paperwork Reduction Act (PRA). This interim final rule codifies OMB control number 0648-0376 and OMB control number 0648-0413 for Part 600 Subpart L—Fishing Vessel Capacity Reduction.

Classification

The Assistant Administrator for Fisheries, NMFS, determined that this interim final rule is consistent with the Magnuson-Stevens Act and other applicable laws.

This interim final rule has been determined to be significant for purposes of E.O. 12866, and a Regulatory Impact Review has been prepared by NMFS (see ADDRESSES).

The Chief Counsel for Regulation of the Department of Commerce certified to the Chief Counsel for Advocacy of the Small Business Administration when this rule was proposed that, if adopted as proposed, it would not have a significant economic impact on a substantial number of small entities. NMFS received no comments about this certification. Because this interim final rule only establishes a framework for implementing future reduction programs in specific reduction fisheries, each future reduction program will require its own implementation regulations and analysis of effects on small entities. As a result, a regulatory flexibility analysis was not prepared.

Notwithstanding any other provision of law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with, a collection of information subject to the requirements of the PRA unless that collection of information displays a currently valid OMB control number.

This interim final rule contains new collection of information requirements subject to the PRA that have been approved by OMB, under OMB Control No. 0648-0376. The estimates of the public reporting burden for these requirements are: 6,634 hours for developing a business plan, 4 hours per voter for a referendum, four hours to make a bid, 10 minutes per fishing trip to maintain records on transactions, 2 hours for a buyer's monthly report, 4 hours for a buyer's annual report, 2 hours for a buyer/seller report (where either a buyer refuses to a fee or the seller refuses to pay the fee to the

buyer), and 270 hours for state approval of a business plan and amendments to a state fishery management plan.

Emergency clearance has also been obtained under OMB Control Number 0648-0413 to conduct, in accordance with the interim final rule's revised referenda procedures, more than one referendum for each reduction program if the circumstances of a reduction program require multiple referenda. The response time per voter for these referenda is 4 hours. NMFS intends to ask OMB for a three-year extension of the clearance for these requirements, which are currently only approved on an emergency basis.

The response time estimates above include the time needed for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and revising the collection of information.

Send comments regarding the extension of the emergency clearance or any other aspect of the collection of information requirements contained in this rule, including the burden hour estimates, and suggestions for reducing the burdens to NMFS (see ADDRESSES) and to OMB (see ADDRESSES).

List of Subjects

15 CFR Part 902

Reporting and recordkeeping requirements.

50 CFR Part 600

Fishing capacity reduction, Fisheries, Fishing permits, Fishing vessels, Intergovernmental relations, Loan programs-business, Reporting and recordkeeping requirements.

Dated: May 8, 2000.

Penelope D. Dalton,

Assistant Administrator for Fisheries, National Marine Fisheries Services.

For the reasons set out in the preamble, 15 CFR part 902, chapter IX, is amended and 50 CFR part 600 is amended as follows:

15 CFR Chapter IX

PART 902—NOAA INFORMATION COLLECTION REQUIREMENTS UNDER THE PAPERWORK REDUCTION ACT; OMB CONTROL NUMBERS

1. The authority citation for part 902 continues to read as follows:

Authority: 44 U.S.C. 3501 *et seq.*

2. In § 902.1, the table in paragraph (b) is amended by adding under 50 CFR the following entries in numerical order:

§ 902.1 OMB control numbers assigned pursuant to the Paperwork Reduction Act.

* * * * *

(b) * * *

CFR part or section where the information collection requirement is located	Current OMB control number (All numbers begin with 0648-)
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50 CFR	
600.1001	- 0376
600.1003	- 0376
600.1005	- 0376
600.1006	- 0376
600.1009	- 0376
600.1010	- 0376 and-0413
600.1011	- 0376
600.1012	- 0376
600.1013	- 0376
600.1014	- 0376

3. The authority citation for 50 CFR part 600 continues to read as follows:

Authority: 5 U.S.C. 561 and 16 U.S.C. 1801 *et seq.*

4. In § 600.5, a paragraph (c) is added to read as follows:

§ 600.5 Purpose and scope.

* * * * *

(c) This part also governs fishing capacity reduction programs under the Magnuson-Stevens Act.

5. A subpart L is added to read as follows:

50 CFR Chapter VI

PART 600 MAGNUSON-STEVENSONS ACT PROVISIONS

Subpart L—Fishing Capacity Reduction

Sec.

600.1000	Definitions.
600.1001	Requests.
600.1002	General requirements.
600.1003	Content of a request for a financed program.
600.1004	Accepting a request for, and determinations about initiating, a financed program.
600.1005	Content of a request for a subsidized program.
600.1006	Accepting a request for, and determinations about conducting, a subsidized program.
600.1007	Reduction amendments.
600.1008	Implementation plan and implementation regulations.
600.1009	Bids.
600.1010	Referenda.
600.1011	Reduction methods and other conditions.
600.1012	Reduction loan.
600.1013	Fee payment and collection.
600.1014	Fee collection deposits, disbursements, records, and reports.
600.1015	Late charges.
600.1016	Enforcement.
600.1017	Prohibitions and penalties.

600.1018 Implementation regulations for each program. [Reserved]

Subpart L—Fishing Capacity Reduction

Authority: 16 U.S.C. 1861a(b)–(e).

§ 600.1000 Definitions.

In addition to the definitions in the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) and in § 600.10 of this title, the terms used in this subpart have the following meanings:

Address of Record means the business address of a person, partnership, or corporation. Addresses listed on permits or other NMFS records are presumed to be business addresses, unless clearly indicated otherwise.

Bid means the price a vessel owner or reduction fishery permit holder requests for reduction of his/her fishing capacity. It is an irrevocable offer in response to the invitation to bid in § 600.1009.

Borrower means, individually and collectively, each post-reduction fishing permit holder and/or fishing vessel owner fishing in the reduction fishery.

Business plan means the document containing the information specified in § 600.1003(n) and required to be submitted with a request for a financed program.

Business week means a 7-day period, Saturday through Friday.

Controlling fishery management plan or program (CFMP) means either any fishery management plan or any state fishery management plan or program, including amendments to the plan or program, pursuant to which a fishery is managed.

Delivery value means:

(1) For unprocessed fish, all compensation that a fish buyer pays to a fish seller in exchange for fee fish; and

(2) For processed fish, all compensation that a fish buyer would have paid to a fish seller in exchange for fee fish if the fee fish had been unprocessed fish instead of processed fish.

Delivery value encompasses fair market value, as defined herein, and includes the value of all in-kind compensation or all other goods or services exchanged in lieu of cash. It is synonymous with the statutory term "ex-vessel value" as used in section 312 of the Magnuson Act.

Deposit principal means all collected fee revenue that a fish buyer deposits in a segregated account maintained at a federally insured financial institution for the sole purpose of aggregating collected fee revenue before sending the fee revenue to NMFS for repaying a reduction loan.

Fair market value means the amount that a buyer pays a seller in an arm's length transaction or, alternatively, would pay a seller if the transaction were at arm's length.

Fee means the amount that fish buyers deduct from the delivery value under a financed reduction program. The fee is the delivery value times the reduction fishery's applicable fee rate under section 600.1013.

Fee fish means all fish harvested from a reduction fishery involving a financed program during the period in which any amount of the reduction loan remains unpaid. The term fee fish excludes fish harvested incidentally while fishing for fish not included in the reduction fishery.

Final development plan means the document NMFS prepares, under § 600.1006(b) and based on the preliminary development plan the requester submits, for a subsidized program.

Financed means funded, in any part, by a reduction loan.

Fish buyer means the first ex-vessel party who:

(1) in an arm's-length transaction, purchases fee fish from a fish seller;

(2) takes fish on consignment from a fish seller; or

(3) otherwise receives fish from a fish seller in a non arm's-length transaction.

Fish delivery means the point at which a fish buyer first purchases fee fish or takes possession of fee fish from a fish seller.

Fishing capacity reduction specifications means the minimum amount of fishing capacity reduction and the maximum amount of reduction loan principal specified in a business plan.

Fish seller means the party who harvests and first sells or otherwise delivers fee fish to a fish buyer.

Fishery Management Plan (FMP) means any Federal fishery management plan, including amendments to the plan, that the Secretary of Commerce approves or adopts pursuant to section 303 of the Magnuson-Stevens Act.

Fund means the Fishing Capacity Reduction Fund, and each subaccount for each program, established in the U.S. Treasury for the deposit into, and disbursement from, all funds, including all reduction loan capital and all fee revenue, involving each program.

Implementation plan means the plan in § 600.1008 for carrying out each program.

Implementation regulations mean the regulations in § 600.1008 for carrying out each program.

Net delivery value means the delivery value minus the fee.

Post-bidding referendum means a referendum that follows bidding under § 600.1009.

Post-reduction means after a program reduces fishing capacity in a reduction fishery.

Pre-bidding referendum means a referendum that occurs at any time after a request for a financed program but before a proposal under § 600.1008 of a implementation plan and implementation regulations.

Preliminary development plan means the document specified in § 600.1005(g) and required to be submitted with a request for a subsidized program.

Processed fish means fish in any form different from the form in which the fish existed at the time the fish was first harvested, unless any such difference in form represents, in the reduction fishery involved, the standard ex-vessel form upon which fish sellers and fish buyers characteristically base the delivery value of unprocessed fish.

Program means each instance of reduction under this subpart, in each reduction fishery—starting with a request and ending, for a financed program, with full reduction loan repayment.

Reduction means the act of reducing fishing capacity under any program.

Reduction amendment means any amendment, or, where appropriate, framework adjustment, to a CFMP that may be necessary for a program to meet the requirements of this subpart.

Reduction amendment specifications mean the reduction amendment to a CFMP specified in a business plan.

Reduction contract means the invitation to bid under § 600.1009, together with each bidder's irrevocable offer and NMFS' conditional or non-conditional acceptance of each such bid under § 600.1009.

Reduction cost means the total dollar amount of all reduction payments to fishing permit owners, fishing vessel owners, or both, in a reduction fishery.

Reduction fishery means the fishery or portion of a fishery to which a program applies. The reduction fishery must specify each included species, as well as any limitations by gear type, fishing vessel size, geographic area, and any other relevant factor(s).

Reduction loan means a loan, under section 1111 and section 1112 of Title XI of the Merchant Marine Act, 1936, as amended (46 U.S.C. 1279f and g App.), for financing any portion, or all, of a financed program's reduction cost and

repayable by a fee under, and in accordance with, § 600.1012, § 600.1013, and § 600.1014.

Reduction payment means the Federal Government's fishing capacity reduction payment to a fishing permit owner, fishing vessel owner, or both, under a reduction contract. Additionally, it is payment for reduction to each bidder whose bid NMFS accepts under § 600.1009. In a financed program each reduction payment constitutes a disbursement of a reduction loan's proceeds and is for either revoking a fishing permit or both revoking a fishing permit and withdrawing a vessel from fishing either by scrapping or title restriction.

Reduction permit means any fishing permit revoked in a program in exchange for a reduction payment under a reduction contract.

Reduction vessel means any fishing vessel withdrawn from fishing either by scrapping or title restriction in exchange for a reduction payment under a reduction contract.

Referendum means the voting process under § 600.1010 for approving the fee system for repaying a reduction loan.

Request means a request, under § 600.1001, for a program.

Requester means a Council for a fishery identified in § 600.1001(c), a state governor for a fishery identified in § 600.1001(d), or the Secretary for a fishery identified in § 600.1001(e).

Scrap means to completely and permanently reduce a fishing vessel's hull, superstructures, and other fixed structural components to fragments having value, if any, only as raw materials for reprocessing or for other non-fisheries use.

Subsidized means wholly funded by anything other than a reduction loan.

Treasury percentage means the annual percentage rate at which NMFS must pay interest to the U.S. Treasury on any principal amount that NMFS borrows from the U.S. Treasury in order to generate the funds with which to later disburse a reduction loan's principal amount.

Unprocessed fish means fish in the same form as the fish existed at the time the fish was harvested, unless any difference in form represents, in the reduction fishery involved, the standard ex-vessel form upon which fish sellers and fish buyers characteristically base the delivery value of unprocessed fish.

Vote means a vote in a referendum.

§ 600.1001 Requests.

(a) A Council or the Governor of a State under whose authority a proposed reduction fishery is subject may request that NMFS conduct a program in that

fishery. Each request shall be in writing and shall be submitted to the Director, Office of Sustainable Fisheries, NMFS. Each request shall satisfy the requirements of § 600.1003 or § 600.1005, as applicable, and enable NMFS to make the determinations required by § 600.1004 or § 600.1006, as applicable.

(b) NMFS cannot conduct a program in any fishery subject to the jurisdiction of a Council or a state unless NMFS first receives a request from the Council or the governor to whose jurisdiction the fishery is subject.

(c) For a fishery subject to the jurisdiction of a Council, only that Council can or must make the request. If the fishery is subject to the jurisdiction of two or more Councils, those Councils must make a joint request. No Council may make a request, or join in making a request, until after the Council conducts a public hearing about the request.

(d) For a fishery subject to the jurisdiction of a State, only the Governor of that State can make the request. If the fishery is subject to the jurisdiction of two or more states, the Governors of those States shall make a joint request. No Governor of a State may make a request, or join in making a request, until the State conducts a public hearing about the request.

(e) For a fishery under the direct management authority of the Secretary, NMFS may conduct a program on NMFS' own motion by fulfilling the requirements of this subpart that reasonably apply to a program not initiated by a request.

(f) Where necessary to accommodate special circumstances in a particular fishery, NMFS may waive, as NMFS deems necessary and appropriate, compliance with any specific requirements under this subpart not required by statute.

§ 600.1002 General requirements.

(a) Each program must be: (1) Necessary to prevent or end overfishing, rebuild stocks of fish, or achieve measurable and significant improvements in the conservation and management of the reduction fishery;

(2) Accompanied by the appropriate environmental, economic and/or socioeconomic analyses, in accordance with applicable statutes, regulations, or other authorities; and

(3) Consistent with the CFMP, including any reduction amendment, for the reduction fishery.

(b) Each CFMP for a reduction fishery must: (1) Prevent the replacement of fishing capacity removed by the program through a moratorium on new

entrants, restrictions on vessel upgrades, and other effort control measures, taking into account the full potential fishing capacity of the fleet;

(2) Establish a specified or target total allowable catch or other measures that trigger closure of the fishery or adjustments to reduce catch; and

(3) Include, for a financed program in a reduction fishery involving only a portion of a fishery, appropriate provisions for the post-reduction allocation of fish between the reduction fishery and the rest of the fishery that both protect the borrower's reduction investment in the program and support the borrower's ability to repay the reduction loan.

§ 600.1003 Content of a request for a financed program.

A request for a financed program shall:

(a) Specify the reduction fishery.
(b) Project the amount of the reduction and specify what a reduction of that amount achieves in the reduction fishery.

(c) Specify whether the program is to be wholly or partially financed and, if the latter, specify the amount and describe the availability of all funding from sources other than a reduction loan.

(d) Project the availability of all Federal appropriation authority or other funding, if any, that the financed program requires, including the time at which funding from each source will be available and how that relates to the time at which elements of the reduction process are projected to occur.

(e) Demonstrate how the program meets, or will meet after an appropriate reduction amendment, the requirements in § 600.1002(a).

(f) Demonstrate how the CFMP meets, or will meet after an appropriate reduction amendment, the requirements in § 600.1002(b).

(g) If a reduction amendment is necessary, include an actual reduction amendment or the requester's endorsement in principle of the reduction amendment specifications in the business plan. Endorsement in principle is non-binding.

(h) Request that NMFS conduct, at the appropriate time, a referendum under § 600.1010 of this subpart.

(i) List the names and addresses of record of all fishing permit or fishing vessel owners who are currently authorized to harvest fish from the reduction fishery, excluding those whose authority is limited to incidentally harvesting fish from the reduction fishery during directed fishing for fish not in the reduction

fishery. The list shall be based on the best information available to the requester. The list shall take into account any limitation by type of fishing gear operated, size of fishing vessel operated, geographic area of operation, or other factor that the proposed program involves. The list may include any relevant information that NMFS may supply to the requester.

(j) Specify the aggregate total allowable catch in the reduction fishery during each of the preceding 5 years and the aggregate portion of such catch harvested by the parties listed under paragraph (i) of this section.

(k) Specify the criteria for determining the types and number of fishing permits or fishing permits and fishing vessels that are eligible for reduction under the program. The criteria shall take into account:

- (1) The characteristics of the fishery;
- (2) Whether the program is limited to a particular gear type within the reduction fishery or is otherwise limited by size of fishing vessel operated, geographic area of operation, or other factor;
- (3) Whether the program is limited to fishing permits or involves both fishing permits and fishing vessels;
- (4) The reduction amendment required;
- (5) The needs of fishing communities;
- (6) Minimizing the program's reduction cost; and
- (7) All other relevant factors.

(l) Include the requester's assessment of the program's potential impact on fisheries other than the reduction fishery, including an evaluation of the likely increase in participation or effort in such other fisheries, the general economic impact on such other fisheries, and recommendations that could mitigate, or enable such other fisheries to mitigate, any undesirable impacts.

(m) Include any other information or guidance that would assist NMFS in developing an implementation plan and implementation regulations.

(n) Include a business plan, prepared by, or on behalf of, knowledgeable and concerned harvesters in the reduction fishery, that:

(1) Specifies a detailed reduction methodology that accomplishes the maximum sustained reduction in the reduction fishery's fishing capacity at the least reduction cost and in the minimum period of time, and otherwise achieves the program result that the requester specifies under paragraph (b) of this section. The methodology shall:

(i) Establish the appropriate point for NMFS to conduct a pre-bidding

referendum and be sufficiently detailed to enable NMFS to readily:

- (A) Design, propose, and adopt a timely and reliable implementation plan,
- (B) Propose and issue timely and reliable implementation regulations,
- (C) Invite bids,
- (D) Accept or reject bids, and
- (E) Complete a program in accordance with this subpart, and
- (ii) Address, consistently with this subpart:
 - (A) The contents and terms of invitations to bid,
 - (B) Bidder eligibility,
 - (C) The type of information that bidders shall supply,
 - (D) The criteria for accepting or rejecting bids,
 - (E) The terms of bid acceptances,
 - (F) Any referendum procedures in addition to, but consistent with, those in § 600.1010, and
 - (G) All other technical matters necessary to conduct a program;

(2) Projects and supports the reduction fishery's annual delivery value during the reduction loan's repayment period based on documented analysis of actual representative experience for a reasonable number of past years in the reduction fishery;

(3) Includes the fishing capacity reduction specifications upon which both the pre-bidding referendum and the bidding under § 600.1009 will be based. The reduction loan's maximum principal amount cannot, at the interest rate projected to prevail at the time of reduction, exceed the principal amount that can be amortized in 20 years by 5 percent of the projected delivery value;

(4) States the reduction loan's repayment term and the fee rate, or range of fee rates, prospectively necessary to amortize the reduction loan over its repayment term;

(5) Analyzes and demonstrates the ability to repay the reduction loan at the minimum reduction level and at various reduction-level increments reasonably greater than the minimum one, based on the:

(i) Best and most representative historical fishing revenue and expense data and any other relevant productivity measures available in the reduction fishery, and

(ii) Projected effect of the program on the post-reduction operating economics of typical harvesters in the reduction fishery, with particular emphasis on the extent to which the reduction increases the ratio of delivery value to fixed cost and improves harvesting's other relevant productivity measures;

(6) Demonstrates how the business plan's proposed program meets, or will

meet after an appropriate reduction amendment, the requirements in § 600.1002(a);

(7) Demonstrates how the CFMP meets, or will meet after an appropriate reduction amendment, the requirements in § 600.1002(b);

(8) Includes, if a reduction amendment is necessary, the reduction amendment specifications upon which the pre-bidding referendum will be based;

(9) Includes an assessment of the program's potential impact on fisheries other than the reduction fishery, including an evaluation of the likely increase in participation or effort in such other fisheries, the general economic impact on such other fisheries, and recommendations that could mitigate, or enable such other fisheries to mitigate, any undesirable impacts;

(10) Specifies the names and addresses of record of all fish buyers who can, after reduction, reasonably be expected to receive deliveries of fee fish. This shall be based on the best information available, including any information that NMFS may be able to supply to the business planners;

(11) Specifies, after full consultation with fish buyers, any special circumstances in the reduction fishery that may require the implementing regulations to contain provisions in addition to, or different from, those contained in § 600.1013 and/or § 600.1014 in order to accommodate the circumstances of, and practices in, the reduction fishery while still fulfilling the intent and purpose of § 600.1013 and/or § 600.1014—including, but not limited to:

(i) In the case of reduction fisheries in which state data confidentiality laws or other impediments may negatively affect the efficient and effective conduct of the same, specification of who needs to take what action to resolve any such impediments, and

(ii) In the case of reduction fisheries in which some fish sellers sell unprocessed, and other fish sellers sell processed fish to fish buyers, specification of an accurate and efficient method of establishing the delivery value of processed fish; and

(12) Demonstrates by a survey of potential voters, or by any other convincing means, a substantial degree of potential voter support for the business plan and confidence in its feasibility.

(o) Include the requester's statement of belief that the business plan, the CFMP, the reduction amendment specifications, and all other request aspects constitute a complete, realistic,

and practical prospect for successfully completing a program in accordance with this subpart.

§ 600.1004 Accepting a request for, and determinations about initiating, a financed program.

(a) *Accepting a request.* Once it receives a request, NMFS will review any request for a financed program to determine whether the request conforms with the requirements of § 600.1003. If the request does not conform, NMFS will return the request with guidance on how to make the request conform. If the request conforms, NMFS shall accept it and publish a notice in the **Federal Register** requesting public comments on the request. Such notice shall state the name and address of record of each eligible voter, as well as the basis for having determined the eligibility of those voters. This shall constitute notice and opportunity to respond about adding eligible voters, deleting ineligible voters, and/or correcting any voter's name and address of record. If, in NMFS' discretion, the comments received in response to such notice warrants it, or other good cause warrants it, NMFS may modify such list by publishing another notice in the **Federal Register**.

(b) *Determination about initiating a financed program.* After receipt of a conforming request for a financed program, NMFS will, after reviewing and responding to any public comments received in response to the notice published in the **Federal Register** under paragraph (a) of this section, initiate the program if NMFS determines that: (1) The program meets, or will meet after an appropriate reduction amendment, the requirements in § 600.1002(a);

(2) The CFMP meets, or will meet after an appropriate reduction amendment, the requirements in § 600.1002(b);

(3) The program, if successfully implemented, is cost effective;

(4) The reduction requested constitutes a realistic and practical prospect for successfully completing a program in accordance with this subpart and the borrower is capable of repaying the reduction loan. This includes enabling NMFS to readily design, propose, and adopt a timely and reliable implementation plan as well as propose and issue timely and reliable implementation regulations and otherwise complete the program in accordance with this subpart; and

(5) The program accords with all other applicable law;

§ 600.1005 Content of a request for a subsidized program.

A request for a subsidized program shall:

(a) Specify the reduction fishery.
(b) Project the amount of the reduction and specify what a reduction of that amount achieves in the reduction fishery.

(c) Project the reduction cost, the amount of reduction cost to be funded by Federal appropriations, and the amount, if any, to be funded by other sources.

(d) Project the availability of Federal appropriations or other funding, if any, that completion of the program requires, including the time at which funding from each source will be available and how that relates to the time at which elements of the reduction process are projected to occur.

(e) List the names and addresses of record of all fishing permit or fishing vessel owners who are currently authorized to harvest fish from the reduction fishery, excluding those whose authority is limited to incidentally harvesting fish from the reduction fishery during directed fishing for fish not in the reduction fishery. The list shall be based on the best information available to the requester, including any information that NMFS may supply to the requester, and take into account any limitation by type of fishing gear operated, size of fishing vessel operated, geographic area of operation, or other factor that the proposed program involves.

(f) Specify the aggregate total allowable catch in the reduction fishery during each of the preceding 5 years and the aggregate portion of such catch harvested by the parties listed under paragraph (e) of this section.

(g) Include a preliminary development plan that: (1) Specifies a detailed reduction methodology that accomplishes the maximum sustained reduction in the reduction fishery's fishing capacity at the least cost and in a minimum period of time, and otherwise achieves the program result that the requester specifies under paragraph (b) of this section. The methodology shall:

(i) Be sufficiently detailed to enable NMFS to prepare a final development plan to serve as the basis for NMFS to readily design, propose, and adopt a timely and reliable implementation plan and propose and issue timely and reliable implementation regulations, and

(ii) Include:
(A) The contents and terms of invitations to bid,
(B) Eligible bidders,

(C) The type of information that bidders shall supply,

(D) The criteria for accepting or rejecting bids, and

(E) The terms of bid acceptances;

(2) Specifies the criteria for determining the types and numbers of fishing permits or fishing permits and fishing vessels that are eligible for reduction under the program. The criteria shall take into account:

(i) The characteristics of the fishery,

(ii) Whether the program is limited to a particular gear type within the reduction fishery, or is otherwise limited by size of fishing vessel operated, geographic area of operation, or other factor,

(iii) Whether the program is limited to fishing permits or involves both fishing permits and fishing vessels,

(iv) The reduction amendment required,

(v) The needs of fishing communities, and

(vi) The need to minimize the program's reduction cost; and

(3) Demonstrates the program's cost effectiveness.

(h) Demonstrate how the program meets, or will meet after an appropriate reduction amendment, the requirements in § 600.1002(a).

(i) Demonstrate how the CFMP meets, or will meet after an appropriate reduction amendment, the requirements in § 600.1002(b)(1) and (2).

(j) Specify any other information or guidance that assists NMFS in preparing a final development plan and a proposed implementation plan and proposed implementation regulations.

(k) Include the requester's statement of belief that the program constitutes a reasonably realistic and practical prospect for successfully completing a program in accordance with this subpart.

§ 600.1006 Accepting a request for, and determinations about conducting, a subsidized program.

(a) *Accepting a request.* NMFS will review any request for a subsidized program submitted to NMFS to determine whether the request conforms with the requirements of § 600.1005. If the request does not conform, NMFS will return it with guidance on how to make the request conform. If the request conforms, NMFS shall accept it and publish a notice in the **Federal Register** requesting public comments about the request.

(b) *Final development plan.* After receipt of a conforming request, NMFS will prepare a final development plan if NMFS determines that the reduction requested constitutes a realistic and

practical prospect for successfully completing a program in accordance with this subpart. This includes enabling NMFS to readily design, propose, and adopt a timely and reliable implementation plan as well as propose and issue timely and reliable implementation regulations and otherwise complete the program in accordance with this subpart. NMFS will, as far as possible, base the final development plan on the requester's preliminary development plan. Before completing the final development plan, NMFS will consult, as NMFS deems necessary, with the requester, Federal agencies, state and regional authorities, affected fishing communities, participants in the reduction fishery, conservation organizations, and other interested parties in preparing the final development plan.

(c) *Reaffirmation of the request.* After completing the final development plan, NMFS will submit the plan to the requester for the requester's reaffirmation of the request. Based on the final development plan, the reaffirmation shall: (1) Certify that the final development plan meets, or will meet after an appropriate reduction amendment, the requirements in § 600.1002(a);

(2) Certify that the CFMP meets, or will meet after an appropriate reduction amendment, the requirements in § 600.1002(b)(1) and (2); and

(3) Project the date on which the requester will forward any necessary reduction amendment and, if the requester is a Council, proposed regulations to implement the reduction amendment. The requester shall base any necessary reduction amendment on the final development plan.

(d) *Determinations about conducting a subsidized program.* After NMFS' receipt of the requester's reaffirmation, any required reduction amendment, and any proposed regulations required to implement the amendment, NMFS will initiate the program if NMFS determines that: (1) The program meets, or will meet after an appropriate reduction amendment, the requirements in § 600.1002(a);

(2) The CFMP meets, or will meet after an appropriate reduction amendment, the requirements in § 600.1002(b)(1) and (2); and

(3) The program is reasonably capable of being successfully implemented;

(4) The program, if successfully implemented, will be cost effective; and

(5) The program is in accord with all other applicable provisions of the Magnuson-Stevens Act and this subpart.

§ 600.1007 Reduction amendments.

(a) Each reduction amendment may contain provisions that are either dependent upon or independent of a program. Each provision of a reduction amendment is a dependent provision unless the amendment expressly designates the provision as independent.

(b) Independent provisions are effective without regard to any subsequent program actions.

(c) Dependent provisions are initially effective for the sole limited purpose of enabling initiation and completion of the pre-reduction processing stage of a program.

(d) All dependent provisions of a reduction amendment for a financed program are fully in force and effect for all other purposes only when NMFS either: (1) For bidding results that conform to the fishing capacity reduction specifications and are not subject to any other condition, notifies bidders, under § 600.1009(e)(3), that reduction contracts then exist between the bidders and the United States; or

(2) For bidding results that do not conform to the fishing capacity reduction specifications or are subject to any other condition, notifies bidders whose bids NMFS had conditionally accepted, under § 600.1010 (d)(8)(iii), that the condition pertaining to the reduction contracts between them and the United States is fulfilled.

(e) If NMFS does not, in accordance with this subpart and any special provisions in the implementation regulations, subsequently make all reduction payments that circumstances, in NMFS' judgment, reasonably permit NMFS to make and, thus, complete a program, no dependent provisions shall then have any further force or effect for any purpose and all final regulations involving such dependent provisions shall then be repealed.

§ 600.1008 Implementation plan and implementation regulations.

(a) As soon as practicable after deciding to initiate a program, NMFS will prepare and publish, for a 60-day public comment period, a proposed implementation plan and implementation regulations. During the public comment period, NMFS will conduct a public hearing of the proposed implementation plan and implementation regulations in each state that the program affects.

(b) To the greatest extent practicable, NMFS will base the implementation plan and implementation regulations for a financed program on the business plan. The implementation plan for a financed program will describe in detail

all relevant aspects of implementing the program, including:

- (1) The reduction fishery;
- (2) The reduction methodology;
- (3) The maximum reduction cost;
- (4) The maximum reduction loan amount, if different from the maximum reduction cost;
- (5) The reduction cost funding, if any, other than a reduction loan;
- (6) The minimum acceptable reduction level;
- (7) The potential amount of the fee;
- (8) The criteria for determining the types and number of fishing permits or fishing permits and fishing vessels eligible to participate in the program;
- (9) The invitation to bid and bidding procedures;
- (10) The criteria for determining bid acceptance;
- (11) The referendum procedures; and
- (12) Any relevant post-referendum reduction procedures other than those in the implementation regulations or this subpart.

(c) NMFS will base each implementation plan and implementation regulations for a subsidized program on the final development plan. The implementation plan will describe in detail all relevant aspects of implementing the program, including:

- (1) The reduction fishery;
- (2) The reduction methodology;
- (3) The maximum reduction cost;
- (4) The reduction-cost funding, if any, other than Federal appropriations;
- (5) The criteria for determining the types and number of fishing permits or fishing permits and fishing vessels eligible to participate in the program;
- (6) The invitation to bid and bidding procedures;
- (7) The criteria for determining bid acceptance; and
- (8) Any relevant post-bidding program procedures other than those in the implementation regulations or this subpart.

(d) The implementation regulations will:

- (1) Specify, for invitations to bid, bids, and reduction contracts under § 600.1009:
 - (i) Bidder eligibility,
 - (ii) Bid submission requirements and procedures,
 - (iii) A bid opening date, before which a bidder may not bid, and a bid closing date, after which a bidder may not bid,
 - (iv) A bid expiration date after which the irrevocable offer contained in each bid expires unless NMFS, before that date, accepts the bid by mailing a written acceptance notice to the bidder at the bidder's address of record,
 - (v) The manner of bid submission and the information each bidder shall

supply for NMFS to deem a bid responsive,

- (vi) The conditions under which NMFS will accept or reject a bid,
- (vii) The manner in which NMFS will accept or reject a bid, and
- (viii) The manner in which NMFS will notify each bidder of bid acceptance or rejection;
- (2) Specify any other special referendum procedures or criteria; and
- (3) Specify such other provisions, in addition to and consistent with those in this subpart, necessary to regulate the individual terms and conditions of each program and reduction loan. This includes, but is not limited to:
 - (i) Provisions for the payment of costs and penalties for non-payment, non-collection, non-deposit, and/or non-disbursement of the fee in accordance with § 600.1013 and § 600.1014,
 - (ii) Prospective fee rate determinations, and
 - (iii) Any other aspect of fee payment, collection, deposit, disbursement, accounting, record keeping, and/or reporting.

(e) NMFS will issue final implementation regulations and adopt a final implementation plan within 45 days of the close of the public-comment period.

(f) NMFS may repeal the final implementation regulations for any program if: (1) For a financed program, the bidding results do not conform to the fishing capacity reduction specifications or a post-bidding referendum does not subsequently approve an industry fee system based on the bidding results;

- (2) For a subsidized program, NMFS does not accept bids; and
- (3) For either a financed program or a subsidized program, if NMFS is unable to make all reduction payments due to a material adverse change.

§ 600.1009 Bids.

(a) Each invitation to bid, bid, bid acceptance, reduction contract, and bidder—or any other party in any way affected by any of the foregoing—under this subpart is subject to the terms and conditions in this section: (1) Each invitation to bid constitutes the entire terms and conditions of a reduction contract under which:

- (i) Each bidder makes an irrevocable offer to the United States of fishing capacity for reduction, and
- (ii) NMFS accepts or rejects, on behalf of the United States, each bidder's offer;
- (2) NMFS may, at any time before the bid expiration date, accept or reject any or all bids;
- (3) For a financed program in which bidding results do not conform to the

fishing capacity reduction specifications, NMFS' acceptance of any bid is subject to the condition that the industry fee system necessary to repay the reduction loan is subsequently approved by a successful post-bidding referendum conducted under § 600.1010. Approval or disapproval of the industry fee system by post-bidding referendum is an event that neither the United States nor the bidders can control. Disapproval of the industry fee system by an unsuccessful post-bidding referendum fully excuses both parties from any performance and fully discharges all duties under any reduction contract;

(4) For a financed program in one reduction fishery that is being conducted under appropriate implementation regulations simultaneously with another financed program in another reduction fishery, where the acceptance of bids for each financed program is conditional upon successful post-bidding referenda approving industry fee systems for both financed programs, NMFS' acceptance of all bids is, in addition to any condition under paragraph (a)(3) of this section, also subject to the additional conditions that both referenda approve the industry fee systems required for both financed programs—all as otherwise provided in paragraph (a)(3) of this section;

(5) Upon NMFS' acceptance of the bid and tender of a reduction payment, the bidder consents to:

- (i) The revocation, by NMFS, of any reduction permit, and
- (ii) Where the program also involves the withdrawal of reduction vessels from fishing:

(A) Title restrictions imposed by the U.S. Coast Guard on any reduction vessel that is federally documented to forever prohibit and effectively prevent any future use of the reduction vessel for fishing in any area subject to the jurisdiction of the United States or any state, territory, commonwealth, or possession of the United States, or

(B) Where reduction vessel scrapping is involved and the reduction vessel's owner does not comply with the owner's obligation under the reduction contract to scrap the reduction vessel, take such measures as necessary to cause the reduction vessel's prompt scrapping. The scrapping will be at the reduction vessel owner's risk and expense. Upon completion of scrapping, NMFS will take such action as may be necessary to recover from the reduction vessel owner any cost or expense NMFS incurred in causing the reduction vessel to be scrapped and any other damages NMFS may have incurred and such

owner shall be liable to the United States for such cost, expenses, and damages;

(6) Money damages not being an adequate remedy for a bidder's breach of a reduction contract, the United States is, in all particulars, entitled to specific performance of each reduction contract. This includes, but is not limited to, the scrapping of a reduction vessel;

(7) Any reduction payment is available, upon timely and adequately documented notice to NMFS, to satisfy liens, as allowed by law, against any reduction permit/and or reduction vessel; provided, however, that:

(i) No reduction payment to any bidder either relieves the bidder of responsibility to discharge the obligation which gives rise to any lien or relieves any lien holder of responsibility to protect the lien holder's interest,

(ii) No reduction payment in any way gives rise to any liability of the United States for the obligation underlying any lien,

(iii) No lien holder has any right or standing, not otherwise provided by law, against the United States in connection with the revocation of any reduction permit or the title restriction or scrapping of any reduction vessel under this subpart, and

(iv) This subpart does not provide any lien holder with any right or standing to seek to set aside any revocation of any reduction permit or the title restriction or scrapping of any reduction vessel for which the United States made, or has agreed to make, any reduction payment. A lien holder is limited to recovery against the holder of the reduction permit or the owner of the reduction vessel as otherwise provided by law; and

(8) Each invitation to bid may specify such other terms and conditions as NMFS believes necessary to enforce specific performance of each reduction contract or otherwise to ensure completing each program. This includes, but is not limited to, each bidder's certification, subject to the penalties in § 600.1017, of the bidder's full authority to submit each bid and to dispose of the property involved in the bid in the manner contemplated by each invitation to bid.

(b) NMFS will not invite bids for any program until NMFS determines that: (1) Any necessary reduction amendment is fully and finally approved and all provisions except those dependent on the completion of reduction are implemented;

(2) The final implementation plan is adopted and the final implementation regulations are issued;

(3) All required program funding is approved and in place, including all Federal appropriation and apportionment authority;

(4) Any reduction loan involved is fully approved;

(5) Any non-Federal funding involved is fully available at the required time for NMFS disbursement as reduction payments; and

(6) All other actions necessary to disburse reduction payments, except for matters involving bidding and post-bidding referenda, are completed.

(c) After making the affirmative determinations required under paragraph (b) of this section, NMFS will publish a **Federal Register** notice inviting eligible bidders to offer to the United States, under this subpart, fishing capacity for reduction.

(d) NMFS may extend a bid closing date and/or a bid expiration date for a reasonable period. NMFS may also issue serial invitations to bid if the result of previous bidding, in NMFS' judgment, warrant this.

(e) After the bid expiration date, NMFS will: (1) Analyze responsive bids; (2) Determine which bids, if any, NMFS accepts; and

(3) Notify, by U.S. mail at each bidder's address of record, those bidders whose bids NMFS accepts that a reduction contract now exists between them and the United States—subject, where appropriate, to the conditions provided for elsewhere in this subpart.

(f) NMFS will keep confidential the identity of all bidders whose bids NMFS does not accept. In financed programs where bidding results do not conform to the fishing capacity reduction specifications, NMFS also will keep confidential the identity of all bidders whose bids NMFS does accept until after completing a successful post-bidding referendum under § 600.1010.

§ 600.1010 Referenda.

(a) *Referendum success.* A referendum is successful if at least two-thirds of the ballots that qualify to be counted as referendum votes under subparagraph (d)(6) of this section are cast in favor of an industry fee system.

(b) *Pre-bidding referendum*—(1) *Initial referendum.* An initial pre-bidding referendum shall be conducted for each financed program. The business plan shall, subject to this subpart, determine the chronological relationship of the initial pre-bidding referendum to other pre-bidding aspects of the reduction process sequence. The initial pre-bidding referendum shall be based on the fishing capacity reduction specifications. If the initial pre-bidding

referendum precedes the adoption of any necessary reduction amendment, the initial pre-bidding referendum shall also be based on the reduction amendment specifications. If the initial pre-bidding referendum follows the adoption of any necessary reduction amendment, the initial pre-bidding referendum shall also be based on the adopted reduction amendment;

(2) *Successful initial pre-bidding referendum.* If the initial pre-bidding referendum is successful, the reduction process will proceed as follows:

(i) If the initial pre-bidding referendum follows reduction amendment adoption, no second pre-bidding referendum shall be conducted,

(ii) If the initial pre-bidding referendum precedes reduction amendment adoption, a second pre-bidding referendum shall be conducted if, in NMFS' judgment, the reduction amendment subsequently adopted differs, in any respect materially affecting the borrower's reduction investment in the program and the borrower's ability to repay the reduction loan, from the reduction amendment specifications upon which the initial pre-bidding referendum successfully occurred. The sole purpose of any second pre-bidding referendum shall be to determine whether the voters authorize an industry fee system despite any such difference between the reduction amendment specifications and a subsequently adopted reduction amendment.

(3) *Unsuccessful initial pre-bidding referendum.* If the initial pre-bidding referendum is unsuccessful, the reduction process will either cease or NMFS may suspend the process pending an appropriate amendment of the business plan and the request.

(c) *Post-bidding referendum.* A post-bidding referendum shall occur only if, in NMFS' judgment, the result of bidding under § 600.1009 does not conform, in any material respect, to the fishing capacity reduction specifications and such result justifies, in NMFS' judgment, conducting a post-bidding referendum. Bidding that results in reducing fishing capacity in any amount not less than the minimum fishing capacity reduction amount for any reduction loan amount not more than the maximum reduction loan amount, and otherwise achieves all material requirements of the fishing capacity reduction specifications, shall conform to the fishing capacity reduction specifications. The sole purpose of any post-bidding referendum shall be to determine whether voters authorize an industry fee system for bidding that results in reducing fishing capacity in

any amount materially less than the minimum amount in the fishing capacity reduction specifications.

(d) NMFS will conduct referenda in accordance with the following: (1)

Eligible voters. The parties eligible to vote in each referendum are the parties whose names are listed as being eligible to vote in the notice published in the **Federal Register** under § 600.1004(a);

(2) *Ballot issuance.* NMFS will mail, by U.S. certified mail, return receipt requested, a ballot to each eligible voter. Each ballot will bear a randomly derived, 5-digit number assigned to each eligible voter. Each ballot will contain a place for the voter to vote for or against the proposed industry fee system and a place, adjacent to the 5-digit number, for the signature of the fishing permit or fishing vessel owner to whom the ballot is addressed or, if the fishing permit or fishing vessel owner is an organization, the person having authority to vote and cast the ballot on the organization's behalf. Each ballot will contain a place for the person signing the ballot to print his or her name. NMFS will enclose with each ballot a specially-marked, postage-paid, pre-addressed envelope that each voter shall use to return the ballot to NMFS;

(3) *Voter certification.* Each ballot will contain a certification, subject to the penalties set forth in § 600.1017, that the person signing the ballot is the fishing permit or fishing vessel owner to whom the ballot is addressed or, if the fishing permit or fishing vessel owner is an organization, the person having authority to vote and cast the ballot on the organization's behalf;

(4) *Information included on a ballot.* Each ballot mailing will:

(i) Summarize the referendum's nature and purpose,

(ii) Specify the date by which NMFS must receive a ballot in order for the ballot to be counted as a qualified vote,

(iii) Identify the place on the ballot for the voter to vote for or against the proposed industry fee system, the place on the ballot where the voter shall sign the ballot, and the purpose of the return envelope,

(iv) For each pre-bidding referendum, state:

(A) The fishing capacity reduction specifications,

(B) The reduction loan's repayment term, and

(C) The fee rate, or range of fee rates, prospectively necessary to amortize the reduction loan over the loan's term,

(v) For each initial pre-bidding referendum that precedes reduction amendment adoption, state the reduction amendment specifications,

(vi) For each initial pre-bidding referendum that follows reduction amendment adoption, summarize the material aspects of the reduction amendment adopted,

(vii) For each second pre-bidding referendum, summarize how the adopted reduction amendment materially differs from the reduction amendment specifications upon which a successful initial pre-bidding referendum occurred and how this material difference affects the borrower's reduction investment in the program and the borrower's ability to repay the reduction loan,

(viii) For each post-bidding referendum, specify the actual bidding results that do not conform to the fishing capacity reduction specifications, and

(ix) State or include whatever else NMFS deems appropriate;

(5) *Enclosures to accompany a ballot.* Each ballot mailing will include:

(i) A specially-marked, postage-paid, and pre-addressed envelope that a voter must use to return the original of a ballot to NMFS by whatever means of delivery the voter chooses, and

(ii) Such other materials as NMFS deems appropriate;

(6) *Vote qualification.* A completed ballot qualifies to be counted as a vote if the ballot:

(i) Is physically received by NMFS on or before the last day NMFS specifies for receipt of the ballot,

(ii) Is cast for or against the proposed industry fee system,

(iii) Is signed by the voter,

(iv) Is the original ballot NMFS sent to the voter bearing the same 5-digit number that NMFS assigned to the voter, and

(v) Was returned to NMFS in the specially-marked envelope that NMFS provided for the ballot's return;

(6) *Vote tally and notification.* NMFS will:

(i) Tally all ballots qualified to be counted as referendum votes,

(ii) Notify, by U.S. mail at the address of record, all eligible voters who received ballots of:

(A) The number of potential voters,

(B) The number of actual voters who returned a ballot,

(C) The number of returned ballots that qualified to be counted as referendum votes,

(D) The number of votes for and the number of votes against the industry fee system, and

(E) Whether the referendum was successful and approved the industry fee system or unsuccessful and disapproved the industry fee system, and

(iii) If a successful referendum is a post-bidding referendum, NMFS will, at the same time and in the same manner, also notify the bidders whose bids were conditionally accepted that the condition pertaining to the reduction contracts between them and the United States is fulfilled;

(7) *Conclusiveness of referendum determinations.* NMFS' determinations about ballot qualifications and about all other referendum matters, including, but not limited to, eligible voters and their addresses of record, are conclusive and final as of the date NMFS makes such determinations. No matter respecting such determinations shall impair, invalidate, avoid, or otherwise render unenforceable any referendum, reduction contract, reduction loan, or fee payment and collection obligation under § 600.1013 and § 600.1014 necessary to repay any reduction loan;

(8) *Ballot confidentiality.* NMFS will not voluntarily release the name of any party who voted. NMFS will restrict the availability of all voter information to the maximum extent allowed by law; and

(9) *Conclusive authorization of industry fee system.* Each successful referendum conclusively authorizes NMFS' imposition of an industry fee system—including the fee payment, collection, and other provisions regarding fee payment and collection under § 600.1013 and § 600.1014—to repay the reduction loan for each financed program that NMFS conducts under this subpart.

§ 600.1011 Reduction methods and other conditions.

(a) *Reduction permits or reduction permits and reduction vessels.* Each program may involve either the surrender and revocation of reduction permits or both the surrender and revocation of reduction permits and the withdrawal from fishing either by title restriction or by scrapping of reduction vessels. No financed program may, however, require such title restriction or scrapping of reduction vessels unless the business plan voluntarily includes the same.

(b) *Reduction permit revocation and surrender.* Each reduction permit is, upon NMFS' tender of the reduction payment for the reduction permit, forever revoked. Each reduction permit holder shall, upon NMFS' tender of the reduction payment, surrender the original reduction permit to NMFS. The reduction permit holder, upon NMFS' tender of the reduction payment, forever relinquishes any claim associated with the reduction permit and with the fishing vessel that was used to harvest

fishery resources under the reduction permit that could qualify the reduction permit holder or the fishing vessel owner for any present or future limited access system fishing permit in the reduction fishery.

(c) *Reduction vessel title restriction or scrapping.* For each program that involves reduction vessel title restriction or scrapping: (1) Each reduction vessel that is subject to title restriction only and is thus not required to be scrapped, is, upon NMFS' tender of the reduction payment, forever prohibited from any future use for fishing in any area subject to the jurisdiction of the United States or any State, territory, possession, or commonwealth of the United States. NMFS will request that the U.S. Coast Guard permanently restrict each such reduction vessel's title to exclude the reduction vessel's future use for fishing in any such area;

(2) Each reduction vessel owner whose reduction vessel is required to be scrapped shall, upon NMFS' tender of the reduction payment, immediately cease all further use of the reduction vessel and arrange, without delay and at the reduction vessel owner's expense, to scrap the reduction vessel to NMFS' satisfaction, including adequate provision for NMFS to document the physical act of scrapping; and

(3) Each reduction vessel owner, upon NMFS' tender of the reduction payment, forever relinquishes any claim associated with the reduction vessel and with the reduction permit that could qualify the reduction vessel owner or the reduction permit holder for any present or future limited access system fishing permit in the reduction fishery.

(d) *Fishing permits in a non-reduction fishery.* A financed program that does not involve the withdrawal from fishing or scrapping of reduction vessels may not require any holder of a reduction permit in a reduction fishery to surrender any fishing permit in any non-reduction fishery or restrict or revoke any fishing permit other than a reduction permit in the reduction fishery, except those fishing permits authorizing the incidental harvesting of species in any non-reduction fishery during, and as a consequence of, directed fishing for species in the reduction fishery.

(e) *Reduction vessels disposition.* Where a business plan requires the withdrawal from fishing of reduction vessels as well as the revocation of reduction permits: (1) Each reduction vessel that is not documented under Federal law must in every case always be scrapped, without regard to whether

a program is a financed program or a subsidized program;

(2) No financed program may require any disposition of a reduction vessel documented under Federal law other than the title restriction in paragraph (b) of this section unless the business plan volunteers to do otherwise; and

(3) Any subsidized program may require the scrapping of reduction vessels documented under Federal law.

(f) *Reduction payments.* NMFS will disburse all reduction payments in the amount and in the manner prescribed in reduction contracts, except reduction payments that a bidder's reduction-contract nonperformance prevents NMFS from disbursing. In financed programs, the reduction loan's principal amount is the total amount of all reduction payments that NMFS disburses from the proceeds of a reduction loan. Any reduction payment that NMFS, because of a bidder's reduction-contract nonperformance, disburses but subsequently recovers, shall reduce the principal amount of the reduction loan accordingly.

(g) *Effect of reduction-contract nonperformance.* No referendum, no reduction contract, no reduction loan, and no fee payment and collection obligation under § 600.1013 and § 600.1014 necessary to repay any reduction loan, shall be impaired, invalidated, avoided, or otherwise rendered unenforceable by virtue of any reduction contract's nonperformance. This is without regard to the cause of, or reason for, nonperformance. NMFS shall endeavor to enforce the specific performance of all reduction contracts, but NMFS' inability, for any reason, to enforce specific performance for any portion of such reduction contracts shall not relieve fish sellers of their obligation to pay, and fish buyers of their obligation to collect, the fee necessary to fully repay the full reduction loan balance that results from all reduction payments that NMFS actually makes and does not recover.

(h) *Program completion.* Other than the payment and collection of the fee that repays a reduction loan and any other residual matters regarding reduction payments and the disposition of reduction permits and reduction vessels, a program shall be completed when NMFS tenders or makes all reduction payments under all reduction contracts that circumstances, in NMFS' judgment, reasonably permit NMFS to make.

§ 600.1012 Reduction loan.

(a) *Obligation.* The borrower shall be obligated to repay a reduction loan. The borrower's obligation to repay a

reduction loan shall be discharged by fish sellers paying a fee in accordance with § 600.1013. Fish buyers shall be obligated to collect the fee in accordance with § 600.1013 and to deposit and disburse the fee revenue in accordance with § 600.1014.

(b) *Principal amount, interest rate, repayment term, and penalties for non-payment or non-collection.* The reduction loan shall be: (1) In a principal amount that shall be determined by subsequent program events under this subpart, but which shall not exceed the maximum principal amount in the fishing capacity reduction specifications;

(2) At an annual rate, that shall be determined by subsequent events, of simple interest on the reduction loan's principal balance that shall equal 2 percent plus the Treasury percentage; (3) Repayable over the repayment term specified in the business plan or otherwise determined by subsequent events; and

(4) Subject to such provisions as implementation regulations shall specify for the payment of costs and penalties for non-payment, non-collection, non-deposit, and/or non-disbursement in accordance with § 600.1013 and § 600.1014.

(c) *Effect of prospective interest rate.* Any difference between a prospective interest rate projected, for the purpose of any aspect of reduction planning or processing under this subpart, before the U.S. Treasury determines the Treasury percentage and an interest rate first known after the U.S. Treasury determines the Treasury percentage shall not void, invalidate, or otherwise impair any reduction contract, any reduction loan repayment obligation, or any other aspect of the reduction process under this subpart. Should any such difference result in a reduction loan that cannot, at the maximum fee rate allowed by law, be repaid, as previously projected, within the maximum maturity, any amount of the reduction loan remaining unpaid at maturity shall be repaid after maturity by continuing fee payment and collection under this subpart at such maximum fee rate until the reduction loan's unpaid principal balance and accrued interest is fully repaid. The above notwithstanding, at the discretion of the Secretary, the reduction contract can be voided if a material adverse change affects the reduction contract, reduction loan obligation, or any other aspect of the reduction process under this subpart.

§ 600.1013 Fee payment and collection.

(a) *Amount.* The fee amount is the delivery value times the fee rate.

(b) *Rate.* NMFS will establish the fee rate. The fee rate may not exceed 5 percent of the delivery value. NMFS will establish the initial fee rate by calculating the fee revenue annually required to amortize a reduction loan over the reduction loan's term, projecting the annual delivery value, and expressing such fee revenue as a percentage of such delivery value. Before each anniversary of the initial fee rate determination, NMFS will recalculate the fee rate reasonably required to ensure reduction loan repayment. This will include any changed delivery value projections and any adjustment required to correct for previous delivery values higher or lower than projected.

(c) *Payment and collection.* (1) The full fee is due and payable at the time of fish delivery. Each fish buyer shall collect the fee at the time of fish delivery by deducting the fee from the delivery value before paying, or promising to pay, the net delivery value. Each fish seller shall pay the fee at the time of fish delivery by receiving from the fish buyer the net delivery value, or the fish buyer's promise to pay the net delivery value, rather than the delivery value. Regardless of when the fish buyer pays the net delivery value, the fish buyer shall collect the fee at the time of fish delivery;

(2) In the event of any post-delivery payment for fee fish— including, but not limited to bonuses—whose amount depends on conditions that cannot be known until after fish delivery, that either first determines the delivery value or later increases the previous delivery value, the fish seller shall pay, and the fish buyer shall collect, at the time the amount of such post-delivery payment first becomes known, the fee that would otherwise have been due and payable as if the amount of the post-delivery payment had been known, and as if the post-delivery payment had consequently occurred, at the time of initial fish delivery;

(3)(i) Each fish seller shall be deemed to be, for the purpose of the fee collection, deposit, disbursement, and accounting requirements of this subpart, both the fish seller and the fish buyer, and shall be responsible for all requirements and liable for any penalties under this subpart applicable to fish sellers and/or fish buyers, each time that a fish seller sells fee fish to:

(A) Any party whose place of business is not located in the United States, who does not take delivery or possession of the fee fish in the United States, who is

not otherwise subject to this subpart, or to whom or against whom NMFS cannot otherwise apply or enforce this subpart,

(B) Any party who is a general food-service wholesaler or supplier, a restaurant, a retailer, a consumer, some other type of end-user, or some other party not engaged in the business of buying fish from fish sellers for the purpose of reselling the fish, either with or without processing the fish, or

(C) Any other party who the fish seller has good reason to believe is a party not subject to this subpart or to whom or against whom NMFS cannot otherwise apply or enforce this subpart,

(ii) In each such case the fish seller shall, with respect to the fee fish involved in each such case, discharge, in addition to the fee payment requirements of this subpart, all the fee collection, deposit, disbursement, accounting, record keeping, and reporting requirements that this subpart otherwise imposes on the fish buyer, and the fish seller shall be subject to all the penalties this subpart provides for a fish buyer's failure to discharge such requirements;

(4) Fee payment begins on the date NMFS specifies under the notification procedures of paragraph (d) of this section and continues without interruption at the fee rates NMFS specifies in accordance with this subpart until NMFS determines that the reduction loan is fully repaid. If a reduction loan is, for any reason, not fully repaid at the maturity of the reduction loan's original amortization period, fee payment and collection shall continue until the reduction loan is fully repaid, notwithstanding that the time required to fully repay the reduction loan exceeds the reduction loan's initially permissible maturity.

(d) *Notification.* (1) At least 30 days before the effective date of any fee or of any fee rate change, NMFS will publish a **Federal Register** notice establishing the date from and after which the fee or fee rate change is effective. NMFS will then also send, by U.S. mail, an appropriate notification to each affected fish seller and fish buyer of whom NMFS has notice;

(2) When NMFS determines that a reduction loan is fully repaid, NMFS will publish a **Federal Register** notice that the fee is no longer in effect and should no longer be either paid or collected. NMFS will then also send, by U.S. mail, notification to each affected fish seller and fish buyer of whom NMFS has knowledge;

(3) If NMFS fails to notify a fish seller or a fish buyer by U.S. mail, or if the fish seller or fish buyer otherwise does not receive the notice, of the date fee

payments start or of the fee rate in effect, each fish seller is, nevertheless, obligated to pay the fee at the fee rate in effect and each fish buyer is, nevertheless, obligated to collect the fee at the fee rate in effect.

(e) *Failure to pay or collect.* (1) If a fish buyer refuses to collect the fee in the amount and manner that this subpart requires, the fish seller shall then advise the fish buyer of the fish seller's fee payment obligation and of the fish buyer's fee collection obligation. If the fish buyer still refuses to properly collect the fee, the fish seller, within the next 7 calendar days, shall forward the fee to NMFS. The fish seller at the same time shall also advise NMFS in writing of the full particulars, including:

(i) The fish buyer's and fish seller's name, address, and telephone number,

(ii) The name of the fishing vessel from which the fish seller made fish delivery and the date of doing so,

(iii) The quantity and delivery value of each species of fee fish that the fish seller delivered, and

(iv) The fish buyer's reason, if known, for refusing to collect the fee in accordance with this subpart;

(2) If a fish seller refuses to pay the fee in the amount and manner that this subpart requires, the fish buyer shall then advise the fish seller of the fish buyer's collection obligation and of the fish seller's payment obligation. If the fish seller still refuses to pay the fee, the fish buyer shall then either deduct the fee from the delivery value over the fish seller's protest or refuse to buy the fee fish. The fish buyer shall also, within the next 7 calendar days, advise NMFS in writing of the full particulars, including:

(i) The fish buyer's and fish seller's name, address, and telephone number,

(ii) The name of the fishing vessel from which the fish seller made or attempted to make fish delivery and the date of doing so,

(iii) The quantity and delivery value of each species of fee fish the fish seller delivered or attempted to deliver,

(iv) Whether the fish buyer deducted the fee over the fish seller's protest or refused to buy the fee fish, and

(v) The fish seller's reason, if known, for refusing to pay the fee in accordance with this subpart.

(f) *Implementation regulations at variance with this section.* If any special circumstances in a reduction fishery require, in NMFS's judgment, fee payment and/or collection provisions in addition to, or different from, those in this section in order to accommodate the circumstances of, and practices in, a reduction fishery while still fulfilling the intent and purpose of this section,

NMFS may, notwithstanding this section, include such provisions in the implementation regulations for such reduction fishery.

§ 600.1014 Fee collection deposits, disbursements, records, and reports.

(a) *Deposit accounts.* Each fish buyer that this subpart requires to collect a fee shall maintain a segregated account at a federally insured financial institution for the sole purpose of depositing collected fee revenue and disbursing the fee revenue directly to NMFS in accordance with paragraph (c) of this section.

(b) *Fee collection deposits.* Each fish buyer, no less frequently than at the end of each business week, shall deposit, in the deposit account established under paragraph (a) of this section, all fee revenue, not previously deposited, that the fish buyer collects through a date not more than two calendar days before the date of deposit. Neither the deposit account nor the principal amount of deposits in the account may be pledged, assigned, or used for any purpose other than aggregating collected fee revenue for disbursement to the Fund in accordance with paragraph (c) of this section. The fish buyer is entitled, at any time, to withdraw deposit interest, if any, but never deposit principal, from the deposit account for the fish buyer's own use and purposes.

(c) *Deposit principal disbursement.* On the last business day of each month, or more frequently if the amount in the account exceeds the account limit for insurance purposes, the fish buyer shall disburse to NMFS the full amount of deposit principal then in the deposit account. The fish buyer shall do this by check made payable to the Fund subaccount to which the deposit principal relates. The fish buyer shall mail each such check to the Fund subaccount lockbox that NMFS establishes for the receipt of the disbursements for each program. Each disbursement shall be accompanied by the fish buyer's settlement sheet completed in the manner and form that NMFS specifies. NMFS will specify the Fund subaccount lockbox and the manner and form of settlement sheet by means of the notification in § 600.1013(d).

(d) *Records maintenance.* Each fish buyer shall maintain, in a secure and orderly manner for a period of at least 3 years from the date of each transaction involved, at least the following information: (1) For all deliveries of fee fish that the fish buyer buys from each fish seller:

- (i) The date of delivery,
- (ii) The seller's identity,

(iii) The weight, number, or volume of each species of fee fish delivered,

(iv) The identity of the fishing vessel that delivered the fee fish,

(v) The delivery value of each species of fee fish,

(vi) The net delivery value,

(vii) The identity of the party to whom the net delivery value is paid, if other than the fish seller,

(viii) The date the net delivery value was paid, and

(ix) The total fee amount collected;

(2) For all fee collection deposits to and disbursements from the deposit account:

(i) The dates and amounts of deposits,

(ii) The dates and amounts of disbursements to the Fund's lockbox account, and

(iii) The dates and amounts of disbursements to the fish buyer or other parties of interest earned on deposits.

(e) *Annual report.* In each year, on the date to be specified in each implementation regulation, succeeding the year during which NMFS first implemented a fee, each fish buyer shall submit to NMFS a report, on or in the form NMFS specifies, containing the following information for the preceding year, or whatever longer period may be involved in the first annual report, for all fee fish each fish buyer purchases from fish sellers: (1) Total weight, number, or volume bought;

(2) Total delivery value paid;

(3) Total fee amounts collected;

(4) Total fee collection amounts deposited by month;

(5) Dates and amounts of monthly disbursements to each Fund lockbox account;

(6) Total amount of interest earned on deposits; and

(7) Depository account balance at year-end.

(f) *State records.* If landing records that a state requires from fish sellers contain some or all of the data that this section requires and state confidentiality laws or regulations do not prevent NMFS' access to the records maintained for the state, then fish buyers can use such records to meet appropriate portions of this section's recordkeeping requirements. If, however, state confidentiality laws or regulations make such records unavailable to NMFS, then fish buyers shall maintain separate records for NMFS that meet the requirements of this section. If any state law or regulation prohibits fish buyers, or fish sellers where appropriate, from keeping, for the purpose of complying with any requirement of this section, separate records that involve some or all of the same data elements as the landing

records that the fish buyers also keep, for state purposes and under state law or regulation, then a financed reduction program will not be possible.

(g) *Audits.* NMFS or its agents may audit, in whatever manner NMFS believes reasonably necessary for the duly diligent administration of reduction loans, the financial records of fish buyers and fish sellers in each reduction fishery in order to ensure proper fee payment, collection, deposit, disbursement, accounting, record keeping, and reporting. Fish buyers and fish sellers shall make all records of all program transactions involving post-reduction fish harvests, fish deliveries, and fee payments, collections, deposits, disbursements, accounting, record keeping, and reporting available to NMFS or NMFS' agents at reasonable times and places and promptly provide all requested information reasonably related to these records that such fish sellers and fish buyers may otherwise lawfully provide. Trip tickets (or similar accounting records establishing the pounds of fee fish that each fish buyer buys from each fish seller each time that each fish buyer does so and each price that each fish buyer then pays to each fish seller for the fee fish) are essential audit documentation.

(h) *Confidentiality of records.* NMFS and NMFS' auditing agents shall maintain the confidentiality of all data to which NMFS has access under this section and shall neither release the data nor allow the data's use for any purpose other than the purpose of this subpart; provided, however, that NMFS may aggregate such data so as to preclude their identification with any fish buyer or any fish seller and use them in the aggregate for other purposes).

(i) *Refunds.* When NMFS determines that a reduction loan is fully repaid, NMFS will refund any excess fee receipts, on a last-in/first-out basis, to the fish buyers. Fish buyers shall return the refunds, on a last-in/first-out basis, to the fish sellers who paid the amounts refunded.

(j) *Implementation regulations at variance with this section.* If any special circumstances in a reduction fishery require, in NMFS's judgment, fee collection deposit, disbursement, or records provisions in addition to, or different from, those in this section in order to accommodate the circumstances of, and practices in, a reduction fishery while still fulfilling the intent and purpose of this section, NMFS may, notwithstanding this section, include such provisions in the implementation regulations for such reduction fishery.

§ 600.1015 Late charges.

The late charge to fish buyers for fee payment, collection, deposit, and/or disbursement shall be one and one-half (1.5) percent per month, or the maximum rate permitted by state law, for the total amount of the fee not paid, collected, deposited, and/or disbursed when due to be paid, collected, deposited, and/or disbursed. The full late charge shall apply to the fee for each month or portion of a month that the fee remains unpaid, uncollected, undeposited, and/or undisbursed.

§ 600.1016 Enforcement.

In accordance with applicable law or other authority, NMFS may take appropriate action against each fish seller and/or fish buyer responsible for non-payment, non-collection, non-deposit, and/or non-disbursement of the fee in accordance with this subpart to enforce the collection from such fish seller and/or fish buyer of any fee (including penalties and all costs of collection) due and owing the United States on account of the loan that such fish seller and/or fish buyer should have, but did not, pay, collect, deposit, and/or disburse in accordance with this subpart. All such loan recoveries shall be applied to reduce the unpaid balance of the loan.

§ 600.1017 Prohibitions and penalties.

(a) The following activities are prohibited, and it is unlawful for any party to: (1) Vote in any referendum under this subpart if the party is ineligible to do so;

(2) Vote more than once in any referendum under this subpart;

(3) Sign or otherwise cast a ballot on behalf of a voter in any referendum under this subpart unless the voter has fully authorized the party to do so and doing so otherwise comports with this subpart;

(4) Interfere with or attempt to hinder, delay, buy, or otherwise unduly or unlawfully influence any eligible voter's vote in any referendum under this subpart;

(5) Submit a fraudulent, unauthorized, incomplete, misleading, unenforceable by specific performance, or inaccurate bid in response to an invitation to bid under this subpart or, in any other way, interfere with or attempt to interfere with, hinder, or delay, any invitation to bid, any bid submitted under any invitation to bid, any reduction contract, or any other reduction process in connection with any invitation to bid;

(6) Revoke or attempt to revoke any bid under this subpart;

(7) Fail to comply with the terms and conditions of any invitation to bid, bid, or reduction contract under this subpart, including NMFS' right under such reduction contracts to specific performance;

(8) Fail to fully and properly pay and collect any fee due payable, and collectible under this subpart or otherwise avoid, decrease, interfere with, hinder, or delay any such payment and collection.

(9) Convert, or otherwise use for any purpose other than the purpose this subpart intends, any paid or collected fee;

(10) Fail to fully and properly deposit on time the full amount of all fee revenue collected under this subpart into a deposit account and disburse the full amount of all deposit principal to the Fund's lockbox account—all as this subpart requires;

(11) Fail to maintain full, timely, and proper fee payment, collection, deposit, and/or disbursement records or make full, timely, and proper reports of such information to NMFS—all as this subpart requires;

(12) Fail to advise NMFS of any fish seller's refusal to pay, or of any fish buyer's refusal to collect, any fee due and payable under this subpart;

(13) Refuse to allow NMFS or agents that NMFS designates to review and audit at reasonable times all books and records reasonably pertinent to fee payment, collection, deposit, disbursement, and accounting under this subpart or otherwise interfere with, hinder, or delay NMFS or its agents in the course of their activities under this subpart;

(14) Make false statements to NMFS, any of the NMFS' employees, or any of NMFS' agents about any of the matters in this subpart;

(15) Obstruct, prevent, or unreasonably delay or attempt to obstruct, prevent, or unreasonably delay any audit or investigation NMFS or its agents conduct, or attempt to conduct, in connection with any of the matters in this subpart; and/or

(16) Otherwise materially interfere with the efficient and effective conduct of reduction and the repayment of reduction loans under this subpart.

(b) Any party who violates one or more of the prohibitions of paragraph (a) of this section is subject to the full range of penalties the Magnuson-Stevens Act and 15 CFR part 904 provide—including, but not limited to: civil penalties, sanctions, forfeitures, and punishment for criminal offenses—and to the full penalties and punishments otherwise provided by any other applicable law of the United States.

(c) Additionally, NMFS may take any and all appropriate actions, including the communication of action at law, against each party responsible for the non-payment, non-collection, non-deposit, and/or non-disbursement in accordance with § 600.1013 and/or § 600.1014 to enforce the United States' receipt from such party of any fee—including penalties and all costs of collection—due and owing the United States on account of the reduction loan that such party should have, but did not, pay, collect, deposit, and/or disburse in accordance with § 600.1013 and/or § 600.1014. All such reduction loan recoveries shall be applied to reduce the unpaid balances of reduction loans.

§ 600.1018 Implementation regulations for each program. [Reserved]

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DEPARTMENT OF HEALTH AND HUMAN SERVICES**Food and Drug Administration****21 CFR Part 884**

[Docket No. 99N-1309]

Obstetrical and Gynecological Devices; Classification of Female Condoms

AGENCY: Food and Drug Administration, HHS.

ACTION: Final rule.

SUMMARY: The Food and Drug Administration (FDA) is classifying the preamendments female condom intended for contraceptive and prophylactic purposes. Under this rule, the preamendments female condom is being classified into class III (premarket approval). This action is being taken under the Federal Food, Drug, and Cosmetic Act (the act), as amended by the Medical Device Amendments of 1976, the Safe Medical Devices Act of 1990, and the FDA Modernization Act of 1997.

DATES: This rule is effective June 19, 2000.

FOR FURTHER INFORMATION CONTACT: Colin M. Pollard, Center for Devices and Radiological Health (HFZ-470), Food and Drug Administration, 9200 Corporate Blvd., Rockville, MD 20850, 301-594-1180.

SUPPLEMENTARY INFORMATION:**I. Background**

In a proposal published in the *Federal Register* of June 10, 1999 (64 FR 31164)

OBSERVER PROGRAM

Situation: In April, the Council voted for National Marine Fisheries Service (NMFS) to proceed with publication of a proposed regulation to establish generic observer program requirements. During public testimony before the Council vote, concerns were expressed there were provisions in the draft that would not work for small/day boats and that some vessels would be excluded from the program. The Council staff offered to convene a small workgroup to address those concerns but decided not to after concluding the draft regulations do not exclude any vessels from the coverage program. However, certain notification requirements might be made more flexible to take into account vessels that make unscheduled or impromptu departures. The Council indicated it might want to provide formal comments on these issues at this meeting.

Council Action:

- 1. Consider additional comments to NMFS on the proposed observer program regulations.**

Reference Materials:

1. Environmental Assessment/Regulatory Impact Review from NMFS (Attachment D.16.a.).

PFMC
06/13/00

DRAFT

**An Observer Program
for Catcher Vessels in the
Pacific Coast Groundfish Fishery**

Environmental Assessment and Regulatory Impact Review and
Initial Regulatory Flexibility Analysis of the Anticipated Biological, Social,
and Economic Impacts of a Proposed Amendment to Implement an
Observer Program in the Pacific Coast Groundfish Fishery

Prepared by
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Northwest Region

Drafted April 2000

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1.0 INTRODUCTION

The groundfish fisheries in the Exclusive Economic Zone (EEZ -- 3 to 200 miles off shore) off the Washington-Oregon-California (WOC) coast are managed pursuant to the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) and the Pacific Coast Groundfish Fishery Management Plan (FMP). Actions taken to amend FMPs or to implement other regulations governing the groundfish fishery must meet the requirements of federal laws and regulations. In addition to the Magnuson-Stevens Act, the most important of these are the National Environmental Policy Act (NEPA), the Endangered Species Act (ESA), Executive Order (E.O.) 12866, and the Regulatory Flexibility Act (RFA).

NEPA, E.O. 12866 and the RFA require a description of the purpose and need for the proposed action as well as a range of reasonable alternative actions which may address the problem. This information and general background materials are included in section 1 of this document. In accordance with NEPA requirements, section 2 contains a description of the biological, physical and socio-economic characteristics of the affected environment. The biological and physical impacts of the alternatives are assessed in section 3 and the economic impacts of the alternatives as required by NEPA, E.O. 12866 and the RFA are examined in section 4. The consistency of the proposed action with the Pacific Coast Groundfish Fishery Management Plan (FMP) and other applicable laws is addressed in section 5. The NEPA conclusions or Finding of No Significant Impact are found in section 6. The literature cited, a list of preparers and a distribution list are included in sections 7 and 8 of this document. Section 9 contains the Regulatory Flexibility Analysis which specifically addresses the impacts of the proposed actions on small entities.

1.1 Purpose and Need for Action

With the exception of the mid-water trawl fishery for Pacific whiting, most groundfish vessels sort their catch at sea and discard species that are: in excess of cumulative trip limits; unmarketable; in excess of annual allocations; or incidentally caught non-groundfish species, including marine mammals and protected species. Landed or retained catch is monitored by the individual state run fish ticket programs in Washington, Oregon, and California. However, because a portion of the catch is discarded at sea, there is no opportunity for NMFS or the states to monitor total catch (retained plus discarded catch) at onshore processing facilities. This lack of information on at-sea discards (also referred to as bycatch) has resulted in very imprecise estimates of total catch by species and fishing mortality.

Reliable information on discarded catch in the present fishery is needed to assess and account for total fishing mortality and to evaluate the effectiveness of management measures, including rebuilding plans for overfished stocks. Discard rates based on limited studies conducted in the mid-1980's, and information on species compositions in landings, are available for some groundfish species and gear groups. For other species and gear groups, there is little or no discard information. During the past decade, since the discard studies were conducted, there have been substantial reductions in cumulative trip limits, and trip limits have been applied to increasing numbers of species. In light of these changes in the regulatory regime, doubt has been raised about the accuracy of discard rates based on data collected in the 1980's. Accurate estimates of discards are essential for assessing total catch, and thus are an important component of any fishery conservation and management program. If the discard estimates are too high, harvest allocations may be set too low; if discard estimates are too low, then harvest allocations may be set too high, and the long-term health of the stock may be jeopardized.

The Magnuson-Stevens Act at 16 U.S.C. 1853(b)(8) provides that a FMP may require that one or more observers (50CFR 600.10) be carried on board a vessel of the United States engaged in fishing for species that are subject to the plan, for the purpose of collecting data necessary for the conservation and management of the fishery. The Pacific Coast Groundfish FMP provides that all fishing vessels operating in the groundfish fishery may be required to accommodate onboard observers for purposes of collecting scientific data. Under the Magnuson-Stevens Act at 16 U.S.C. 1855(d), the Secretary of Commerce, acting through NMFS, has general responsibility to carry out any fishery management plan, and may promulgate such regulations as may be necessary to discharge this responsibility.

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Observers are a uniformly trained group of scientific technicians who are stationed aboard vessels to observe fishing activities. Observers gather independent conservation and management data that is too burdensome for vessel personnel to collect and which would otherwise not be available for managing the fisheries or assessing interactions with non-groundfish species. Since the early 1990's the Pacific Fishery Management Council (Council) has regarded at-sea observers as a viable means to collect much-needed data on at-sea discards (also called bycatch). The Council's Groundfish Management Team has continually stressed the need for an on-board observer program to accurately assess total catch. Observers have been placed on a voluntary basis aboard offshore catcher/processors and processing vessels in the Pacific whiting fishery to gather total catch, bycatch, and biological data since 1991. Between 1995 and 1998, a small number of groundfish trawl vessels participating in the Oregon Enhanced Data Collection (EDC) research project voluntarily carried observers to monitor trip limit induced discards and the bycatch of prohibited species in the bottom trawl portion of the shore-based groundfish fleet.

In 1993, the Council formed an observer committee to work specifically on developing a workable mandatory observer program. However, in 1994, funding and equity issues stopped the observer committee's progress. In April 1998 the Council directed its chairman to create a committee (the Total Catch Determination Committee) to assess viable ways to collect much needed total catch data. The Total Catch Determination Committee presented a report at the November 1998 Council meeting that recommended that the Council move forward with implementation of an Observer Program.

On March 3, 1999, that portion of Amendment II to the Pacific Coast Groundfish FMP which was prepared in response to the Magnuson-Stevens Act bycatch provisions was not approved by NMFS. It was determined that the bycatch provisions in Amendment 11 failed to respond meaningfully to the bycatch requirements of the Magnuson-Stevens Act. Requirements at Section 303 (a) (11) of the Magnuson-Stevens Act state that an FMP must "establish a standardized reporting methodology to assess the amount and type of bycatch occurring in the fishery, and include conservation and management measures that, to the extent practicable and in the following priority--(A) minimize bycatch; and (B) minimize the mortality of bycatch which cannot be avoided." Establishing an observer program to collect total catch data, would bring the Pacific coast groundfish FMP closer to the Magnuson-Stevens Act bycatch requirements for a standardized reporting methodology on bycatch.

To address data deficiencies, the Council proposed development of an on-board observer program for all limited entry and open access groundfish vessels at its April 1999 meeting. The goal at that time was to have a program ready for implementation in 2000, should NMFS receive an appropriation of \$2 million to fund an observer program. At this same meeting, the Council approved a proposed regulatory framework for an observer program, with mandatory coverage requirements, in the at-sea processing portion of the Pacific whiting fishery. Following the April 1999 Council meeting, an Observer Implementation Committee was created and directed to work on designing a statistically sound sampling program for the limited entry and open access harvest (catcher) vessels. At this same meeting, the Council agreed to move forward on the development of a regulatory program to support a mandatory observer program in the recreational charter boat fleet. Such a program will be addressed in a separate rulemaking.

The program design was to be consistent with the Council's goals for a total catch data program. At the June 1999 Council meeting, a committee report which contained a synthesized list of the Council's total catch data goals, was made available to the Council members and the public. The Council's total catch data goals include: 1) estimate total annual groundfish catch for all west coast fisheries that take groundfish; 2) estimate discard rates by species (for all species, including prohibited species) by gear type, with priority to be given to depressed and primary groundfish species; 3) collect biological information on depressed and primary species necessary to define the harvest populations for stock assessments; 4) establish a system for efficient collection, storage, and utilization of information. The Observer Implementation Committee met in June and again in September 1999 to discuss program design, coverage strategies, data priorities, program infrastructure, and the supporting regulatory package. Public comments provided to NMFS staff at committee and Council meetings were taken into consideration during the development of the proposed

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action. At the Council's September and November meetings, NMFS distributed an early draft of general regulations which would support the placement of observers in accordance with a statistically sound coverage plan, permit observers to collect data according to scientific sampling protocols, and promote observer safety.

Funding was not appropriated to NMFS for implementation of a Pacific coast groundfish observer program in 2000. Because the opportunity for funding is likely in the near future, NMFS and the Council are continuing to develop a statistically valid design for an observer sampling program and to establish general regulations necessary to support such an at-sea sampling program. The proposed regulations do not specify observer coverage requirements for individual vessels. However, the impacts of the proposed rulemaking in relation to a range of possible observer coverage approaches are addressed in the following analysis, should NMFS receive funding. A coverage plan that is consistent with data priorities for the groundfish fishery will continue to be developed.

The proposed rulemaking is general and intended to meet the most basic needs of an observer program. If this option is selected the supporting regulations may need to be refined at a later date when the program design is more fully developed. Alternative funding mechanisms for an observer program were beyond the scope of the analysis. If at a future date, NMFS and the Council choose to explore alternative funding options or choose to compensate fishermen for all or a portion of the costs of carrying an observer, an additional rulemaking would likely be proposed.

1.2 Alternative Management Actions

Alternative management measures for obtaining total catch data are described and evaluated in this section. The two alternatives considered in this document are: 1) no action alternative (status quo) and 2) establish regulatory framework necessary to support an at-sea observer program. Other approaches for obtaining total catch data, which were not analyzed in this document, include full retention and data sampling by vessel personnel. Because verification methods for these approaches have not been adequately developed, NMFS believes that data collected under these approaches would not meet the defined management need. Further complicating the use of vessel personnel to collect the necessary data, are the skills typically needed to perform the required duties. Observers are required to perform specialized duties and therefore they are generally required to have completed specific educational requirements, have relevant experience, and be trained so they are proficient in: using random sampling techniques and methods for sub-sample selection; using dichotomous keys for identifying invertebrates, fish, birds, and marine mammals; biological data collection procedures (including sexed age structures, stomach analysis, maturity, tissue samples, etc...); the operation of personal computers and data entry software, editing data collections, and in the preparation of written reports. In addition, conflicting objectives between crew responsibilities and observer duties is likely to result in opportunistic data collections that do not adequately represent fishing activities if crew are used to collect sample data. Further complicating the use of crew is the perception that vessel loyalties may conflict with sampling objectives. Without adequate verification there are concerns about data integrity and whether or not such collections meet the identified management need.

The potential outcomes and consequences of each alternative are presented in table 1.2.1 of this section. Detailed discussions of the potential biological, physical, and socio-economic impacts of the alternatives are found in sections 3 and 4 of this document. The following section includes the key points of sections 3 and 4.

Alternative 1: No Action alternative (Status Quo). Under the no action alternative, there would be no regulatory requirements specific to vessels that carry observers. NMFS could not require vessels to carry observers when notified. Under this alternative exempted fishing permits (EFPs) may continue to be used to support voluntary observer data collection efforts and the terms and conditions of the EFP permits could be used to define the vessels' responsibilities and the needs of the observers

It is reasonable to assume that a comprehensive data collection program would not be developed under this alternative. Discard information needed to assess and account for total fishing mortality and to evaluate

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management measures would most likely continue to be deficient under alternative 1. Groundfish management would likely require continued extrapolation of discard data collected in the 1980s. Unmeasured discard mortality could have a profound effect on the health of managed fish stocks. If discard mortality is higher than what the Council extrapolates from the 1980's studies, then overall fishing mortality rates (catch mortality + discard mortality) will likely be at higher than sustainable levels. Continued, unseen mortality in excess of estimated mortality may lead to stock declines and ultimately stock collapses. When fish stocks are depleted, the fishing community suffers, because rebuilding depleted stocks requires the Council to lower directed harvest rates. Directed harvest rate reductions for 2000 were severe enough to warrant a Secretary of Commerce determination of a "commercial fishery failure due to a fishery resource disaster."

Under status quo, EFPs will likely continue to be used in State run monitoring programs to collect information on incidental catch in the shore-based portion of the Pacific whiting fishery. Under the terms and conditions of EFPs, whiting trawl vessels are allowed to delay sorting and disposal of prohibited species and groundfish catch in excess of cumulative trip limits until the point of offloading. Delaying sorting until offloading allows state biologists to collect total catch data and biological samples from fish that may have otherwise been discarded at sea. The use of EFPs for similar full retention programs is less likely. This is impart because of the amount of discards in many bottom trawl fisheries.

Under status quo, EFPs may be used to implement an observer sampling program where vessels carry observers on a voluntary basis. If such a program were developed, it is likely that it would be similar to the EDC research project "class B" or "class C" permit options. Over the four years (1995 -1998) that the EDC project was carried out, vessels voluntarily operated under EFPs issued by the NMFS. A "class B" permit required the permit holder to collect discard data in an enhanced logbook, record landed catch, and carry an observer on board. Observers were carried aboard vessels to account for discards, estimate species composition, and collect biological data. The "class C" permit option required vessels to retain all catch (full retention) to allow sampling to occur shoreside, and to carry observers to verify that all catch was retained. Throughout the duration of the EDC project, few vessels voluntarily participated under "class B" and no vessels voluntarily participated under "class C".

If a voluntary observer program were developed under this alternative using EFPs, vessels would have no obligation to provide NMFS or its designated agent with logistical information necessary to place observers on vessels in accordance with the defined coverage strategy. In voluntary programs, not all vessels in an observed fishery are willing to carry an observers, resulting in observer placement that tends to be opportunistic and does not adequately represent fleetwide activities or meet the management needs. Managers of observer programs with voluntary coverage requirements have been faced with serious obstacles when trying to selectively place observers in order to obtain data that is reliable and reasonably precise (NMFS 1993).

Similarly, there would be no regulations defining the sampling conditions. Data integrity is dependent on the observer's ability to effectively execute their duties in a manner that is consistent with the defined sampling protocols. This requires that the vessels provide certain basic necessities including: 1) ample notification of when fish are being brought aboard, 2) access to catch, 3) sufficient time to collect a sample, and 4) space in which to store and work up samples. If a voluntary program were developed under this alternative, it could be difficult to maintain the integrity of observer data collections and assure that scientific sampling protocols were followed. The terms and conditions of the EFPs could contain requirements for vessels to provide adequate sampling conditions. If a vessel chose not to provide adequate conditions the permit could be revoked. However, this would reduce the number of vessels that observer data could be collected from and reduce the data available for assessing stocks and managing the groundfish fleet.

When placing observers aboard vessels, the individual observer's health and safety is of utmost importance. Should observers be voluntarily carried aboard a vessel, the observer's health and well being may not be adequately safeguarded. In addition, if vessels in the observed portion of the fleet are deemed "unsafe" it may not be reasonable to expect that an observer would be placed aboard such vessels. If a portion of the fleet cannot be monitored observer coverage would be opportunistic. It is probable that data

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collected in an opportunistic manner, will not adequately represent fleetwide activities.

It is unlikely that additional data on prohibited species, endangered/threatened species, marine mammals, seabirds, and protected species would be collected. Limited data will continue to be available from state run port sampling programs and resource surveys.

Alternative 2: Establish regulatory framework necessary to support an at-sea observer program (preferred alternative) Under this alternative NMFS would go forward with regulations that would require groundfish vessels to carry observers when notified and would require vessels to provide notification of fishing schedules, food and accommodations for observers and the conditions necessary for observers to safely collect sample data according to scientific sampling protocols and thereby maintain the integrity of data collections.

This rule would allow NMFS or its designated agent to place observers aboard groundfish vessels in accordance with a statistically viable coverage plan, but it does not specify coverage requirements. When funding becomes available, NMFS and the Council would develop a coverage plan that is consistent with the data priorities. A coverage plan would establish a statistically sound approach and define the levels and duration of coverage within specific sectors of the fleet.

The proposed regulations include the following: 1) logistical information needed to place observers aboard vessels; 2) food and accommodation requirements; 3) safe living and working conditions; 4) access to communication equipment, navigation equipment, the bridge, logbooks required by state law, working decks, holding bins, and any other space that may be used to hold, process, weigh, or store fish; 5) notification to the observer when fish are being brought on board; 6) reasonable assistance to enable observers to carry out their duties; 7) prohibited actions including: fish for or process fish without the required observer coverage; assault, resist, oppose, impede, intimidate, harass, bribe, or interfere with an observer; interfere with or bias the observers sampling procedures; tamper with, destroy, or discard samples, equipment, records, photographic film, papers, or personal effects; require, pressure, coerce, or threaten an observer to perform crew duties; and 8) access to catch and minimum work space area. This alternative would implement general regulations that would meet the most basic needs of an observer program. If this option is selected the supporting regulations may need to be refined at a later date when the program design is more fully developed.

Observers would be a reliable source of biological data and information needed to estimate total catch; estimate discard rates by species by gear type; and collect biological information necessary to define the harvest populations for stock assessments. Although this alternative would have no direct impact on groundfish and non-groundfish resources, without accurate and timely information, the risk of error associated with conservation and management decisions is greatest. Observers would also provide additional opportunity to collect information on interactions with prohibited species, endangered/ threatened species, marine mammals and protected species.

If the program receives \$2 million of funding annually, it is expected that 15-20 full time observers could be deployed each year. If an observer program is developed, it is NMFS's intention, providing funds are available, to provide for observer training and the direct costs of deploying observers including: salaries, payroll taxes, employment insurance, medical insurance, and travel costs. Observers would be employed directly by NMFS or through a procurement contract. At a future date, NMFS and the Council may choose to explore alternative funding options or choose to compensate fishermen for all or a portion of the costs of carrying an observer. Such measures would build upon this alternative and would likely require additional rulemaking and analysis.

If this alternative is adopted, NMFS and the Council will continue to develop a coverage plan that is consistent with data priorities for the groundfish fishery. Three identified coverage approaches which could be considered in developing a coverage plan are: random selection of trips from a large pool of vessels; complete sampling of all trips taken by a small number of vessels over a specific period; or sampling a portion

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of trips by an intermediate number of vessels over a specific period. Impacts on the individual vessel depends on the coverage approach that is chosen - all vessels in the groundfish fleet or a small portion of the vessels. Regardless of the coverage strategy, each vessel within the sector(s) of the groundfish fleet designated for coverage would be required to keep NMFS or its designated agent apprised of its fishing schedule, including anticipated departure dates and times. It is also expected that additional time would be required in port for vessels to arrange for observer coverage. Vessels that are chosen to carry an observer would be responsible for providing the observer with adequate living accommodations, and food equivalent to that which is provided to the crew. Some vessels may also choose to carry additional liability insurance.

Provisions pertaining to the observer's work space and living conditions would reduce the observer's risk of injury. In addition, NMFS observer health and safety standards at §600.725 and §600.746 would ensure that fishing vessels that are required to carry observers are safe and allow the observer to carry out their required duties. These regulations encourage observers to conduct a pre-trip safety check for especially hazardous conditions that may jeopardize their personal safety. If a vessel is determined to be unsafe under §600.725 and §600.746, the observer cannot board the vessel until the identified deficiencies are corrected.

Table 1.2.1. Summary of Consequences

Consequences	Alt. 1, Status Quo	Alt. 2, Adopt observer regs
Availability of data		
Total catch and discard data	<ul style="list-style-type: none"> * No expected change in quantity or quality unless voluntary observer program is developed. * Most likely will continue to use outdated information on a few trip limit species and gear types -- increased risk of error when used to estimate total catch. * Some information on incidental catch in the shore-based whiting fleet available through use of EFPs and voluntary observers 	<ul style="list-style-type: none"> * If funding becomes available to place observers -- discard data could be provided for range of species and gear types and under current conditions - reduces error in total catch estimates.
Biological and interaction data on groundfish and non-groundfish species including prohibited species, endangered/ threatened species, marine mammals and protected species	<ul style="list-style-type: none"> * Biological data collections on harvested species is limited to landed catch * Limited amounts of biological data available from survey cruises and under EFPs. - may help to understand commercial interactions * limited data on endangered/ threatened species, marine mammals and protected species 	<ul style="list-style-type: none"> * Biological data can be collected from representative portion of bycatch species. * Will provide much needed data on overfished species. * Provides additional opportunity to collect information on interactions with prohibited species, endangered/ threatened species, marine mammals and protected species.
Data integrity		
Ability to place observers according to statistically sound coverage plan	<ul style="list-style-type: none"> * If voluntary observer program is developed there is a high risk that observer placement would be opportunistic. * Opportunistic placement of observers likely to be associated with a high risk of data misrepresenting harvest fleet. 	<ul style="list-style-type: none"> * Would allow for the placement of observers in accordance with statistically sound coverage plan.
Provide conditions that allow observers to follow scientific sampling protocols	<ul style="list-style-type: none"> * If voluntary observer program is developed and sampling protocols are not followed there is a high risk of sample error. 	<ul style="list-style-type: none"> * Would establish requirements necessary for observers to follow scientific sampling protocols by : <ol style="list-style-type: none"> 1) requiring unobstructed access to catch and catch data 2) prohibiting sample interference

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Observer Health and Well Being	<ul style="list-style-type: none"> * If voluntary observer program is developed there is a risk of personal safety to observers * If observers not placed on unsafe vessels coverage would likely be opportunistic. 	<ul style="list-style-type: none"> * Would establish work space minimum requirements. * Observer health and safety standards at §600.725 and §600.746 would apply
Cost to industry	<ul style="list-style-type: none"> * No expected change * Lack of information poses the greatest risk of overfishing if management decisions are based on inaccurate total catch data. 	<ul style="list-style-type: none"> * Reduced likelihood of overfishing. * Cost to individual likely to be between \$157 and \$3334 annually - depending on the coverage option chosen. * Number of individual vessels is likely to range between 60 and 967 - depending on the coverage option chosen. * Observer sampling could slightly increase handling time of catches. * Some vessel may too small to accommodate observer.

2.0 AFFECTED ENVIRONMENT

With the exception of the at-sea processing sector of the whiting fishery, this proposed rulemaking could potentially affect all sectors of the open access and limited entry groundfish fisheries. This regulatory proposal is intended to provide valuable information on all groundfish and on non-groundfish species.

2.1 Biological and Physical Environment.

Physical Environment

The groundfish fishery occurs in the U.S. EEZ from 3 to 200 miles off the coasts of Washington, Oregon, and California. The off shore ocean includes a diverse range of habitats including: rocky and non-rocky shelf regions, deep submarine canyons, and continental slopes and basins. A comprehensive description of the essential fish habitats in the WOC region can be found in the final Environmental Assessment/Regulatory Impact Review for Amendment 11 to the Pacific Coast Groundfish Fishery Management Plan which was prepared by the Council.

Groundfish Resources

The Pacific Coast groundfish FMP manages over 80 species, many which are caught in multispecies fisheries. These species which include an array of flatfish, rockfish, and roundfish, occur throughout the EEZ and occupy diverse habitats at all stages in their life history. Information on the interactions between the various groundfish species and between groundfish and non-groundfish species varies in completeness. While a few species have been intensely studied, there is relatively little information on most. Fewer than 20 of the groundfish species have ever been comprehensively assessed. Only Pacific whiting, a semi-pelagic merlucciid species, has been assessed annually.

An Acceptable Biological Catch (ABC) is established for every stock (a species or species group) where enough information is available. However, numerical Optimum Yields (OYs) are not established for every stock, especially where harvest has been less than ABC. Species and species groups with OYs include lingcod, Pacific whiting, sablefish, POP, shortbelly rockfish, shortspine thornyhead, longspine thornyhead, widow rockfish, chilipepper rockfish, splitnose rockfish, the minor rockfish complexes (northern and southern for nearshore, continental shelf, and continental slope species,) bocaccio, canary rockfish, yellowtail rockfish, and Dover sole. Eight species are believed to be above their precautionary thresholds: Dover sole (increasing abundance trend), English sole (trend unknown), Petrale sole (trend unknown), shortbelly rockfish (trend unknown), longspine thornyhead (declining), black rockfish (declining), chilipepper rockfish (declining if recent

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recruitment is low), and blackgill rockfish (declining).

Species near target biomass levels include Pacific whiting, yellowtail rockfish (39% of unfished level,) and sablefish (37%). There are seven species below their target biomass levels: widow rockfish (29%), shortspine thornyhead (32%), canary rockfish (7% in the south and 20% in the north), cowcod (less than 10%), bocaccio (about 2%), POP (13%), and lingcod (8.8%). Darkblotched rockfish is also thought to be below the target biomass level. Of these, POP, bocaccio, lingcod, canary rockfish, and cowcod have been declared overfished. The relative abundance and trends of Pacific cod, other flatfish, other rockfish, and other species categories are unknown; relative abundance of arrowtooth flounder is unknown but believed to be declining.

For further information on groundfish populations, see the 1999 Stock Assessment and Fishery Evaluation (SAFE) document and the Environmental Assessment for the Proposed 2000 Groundfish Acceptable Biological Catch and Optimum Yield Specifications for the Pacific Coast Groundfish Fishery and implementing management measures for 2000. These documents were prepared by Council staff.

Endangered Species

The following salmonids, which may be incidentally taken with groundfish gear, have been listed under the Endangered Species Act (ESA): Sacramento River winter chinook, Snake River fall chinook, Snake River spring/summer chinook, Central Valley spring chinook, California coastal chinook, Puget Sound chinook, lower Columbia River chinook, upper Willamette River chinook, upper Columbia River spring chinook, Hood Canal summer run chum, Columbia River chum, Central California coastal coho, Oregon coastal coho, Snake River sockeye, Ozette Lake sockeye, southern California steelhead, south-central California steelhead, central California coast steelhead, upper Columbia River steelhead, Snake River Basin steelhead, lower Columbia River steelhead, California Central Valley steelhead, upper Willamette River steelhead, middle Columbia River steelhead, Umpqua River cutthroat trout, and the southwest Washington/Columbia cutthroat trout. Review of the available information indicates that the steelhead, sockeye, and cutthroat are rarely, if ever, encountered in the groundfish fishery. Chum and coho are caught in relatively low numbers in the whiting and bottom trawl fisheries. Chinook salmon are caught incidentally to some of the groundfish net fisheries (NMFS, December 15, 1999).

Since 1992, the shore-based whiting fishery has used Exempted Fishing Permits to allow vessel operators to land unsorted catch at shore-based processing facilities where state samplers monitor a portion of the landings. In 1998, 13.3% of the whiting landings were monitored by state samplers. In recent years this fishery has taken less than 0.05 chinook per metric ton of whiting and met the terms and conditions of the Biological Opinions. The bottom trawl fishery is not being monitored at this time. The incidental take statement permits an annual bycatch of 9,000 salmon, but assumes that the magnitude and character of the fishery will not increase substantially, particularly in those areas where the bycatch rates are assumed to be highest.

Marine Mammals

Under the Marine Mammal Protection Act (MMPA), marine mammals whose abundance falls below the optimum sustainable population level (usually regarded as 60% of carrying capacity or maximum population size) can be listed as "depleted". Populations listed as threatened or endangered under the ESA are automatically depleted under the terms of the MMPA. Currently the Stellar sea lion population in the WOC is listed as threatened under the ESA and the fur seal population is listed as depleted under the MMPA. Incidental takes of these species in the Pacific coast fisheries are well under the annual Potential Biological Removal (PBR).

Section 118 of the MMPA requires that NMFS publish, at least annually, a list of fisheries that places all U.S. commercial fisheries into 1 of 3 categories based on the level of incidental serious injury and mortality of marine mammals in each fishery. Definitions of the fishery classification criteria for Category I, II, and III fisheries are found in the implementing regulations for section 118 of the MMPA (50 CFR part 229). Under the MMPA, the WOC groundfish fisheries are considered a category III fisheries where the annual mortality

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and serious injury of a marine mammal stock by the fishery is less than or equal to 1 percent of the PBR level.

Seabirds

Impacts of human activities on seabirds occur through direct mortality from 1) collisions with vessels, 2) entanglement with fishing gear, 3) entanglement with discarded plastics and other debris, and 4) shooting. Indirect impacts include 1) competition with fisheries for food, 2) alteration of the food web dynamics due to commercial and recreational removals, 3) disruption of avian feeding habits resulting from dependency on fish wastes, 4) fish-waste related increases in gull populations that prey on other bird species, and marine pollution and changes in water quality.

Seabirds are caught incidentally to all types of fishing operations, but the vulnerability of bird species to gear types differ with feeding ecology. Fishing gear used in the groundfish fishery includes trawl, hook-and-line, pot, and setnet. Hook-and-line gear occasionally catches surface-feeding seabirds that are attempting to capture bait as the line is being set; some birds are caught on hooks and drown. Trawl gear appears to catch surface-feeding and diving birds that are feeding and scavenging while the net is being hauled. Pot gear does not commonly catch birds, though rare reports of dead diving and surface-feeding birds exist in pot gear. Setnet gear, which is legal only in certain California waters, has documented impacts on seabirds as well (Wohl et al. January 1998).

2.2 Socio-economic Environment

The Commercial Groundfish Fishery

The Pacific coast groundfish fishery is a year-round, multi-species fishery that takes place off the coasts of Washington, Oregon, and California. Most of the commercial groundfish harvest is taken by trawl, longline, and trap (or pot) vessels operating in the limited entry fisheries which were established in 1994. Several open access fisheries take groundfish incidentally or in small amounts; participants in those fisheries may use, with some restrictions, longline, vertical hook-and-line, pot, setnet, trammel net, shrimp and prawn trawl, California halibut trawl, and sea cucumber trawl. Besides these non-tribal commercial fisheries, members of the Makah, Quileute, Hoh, and Quinault tribes participate in commercial, ceremonial and subsistence fisheries for groundfish off the Washington coast. Participants in the tribal commercial fisheries operate off Washington and use similar gear to non-tribal fishers. Groundfish caught in the tribal commercial fishery pass through the same markets as non-tribal commercial groundfish catch.

In 1999, excluding the at-sea processing vessels, there were 490 vessels with Pacific coast groundfish limited entry permits, of which approximately 53 percent were trawl vessels, 40 percent were longline vessels, 6 percent were trap vessels, and 2 percent were vessels that combine more than one gear type. Each permit is endorsed for a particular gear type and that gear endorsement cannot be changed, so the distribution of permits between gear types is fairly stable. In 1999, roughly 41 percent of the limited entry permits were assigned to vessels making landings in California, 37 percent to vessels making landings in Oregon, and 21 percent to vessels making landings in Washington. In 1998, 1,626 vessels participated in the open access groundfish fishery. Of these vessels, 1,077 landed their catch in California, 427 landed their catch in Oregon, and 122 landed their catch in Washington (PACFIN, October 1999).

Limited entry fishers focus their efforts on many different species, with the largest landings by volume (other than Pacific whiting) from the following species: Dover sole, sablefish, thornyheads, widow rockfish, and yellowtail rockfish. There are 55+ rockfish species managed by the Pacific coast groundfish FMP and, taken as a whole, rockfish landings represent the highest volume of non-whiting landings in the Pacific coast commercial groundfish fishery. In addition to these mixed-species fisheries, there is a distinct mid-water trawl fishery that targets Pacific whiting (*Merluccius productus*). Pacific whiting landings are substantially higher in volume than any other Pacific coast groundfish species. In 1998, by weight, whiting accounted for approximately 85 percent of all commercial shore-based groundfish landings.

With the exception of that portion of Pacific whiting catch that is processed at sea, virtually all other Pacific coast groundfish catch is processed at shore-based processing plants along the Pacific coast. By weight, 1998 commercial groundfish landings were distributed among the three states as follows: Washington, 13 percent;

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Oregon, 69 percent; California, 13 percent. By value, 1998 commercial groundfish landings were distributed among the three states as follows: Washington, 15 percent; Oregon, 43 percent; California, 42 percent. The discrepancies between the Oregon and California portions of the landings are expected because Oregon processors handle a relatively high percent of the shore-based whiting landings, a high volume, low value fishery. Conversely, California fishers land more of the low volume, high value species as a proportion of the total state-wide catch than Oregon fishers. Vessel owners and captains employ a variety of strategies to fill out a year of fishing. Fishers from the northern ports may fish in waters off of Alaska, as well as in the west coast groundfish fishery. Others may change their operations throughout the year, targeting on salmon, shrimp, crab, or albacore.

The major goal of management of the groundfish fishery throughout the 1990's was to prevent overfishing while achieving the OYs and providing year-round fisheries for the major species or species groups. For 2000, growing awareness of reduced productivity of the groundfish resource made it apparent that the goal of a year-round fishery was no longer achievable for a number of species. In addition, new legislative mandates under the Magnuson-Stevens Act gave highest priority to preventing overfishing and rebuilding overfished stocks to their MSY levels. The National Standard Guidelines at 50 CFR 600.310 interpreted this as "weak stock management," which means that harvest of healthier stocks must be curtailed to prevent overfishing or to rebuild overfished stocks. As a result a new management strategy, which diverts effort off the sea floor of the continental shelf, was chosen to rebuild these overfished species. The measures resulted in lower OYs, reduced seasons, trawl gear restrictions and more restrictive trip limits for shelf and nearshore species. For additional information on the Pacific coast groundfish fishery, see the 1999 Stock Assessment and Fishery Evaluation document prepared by the Council staff and the annual specifications and management measures for 2000.

Observers

Observers are a uniformly trained group of scientists whose objectives are data gathering. Observers use standardized biological sampling procedures which are intended to provide statistically reliable data for fishery management and stock assessment purposes. They are independent data collectors who are employed directly by NMFS, by private companies that specialize in providing observers, or through a NMFS contract. Because observers are stationed aboard vessels to gather data about the fish that are taken by the vessel and are not direct employees of the vessel, Magnuson-Stevens Act regulations (50 CFR 600.725, 600.746, and 679.50) were developed to provide for the health and well being of observers. These regulations define measures to ensure the adequacy and safety of fishing vessels that carry observers. Owners and operators of fishing vessels that carry observers are required to comply with guidelines, regulations, and conditions in order to ensure that their vessels are adequate and safe for the purposes of carrying an observer and allow normal observer functions.

3.0 BIOLOGICAL AND PHYSICAL IMPACTS OF THE ALTERNATIVES

An EA is required by NEPA to determine whether the action considered will result in significant impact on the human environment. If the action is determined not to be significant based on an analysis of relevant considerations, the EA and resulting finding of no significant impact would be the final environmental documents required by NEPA. An environmental impact statement (EIS) need only be prepared for major federal actions significantly affecting the human environment. An EA must include a brief discussion of the need for the proposal, the alternatives considered, a list of document preparers, and the impacts of the alternatives on the human environment. The purpose and need for the proposed action was discussed in section 1.1 of this document, the management alternatives were discussed in section 1.23, and the list of preparers is provided in section 8. The following section addresses the biological and physical environmental impacts of the management alternatives. Socio-economic impacts of the management alternatives, which are required by NEPA, the Regulatory Flexibility Analysis and E.O. 12866, are presented in section 4.0 of this document.

3.1 Biological And Physical Impacts

Physical Environment

The proposed action is for a monitoring program and is not expected to change current fishing behavior.

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Therefore, it is not expected to have any effects on the physical environment.

Groundfish Resources

No direct biological impacts are expected to result from the lack of on-board observers. However, if the discarded catch causes groundfish allocations to be greatly exceeded or if there are substantial discards of other species, the long-term biological stability and yield of those species may be affected. Without accurate and timely information, the risk of error associated with fishery management decisions is greatest. In the long-term, data collected by observers will have a positive affect by improving the quantity and quality of data available for stock assessments and providing fisheries managers with information needed to minimize the risks of overfishing.

Availability of data on total catch and discard -- Under alternative 1, it is reasonable to expect that very little total catch and discard data would be available for stock assessment and management decisions. Without new information, it is reasonable to expect that discard rates based on limited studies conducted in the mid-1980's will continue to be used, despite substantial reductions in cumulative trip limits and the increasing numbers of species to which trip limits apply. The lack of information may or may not threaten the long-term health of the stocks. However, unmeasured discard mortality poses the greatest risk to the stability of the groundfish stocks. Reliable information on discarded catch is needed to assess and account for total fishing mortality, if discard estimates are too low, then harvest allocations may be set too high, and the long-term health of the stock may be jeopardized.

Under status quo, State run monitoring programs to collect information on incidental catch in the shore-based portion of the Pacific whiting fishery would likely continue. Under the terms and conditions of EFPs, whiting trawl vessels are allowed to delay sorting and disposal of prohibited species and groundfish catch in excess of cumulative trip limits until the point of offloading. Delaying sorting until offloading allows state biologists to collect incidental catch data that would otherwise not be available. The use of EFPs for similar full retention programs is less likely. This is impart because of the amount of discards in many bottom trawl fisheries.

Implementation of an observer program, where vessels carry observers on a voluntary basis would be possible under alternative 1. It is likely that such a program would be similar to the EDC research project "class B" (observer samples discarded catch at sea) or "class C" (observer verifies full retention of bycatch) permits. Under the EDC program a small number of groundfish trawl vessels voluntarily used EFPs to carry observers to monitor at-sea discards and the bycatch of prohibited species. Voluntary vessel participation under the EDC "class B" was meager and there were no participants "class C". Based on participation levels under "class B" and "class C", it is reasonable to assume that a voluntary program based on voluntary participation would not adequately provide comprehensive data on total catch and discards.

The biological impacts of alternative 2 are expected to be positive. When funding becomes available, alternative 2 would provide NMFS with the authority to place observers on vessels to collect reliable biological data and information needed to estimate total catch; estimate discard rates by species by gear type; and collect biological information necessary to define the harvest populations for stock assessments. In the long-term, data collected by observers will have a positive affect by improving the quantity and quality of data that is available.

Availability of biological data on groundfish and non-groundfish species including prohibited species, endangered/threatened species, marine mammals, and protected and overfished species -- Because biological data collection occurs at the processing facility, alternative 1 limits the collection of biological data to animals in the landed catch. Under this alternative, it is reasonable to expect that biological data collections would continue to be obtained from landed catch, through the state port sampling programs. Small amounts data on animals that are commonly discarded at sea would continue to be collected during resource survey cruises or under special EFP permits. As landings occur under more restrictive trip limits and reduced seasons, the availability of animals for biological samples is further restricted. When data is lacking, changes in stock abundance and potential yield are more difficult to detect and the risk of error in estimates is increased.

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If a voluntary at-sea observer program were developed under this alternative, there would be no provisions for the placement of observers. Under this option it is reasonable to expect that observers would have no or very limited opportunities to observe some fishing strategies, reducing the opportunity to collect biological information on some species. Alternative 2, would allow for the placement of observers in accordance with a statistically sound coverage plan and allow for the collection of biological data according to scientific sampling protocols and data priorities. Observers would be a reliable source of biological data on harvested catch which is needed to define the harvest populations for stock assessments. In the long-term, the outcome of this alternative is expected to be positive because it would reduce the likelihood of overfishing by providing credible information for monitoring stock abundance and potential yield. In addition, information that is otherwise no available on the groundfish fishery interactions with non-groundfish species, such as prohibited species, would be available.

None of the management alternatives is expected to have an adverse effect on the incidental mortality levels of listed salmon species. It is reasonable to expect that no additional information on endangered species bycatch will be provided under alternative 1. Alternative 2 provides for more comprehensive collection of biological and total catch data on endangered species discarded at sea. Because very little data is available on the groundfish fishery interactions with species listed under the ESA, in the long-term alternative 2 is expected to have a positive impact by providing much needed fishery interaction data that is otherwise not available.

None of the proposed management alternatives are likely to affect the incidental mortality levels of species protected under the MMPA. The WOC groundfish fisheries are considered a category III fisheries where the annual mortality and serious injury of a stock by the fishery is less than or equal to 1 percent of the Potential Biological Removal (PBR) level. Under alternative 1, it is likely that information regarding the incidental take of marine mammals in the groundfish fishery will continue to be limited. Implementation of alternative 2 is expected to benefit MMPA species by providing additional documentation of interactions and incidental takes.

Under alternative 1, it is likely that there will continue to be very little data available on the groundfish fishery interactions with seabirds. Alternative 2 is expected to have a positive impact by providing data on seabirds that is otherwise not available.

Ability to maintain data integrity by placing observers on vessels according to a statistically sound coverage plan -- If a voluntary observer program were developed under alternative 1, vessels would have no obligation to provide NMFS or its designated agent with the logistical information necessary to place observers on vessels in accordance with a statistically sound coverage plan. In voluntary programs, observer placement tends to be opportunistic. This is because not all vessels in an observed fishery are willing to carry an observer. Observer program managers have been faced with serious obstacles when trying to selectively place observers in order to obtain data in a manner that is reliable and reasonably precise (NMFS 1993). If sample data misrepresents the activities of the observed fleet, those errors are likely to be further magnified when the data is expanded to larger portions of the fishery.

Provisions under alternative 2 would not permit a selected vessel to land groundfish catch unless the observer coverage requirements were waived due to conditions that are beyond the control of the vessel. Under alternative 2, reporting requirements would be established for all or a designated portion of the vessels in the observed fishery. Requiring vessels to routinely provide logistical information would reduce the likelihood of not being able to contact a vessel at a time when it is selected to carry an observer. By allowing observers to be placed according to a statistically sound coverage plan the data collected by observers is most likely to be representative of the observed fleet. Although there is no direct effect, the added information resulting from this alternative is expected to be positive in the long-term.

Ability to maintain data integrity by providing conditions that allow observers to follow scientific sampling protocols -- Under alternative 1, there would be no regulations defining the sampling conditions necessary for an observer to follow scientific sampling protocols. Discard information needed to assess and account for total fishing mortality and to evaluate management measures would most likely continue to be deficient. If a voluntary program were developed under alternative 1, it would be difficult to maintain the integrity of observer

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data collections and assure that valid sampling protocols were followed. Using inadequate or poor quality observer data may misrepresent harvest levels on the monitored portion of the fleet. As stated above, when poor quality data is applied to a broader portion of the fleet the errors in the data may be further magnified.

Observer data must be collected under normal fishing conditions and according to a statistically sound sampling plan. To maintain the integrity of observer data collections, NMFS must require conditions that allow observers to carry out the required duties in a manner that is consistent with scientific sampling protocols. Alternative 2 would establish requirements for vessels to provide access to the catch, prohibit actions that interfere with or bias sampling procedures, prohibit crew from tampering with samples, and require that vessels provide access to work areas, navigational equipment, and logbooks. Such provisions are necessary for observers to effectively carry out their duties. Defining the necessary sampling conditions establishes clear standards for vessels preparing for an observer and provides NMFS with the authority to address inadequacies that may exist on some vessels.

3.2 Summary of the Biological Impacts

No direct biological impacts are expected to result from the lack of on-board observers. However, if the discarded catch causes groundfish allocations to be greatly exceeded or if there are substantial discards of other species, the long-term biological stability and yield of those species may be affected. Without accurate and timely information, the risk of error associated with fishery management decisions is greatest. In the long-term, data collected by observers will have a positive affect by improving the quantity and quality of data available for stock assessments and providing fisheries managers with information needed to minimize the risks of overfishing.

Under alternative 1, status quo, there is no expected change in the level of information available to manage the fishery. Information needed to assess and account for total fishing mortality and to evaluate management measures, and biological data on harvested groundfish and non-groundfish species including prohibited species, endangered/threatened species, marine mammals, seabirds, and protected species would most likely continue to be deficient.

Under this alternative, it would be possible to implement an observer sampling program like the EDC research project class "B" or "C" permits, in which a small number of groundfish trawl vessels carry observers on a voluntary basis. If such a voluntary program were developed vessels would have no obligation to provide NMFS or its designated agent with the logistical information necessary to place observers on vessels in accordance with the defined coverage strategy and it is unlikely that all vessels would be willing to carry an observer. In voluntary programs, observer placement tends to be opportunistic. Managers of observer programs with voluntary coverage requirements have been faced serious obstacles when trying to selectively place observers in order to obtain data in a manner that is reliable and reasonably precise (NMFS 1993). If a voluntary program were developed under alternative 1, it would be difficult to assure that scientific sampling protocols were followed and thereby maintain the integrity of observer data collections.

Promulgation of the regulations under alternative 2, would establish the regulatory framework necessary to support an on-board observer program. Adopting such a framework is expected to allow for the deployment of observers in accordance with a statistically sound coverage plan and permit the observers to work under conditions that would allow them to sample according to NMFS protocols. Data collected by observers would improve the quantity and quality of data available for stock assessments and provide fisheries managers with information needed to develop effective rebuilding plans for depleted stocks. Improved information is expected to minimize the risk of overfishing other groundfish and non-groundfish species. In the long-term, positive biological impact is expected from alternative 2.

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4.0 SOCIO-ECONOMIC IMPACTS OF THE ALTERNATIVES

This section provides information about economic and socio-economic impacts of the management alternatives including identification of the individuals or groups that may be affected by the action, the nature of these impacts, quantification of the economic impacts if possible, and discussion of the tradeoffs between qualitative and quantitative benefits and costs.

The requirements for all regulatory actions specified in E.O. 12866 are summarized in the followings statement from the order: "In deciding whether and how to regulate, agencies should assess all costs and benefits of available regulatory alternatives, including the alternative of not regulating. Costs and benefits shall be understood to include both quantifiable measures (to the fullest extent that these can be usefully estimated) and qualitative measures of cost and benefits that are difficult to quantify, but nevertheless essential to consider. Further, in choosing among alternative regulatory approaches, agencies should select those approaches that maximize net benefits (including potential economic, environmental, public health and safety, and other advantages; distributive impacts; and equity), unless a statute requires another regulatory approach."

4.1 Socio-economic Impacts

Cost to industry

Under alternative 1, status quo, there would be no provisions established to collect information from species that are discarded at sea. It is reasonable to assume that no comprehensive data collection program would be developed under this option. The lack of information may or may not threaten the health of the fishery. However, managing a fishery without accurate and timely total catch data poses the greatest risks to the economic stability in the fishery. Reliable information on discarded catch is needed to assess and account for total fishing mortality, if discard estimates are too low, then harvest allocations may be set too high, and the long-term health of the stock may be jeopardized.

Implementation of an observer sampling program where vessels carry observers on a voluntary basis, would be possible under alternative 1. If a voluntary observer program were developed it is expected that vessels carrying observers would represent a much smaller portion of the fleet than that seen under alternative 2, but individual vessels would incur similar costs relating to additional time required to arrange for observer coverage, food and accommodations, and additional liability insurance. Under a voluntary system, vessels may also choose to pay for a larger portion of the costs associated with observers including: salaries, payroll taxes, employment insurance, medical insurance, and travel costs.

Alternative 2 creates the regulatory structure needed to deploy observers. If alternative 2 is adopted, it is NMFS's intention, providing funds are available, to provide for observer training and the direct costs of deploying observers including: salaries, payroll taxes, employment insurance, medical insurance, and travel costs. Observers would be employed directly by NMFS or through a procurement contract. The observer's employer would provide protection and indemnity insurance to cover property damage claims that may result from actions of the observer. At a future date, NMFS and the Council may choose to explore alternative funding options or choose to compensate fishermen for all or a portion of the costs of carrying an observer. Such measures would build upon this alternative and would likely require additional rulemaking and analysis.

The costs to industry to deploy observers under alternative 2, consists of several components that would vary depending on the coverage strategy that was selected. For the purposes of this analysis, staff assumes observers would be stationed on vessels in accordance with a statistically sound coverage plan based on random sampling. Three approaches could be taken in developing a coverage plan include: random selection of trips from a large pool of vessels; complete sampling of all trips taken by a small number of vessels over a specific period; or sampling a portion of trips by an intermediate number of vessels over a specific period. Impacts of this rulemaking on the individual vessel depends on the coverage approach that is chosen - all

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vessels in the groundfish fleet or a small portion of the vessels . Of the 2,116 vessels in the open access and limited entry fisheries, the number of vessels that could be required to carry an observer annually ranges from 60 (if each observer samples one LE vessel over an entire cumulative trip limit period) to 967 (if observers sample vessel trips at random and no vessel is sampled more than once and each vessel require two observers to have all days sampled), depending on the coverage strategy that is employed (Table 4.1.1).

Table 4.1.1. Potential number of vessels sampled by 20 full time observers

Annual working days per observer ((365 days x 5 day/7 day)- 10 holidays-10 vacation days).....	241 days
Annual at-sea working days per observer (Providing 60% of time the observer's time is at sea).....	145 days
Estimated annual days at-sea for 20 observers.....	2,900 days
Maximum number of vessels sampled annually:	
If observers sample vessel trips at random and no vessel is sampled more than once (Providing each vessel requires 3 at-sea observer days).....	967 vessels
Minimum number of vessels sampled annually:	
If each observer samples one LE vessel over an entire cumulative trip limit period (providing each vessel requires two observers to have all at-sea days covered)	60 vessels

Under alternative 2, each vessel within the sector(s) of the groundfish fleet designated for coverage would be required to keep NMFS or its designated agent apprized of its fishing schedule, including anticipated departure dates and times. This is expected to be a toll free 5 minute phone call to and individual or a messaging service. The cost to the industry to provide this information increases as the number of vessels in the pool of potentially observed vessels increases. The maximum cost to the fleet to provide logistical information would occur if the coverage strategy were to randomly sample trips from the entire open access and limited entry fleet.

The estimated annual burden for an individual vessel to provide logistical information needed to place observers is expected to be 2.9 hours or \$69.6 for the average limited entry vessel and 1.8 hours or \$43.2 for the average open access vessel (Table 4.1.2). The estimated annual time burden to the fleet depending on the coverage alternative that is selected could range from 1025 hours or \$24,600 if only limited entry vessels are required to provide logistical information to 3,451 hours or \$82,824 if all open access and limited entry vessels are considered to be in the pool and are required to provide logistical information. It is also expected that additional time would be required in port for vessels to arrange for observer coverage.

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Table 4.1.2 Estimated Annual Time Needed for Vessels to Provide Fishing Logistical information

FISHING TRIP DEPARTURE NOTICE:	
Cost to individual vessel:	
Limited Entry Trawl (25 trips/yr x 5 min/notice).....	2.1 hour/year
Non-trawl (25 trips/yr x 5 min/notice).....	2.1 hour/year
Cost for the individual vessel (2.1 hours x \$24 ¹ /hour).....	\$50.4
Open Access (12 trips/yr x 5 min/notice).....	1.0 hour/year
Cost for the individual vessel (1.0 hours x \$24 ¹ /hour).....	\$24.0
If all open access and limited entry vessels are required to provide notice:	
Annual time burden to the fleet (2,116 vessels x 15 trips/yr x 5 min/notice).....	2,645 hours/year
Annual costs to fleet (2,645 x \$24 ¹ /hour).....	\$63,480
If only limited entry vessels are required to provide notice:	
Annual time burden to the fleet(490 vessels x 25/trips/yr x 5/min/notice)	1,020 hours/year
Annual costs to fleet (1,020 x \$24 ¹ /hour).....	\$24,480
CEASE FISHING NOTICE:	
Cost to individual vessel: (10 trips/yr x 5 min/notice).....	0.8 hour/year
Cost for the individual vessel (0.8 hours x \$24 ¹ /hour).....	\$ 19.2
If observers sample all OA and LE vessel trips at random and no vessel is sampled more than once:	
Annual time burden to the fleet (967 vessels x 10 departures/yr x 5 min/notice).....	806 hours/year
Annual costs to fleet (806 hours x \$24 ¹).....	\$19,344
If observers sample only one LE vessel over an entire cumulative trip limit period:	
Annual time burden to the fleet (60 vessel x 5 min/notice)	5 hours/year
Annual costs to fleet (5 hours x \$24 ¹ /hour).....	\$120
ANNUAL COST TO THE INDIVIDUAL VESSEL	
Limited entry (2.9 hours).....	\$69.6 annually/vessel
Open Access (1.8 hours).....	\$43.2 annually/vessel
COST TO FLEET FOR PROVIDING LOGISTICAL INFORMATION	
Minimum cost (1,025 hours).....	\$24,600 annually
Maximum cost (3,451 hours).....	\$82,824 annually

¹ Washington State Office of Employment Services (www.wa.gov) -- 1997 Mean hourly wage for first-line supervisor in agricultural, forestry, fishing, and related work

Under alternatives 2, vessels that are chosen to carry an observer would be responsible for providing the observer's living accommodations and food equivalent to that which is provided to the crew. Providing food for an observer is expected to increase costs to the vessel by as much as \$30/observer day. Again the cost to an individual vessel would depend on the coverage option that was selected and could range from \$90, if individual trips were selected at random from a large pool of vessels, to \$3240 if a small number of vessels carried observers on every groundfish trip (108 days) throughout the entire year (Table 4.1.3). If a vessel were to carry an observer everyday of the year, the cost to the individual vessel could be as high \$10,950. This upper limit is unlikely, since no vessels currently fishes everyday of the year. The information is not available to estimate indirect costs such as those associated with a possible reduction in crew size if crew members are displaced because of limited bunk space. Vessels may also incur costs if they choose to carry additional liability insurance. These costs would vary between individual vessels depending on the insurance carriers minimum allowed coverage period, and the coverage approach that is taken. Adequate information to estimate the costs to the vessel was not available for this analysis. If it is determined that the burden of providing food and accommodations for the observer is too great for some portions of the groundfish fleet, NMFS may need to develop a plan to compensate vessels for these costs.

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Table 4.1.3. Estimated food and accommodation costs to vessels

Alternative 1 - Status quo	
No at-sea observer coverage.....	\$0/day
Alternative 2 - Establish regulatory framework to support an at-sea observer sampling program	
MAXIMUM NUMBER OF VESSELS AFFECTED, MINIMUM COST PER VESSEL	
Estimated number of vessels affected.....	967 vessels
Annual at-sea observer days at sea.....	2,900 days
Annual costs to the fleet for food and accommodations (\$30 ¹ /day x 3 days x 967 vessels).....	\$87,030/year
If observers sample open access and limits entry vessel trips at random and no vessel is sampled more than once	
Estimated at-sea observer days per vessel trip.....	3 days
Annual cost for food and accommodations per vessel (\$30 ¹ /day x 3 days).....	\$90/year
Annual costs to the fleet for food and accommodations (\$30 ¹ /day x 3 days x 967 vessels).....	\$87,030/year
MINIMUM NUMBER OF VESSELS AFFECTED, MAXIMUM COST PER VESSEL	
Estimated number of vessels affected.....	120 vessels
Annual at-sea observer days at sea.....	2,900 days
Annual costs to the fleet for food and accommodations (2900 days x \$30/day).....	\$87,000/year
If each observer samples only one limited entry vessel over an entire cumulative trip limit period	
Estimated at-sea fishing days per period for groundfish:	
1 mo period.....	9 days
2 mo period.....	18 days
3 mo period.....	27 days
Estimate annual cost for food and accommodations per vessel for groundfish trips	
1 mo period (9 days x \$30 ¹).....	\$270/year
2 mo period (18 days x \$30 ¹).....	\$540/year
3 mo period (27 days x \$30 ¹).....	\$810/year
Estimated fishing days possible in a year (108 days x \$30 ¹).....	\$3,240/year
Maximum possible cost for food and accommodations per vessel if all days in a cumulative tri limit period are monitored	
1 mo period (30 days x \$30 ¹).....	\$900/year
2 mo period (60 days x \$30 ¹).....	\$1,800/year
3 mo period (90 days x \$30 ¹).....	\$2,700/year
Maximum fishing days possible in a year (365 days x \$30 ¹).....	\$10,950/year

¹1999 Government Services Administration standard (CONUS) per diem rates for meals and incidentals....\$30/day

Prior to placing an observer on board a vessel for the first time, officers and crew may be requested to voluntarily participate in a pre-trip meeting with an observer and supervisory program staff. This would be a brief meeting, less than one hour, in which the roles and responsibilities of the operator, crew, and observer would be discussed. The estimated annual time burden for an individual vessel to participate in a pre-trip meeting is expected to be .5 hours (Table 4.1.4), or \$24. The estimated annual cost burden to the fleet depending on the coverage option that is selected could range from 30 hour to 484 hour or \$1,440 to \$23,232.

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Table 4.1.4. Estimated Burden for Vessels to Provide for Pre-cruise Meeting

OBSERVER PLACEMENT MEETINGS:	
Hours for individual vessel:.....	0.5 hours/year
Cost for the individual vessel (0.5 hours x \$48 ¹ /hour for captain and 2 crew).....	\$24/year
If observers sample all OA and LE vessel trips at random and no vessel is sampled more than once:	
(967 vessels x 0.5 meetings/yr x 1 hour/meeting).....	484 hours/year
Cost to the fleet (484 hours x \$48 ¹ /hour for captain and 2 crew on each vessel).....	\$23,232/year
If observers sample only one limited entry vessel over an entire cumulative trip limit period:	
(60 vessels x 1 meetings/yr x 0.5 hour/meeting).....	30 hours/year
Cost to the fleet (30 hours x \$48 ¹ /hour for captain and 2 crew on each vessel).....	\$1,440/year

¹ Washington State Office of Employment Services (www.wa.gov) -- 1997 Mean hourly wage for first line supervisors and all other agricultural, forestry, fishing, and related workers

Observer Health and Well Being

The safety, health, and well-being of observers while stationed aboard fishing vessels is of great priority. Magnuson-Steven Act, Observer Health and Safety provisions at 50 CFR part 600 (FR 27213 May 18, 1998) adopted U.S. Coast Guard (USCG) safety inspection standards as minimum requirements a vessel must meet to be deemed safe and adequate for the purposes of carrying observers. Vessels that carry observers are required to undergo USCG safety inspections or examinations; display valid USCG inspection decals or certificates; and maintain safe conditions at all times when an observer is aboard as well as during an observer's boarding and disembarking. Vessels carrying observers are also required to comply with any applicable regional requirements to assure that the vessels are adequate and safe and allow normal observer functions to be carried out. In an observer program with mandatory coverage requirements, a vessel that failed to meet the requirements at § 600.725 and § 600.746 would not be permitted to fish until the safety requirements were met and the required observer was aboard.

The USCG safety inspections or examinations, which take approximately 4 hours, are performed at the dock at no cost to the vessel owner. Because the vessel owner/operator would be able to schedule the inspection or examination at a time that is convenient for the owner/operator, such as when the vessel is not fishing, the requirement for an inspection or examination is not likely to result in any economic loss associated with lost fishing days.

U.S. Coast Guard dock-side safety inspections are generally two years apart. Because of the time between inspections, it is possible for a vessel to pass an inspection yet be out of compliance at the time an observer boards. Therefore the regulations at § 600.725 and § 600.746 encourage observers to use objective criteria to conduct a pre-trip safety check for especially hazardous conditions that may jeopardize their personal safety. This is not to be confused with an assessment of hull integrity or seaworthiness. The intent of the rule is not to empower an observer as a USCG enforcement official. Its purpose is to encourage an observer to check major safety items identified in sec. 600.746 § (3); if these items are absent or unserviceable, the rule empowers the observer not to sail with the vessel until those deficiencies are corrected. If an observer refuses to board an unsafe vessel in a fishery that requires mandatory coverage, a vessel may be delayed resulting in lost fishing time. NMFS took this issue into consideration in the Final Regulatory Flexibility Analysis for this rule. To reduce the risks of potential delays, NMFS recommended that the vessel owners/operators arrange for the observer to arrive early and make a pre-trip safety check. Because of the trip-limit management regime, which currently is used in most Pacific coast groundfish fisheries, lost catch opportunity if a vessel is delayed is unlikely. However, in derby style fisheries, such as the three-tiered sablefish fishery, lost catch opportunity may result if the vessel is delayed. Advanced planning would allow time to correct minor problems without delaying the fishing trip.

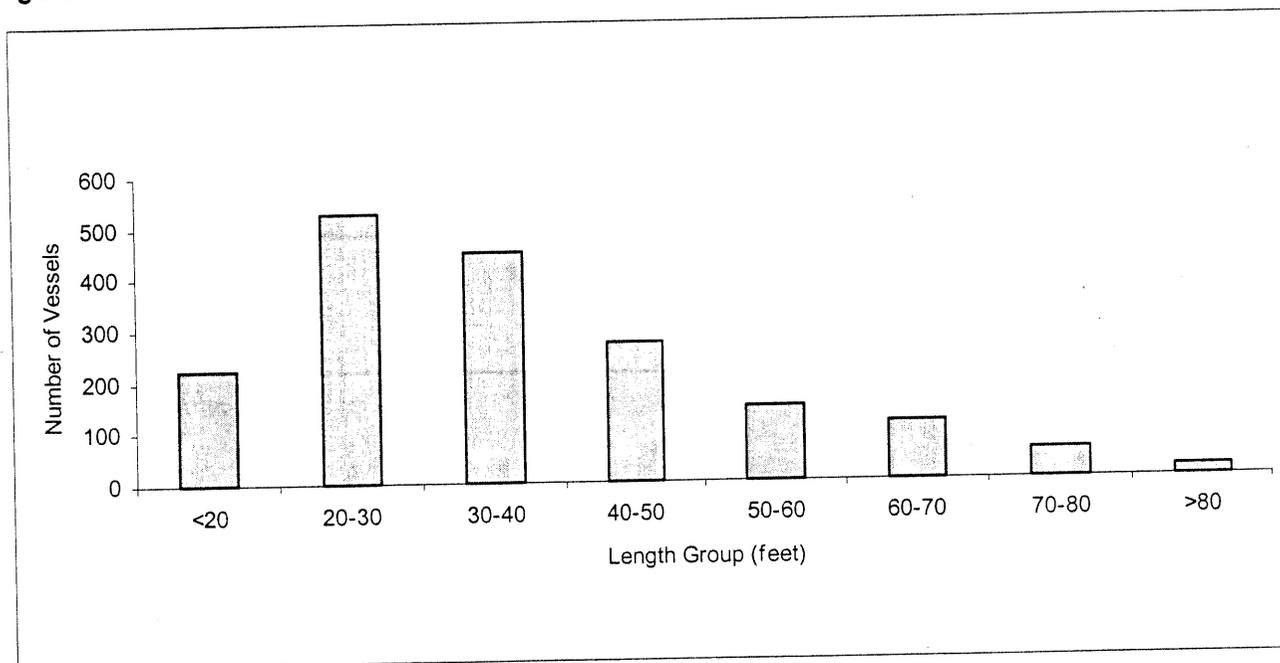
In addition to the cost associated with preventative measures is the cost associated with lost fishing time which could result if an observer became seriously injured or ill. If such an incident occurred it is likely that a

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vessel could be required to stop fishing and immediately seek medical attention. Such occurrences are expected to be rare, making it difficult to assess the impact on the individual vessel or fleet.

Under alternative 2, observers could be expected to perform multiple duties at-sea including; estimating total catch, sampling for catch and discard composition, collecting biological data and specimens, and collecting data on the operational characteristics of the vessel and fishing effort. For an observer to effectively follow sampling protocols vessels need to provide adequate sampling facilities, such as access to sorted and/or unsorted catch, as are proposed under alternative 2. This may result in increased handling time if sorting of the catch needs to be slowed or centralized to allow an observer to collect samples. The sample station requirement may reduce work and storage space for vessel activities. Within the groundfish fleet there are many vessels under 40 feet in length (Figure 1). It is likely that the smallest groundfish vessels would be most affect by time and space requirements, however, without minimal sample space and adequate time to collect samples data quality cannot be assured. If it is determined that a vessel is simply too small to accommodate an observer, alternative methods of sampling may need to be considered. A profile of groundfish vessel lengths can be seen in Figure 4.1.1.

Figure 4.1.1 All Groundfish Vessels by length Category, Participants From 1994 to 1998 (PACFIN)



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Among the vessels in the open access and limited entry groundfish fisheries that could be selected to carry an observer, there are substantial differences in terms of the annual ex-vessel value of their groundfish and WOC catch. Tables 4.1.4. and 4.1.5. illustrates these revenue differences by state and sector of the fleet. As a result of funding limitations and the need to collect data in accordance with a statistically reliable coverage plan, it may only be possible to provide coverage for one sector of the fleet or one geographical area during a given year. Coastwide in 1999, approximately 9% of the limited entry trawl fleet, which includes the shore-based whiting vessels, had annual ex-vessel revenues from groundfish that were less than \$25,000 and 4% had annual gross fishery revenues that were less than \$25,000. This is compared to the limited entry fixed gear fleet in which 30% had annual ex-vessel groundfish revenues less than \$25,000 and 15% had annual gross fishery revenues that were less than \$25,000. In the open access fleet, which is comprised of many small vessels that have fewer and shorter trips, 97% of the fleet had annual ex-vessel groundfish revenues less than \$25,000 and 71% had annual gross fishery revenues that were less than \$25,000. It is expected that catch reduction in 2000 will lead to a large portion of the fleet having revenues less than \$25,000 annually.

Table 4.1.4. Percentage of Limited entry and Open Access Vessel Annual Groundfish Ex-vessel Revenue Category and State, 1999 (thousands of dollars)

	<\$5	\$5-\$25	\$25-50	\$50-\$100	\$100-\$200	>200
	Percent	Percent	Percent	Percent	Percent	Percent
WASHINGTON:						
Limited Entry						
Trawl	0	0	0	20	32	48
Non-trawl	5	18	33	42	2	0
Open Access	85	15	0	0	0	0
OREGON:						
Limited Entry						
Trawl	2	3	9	9	34	44
Non-trawl	3	7	37	36	17	0
Open Access	83	15	1	0	0	0
CALIFORNIA:						
Limited Entry						
Trawl	10	6	9	28	33	15
Non-trawl	24	26	24	18	6	1
Open Access	80	16	3	1	0	0
COASTWIDE:						
Limited Entry						
Trawl	5	4	8	18	33	32
Non-trawl	12	18	31	30	8	1
Open Access	81	16	2	1	0	0

Note: A vessel having a permit at any time during the year was treated as LE for the year. Any permitted vessel with a trawl endorsement was assigned to the LE trawl group. Only vessels that earned groundfish revenue during 1998 were included. Catch from vessels landed in multiple states was attributed to the state in which the groundfish revenue was greatest.

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Table 4.1.5. Percentage of Limited entry and Open Access Vessel by Gross Annual Ex-vessel Revenue Category and State, 1999 (thousands of dollars)

	<\$5	\$5-\$25	\$25-50	\$50-\$100	\$100-\$200	>200
	Percent	Percent	Percent	Percent	Percent	Percent
WASHINGTON:						
Limited Entry						
Trawl	0	0	0	16	32	52
Non-trawl	2	15	30	48	5	0
Open Access	40	27	10	10	9	4
OREGON:						
Limited Entry						
Trawl	1	1	4	4	25	65
Non-trawl	0	0	12	17	37	34
Open Access	35	34	11	8	7	5
CALIFORNIA:						
Limited Entry						
Trawl	4	3	2	14	41	36
Non-trawl	5	18	24	35	14	4
Open Access	42	30	12	10	5	1
COASTWIDE:						
Limited Entry						
Trawl	2	2	3	10	33	51
Non-trawl	3	12	22	34	18	12
Open Access	40	31	12	10	6	3

Note: A vessel having a permit at any time during the year was treated as LE for the year. Any permitted vessel with a trawl endorsement was assigned to the LE trawl group. Only vessels that earned groundfish revenue during 1998 were included. Catch from vessels landed in multiple states was attributed to the state in which the groundfish revenue was greatest.

If additional federal resources are not available for enforcing the requirements proposed under alternative 2. Given that supporting an at-sea observer program would be high among conservation and management priorities, enforcement resources may be directed away from existing regulations.

Fishing Communities and Impacts

The Magnuson-Stevens Act requires that actions taken to implement FMPs be consistent with 10 national standards, one of which requires that conservation and management measures "take into account the importance of fishery resources to fishing communities in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities." Commercial and recreational fisheries for Pacific coast groundfish contribute to the economies and shape the cultures of numerous fishing communities in Washington, Oregon, and California. In setting this year's specifications and management measures, the Council took several steps to accommodate the needs of those communities within the constraints of requirements to rebuild overfished stocks and to prevent overfishing. In general, the Council allows the largest harvest possible, consistent with conservation needs of the fish stocks.

In general, managing a fishery without accurate and timely total catch data poses the greatest risks to the economic stability in the fishery. Reliable information on discarded catch is needed to assess and account for total fishing mortality, if discard estimates are too low, then harvest allocations may be set too high, and the long-term health of the stock may be jeopardized. By adopting regulations to support an on board observer program the long-term impact on communities is expected to be positive because it would reduce the likelihood of overfishing by providing credible information for monitoring stock abundance and potential yield.

This proposed rule defines vessel responsibilities, but does not specify coverage requirements for individual vessels or portions of the groundfish fleet. A coverage plan will be developed at a later point when funding becomes available. When such a plan is developed, it is most likely that the open access and limited entry

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groundfish fleets will be divided into sectors based on criteria such as gear type, fishing period, geographical location, or fishing strategy. Each sector may be required to have a different level of observer coverage. Sectors with the greatest annual catch of groundfish or those that most frequently interact with priority species, for which there is a serious need for information, could be required to have a substantially higher proportion of observer coverage than the other sectors. Until a coverage plan is developed, it is not possible to know which communities will be affected and the degree of the impacts.

Detailed information on the fishing communities of Washington, Oregon and California can be found a communities description document which has been prepared by the Pacific Fishery Management Council Staff.

4.2 Summary of Socio-economic Impacts

It is unknown how the lack of information under status quo (alternative 1) is affecting the long-term health of the fishery. The lack of discard data used to estimate total catch poses the greatest risks to the economic stability in the fishery. If discard estimates are too high then harvest allocations may be set too low, resulting in the industry foregoing some short-term yield, and if the discard estimates are too low the long term yield and stability of the fishery may be affected.

The costs to deploy observers under alternative 2, consists of seven components: 1) logistical information, 2) liability insurance, 3) food and living accommodations, 4) safety requirements, 5) a pre-trip meeting, and 6) adequate sample space and time, 7) liability insurance. The total costs to the individual vessel and to the fleet would vary depending on the coverage strategy that was used, as would the number of vessels affected. The sum of these costs is estimated to range between \$157 and \$3334 (\$11,044 if a vessel fished every day of the year) for the individual vessel and \$113,040 and \$193,086 for the fleet (see Table 4.2.1). The lowest costs to the individual vessel occurs when each observer samples only one limited entry vessel over an entire cumulative trip limit period and the highest cost to the individual vessel occurs when observers samples vessel trips at random and no vessel is sampled more than once. However, the highest and lowest costs to the fleet are in reverse order.

Among the vessels in the open access and limited entry groundfish fisheries that could be selected to carry an observer, there are substantial differences in terms of annual ex-vessel value of their groundfish and WOC catch, the number of days fished per year, and the size of living and work space. It is likely that the smallest groundfish vessels would be most affect by the requirements under alternative 2, however, without minimal sample space, safe conditions, and adequate time to collect samples data quality cannot be assured. If it is determined that a vessel is simply too small to accommodate an observer, alternative methods of sampling may need to be considered. Similarly, vessels with the least revenue may be excessively burdened if required to carry an observer over an extended period of time or for a large proportion of all fishing trips in a year.

Table 4.2.1 Annual Estimated Cost Burden For Businesses to Comply with Proposed Regulations Given the Range of Coverage Strategies

	Limited Entry Only (sample cumulative periods)		Limited Entry and Open Access (sample of random trips)	
	Cost per vessel	Cost to Fleet	Cost per vessel	Cost to Fleet
Logistical Reports				
Fishing Tri p Departure Notice	\$50.40	\$24,480.00	\$24.00	\$63,480.00
Cease Fishing	\$19.20	\$120.00	\$19.20	\$19,344.00
Food & Accommodations	\$3,240 ¹	\$87,000.00	\$90.00	\$87,030
Pre-trip Meeting	\$24.00	\$1,440.00	\$24.00	\$23,232
Total Costs	\$3333.6	\$113,040	\$157.2	\$193,086

¹ Assumes 108 fishing days per year

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5.0 CONSISTENCY WITH THE FMP AND OTHER APPLICABLE LAWS

5.1 Consistency with the FMP

The socio-economic framework in the Pacific Coast Groundfish FMP requires that proposed management measures and viable alternatives be reviewed and consideration given to the following criteria: a) how the action is expected to promote achievement of the goals and objectives of the FMP, b) likely impacts on other management measures, c) biological impacts, d) and economic impacts, particularly on the cost to the fishing industry, and e) accomplishment of one of a list of factors.

GOALS AND OBJECTIVES OF THE FMP

The Council is committed to developing long-range plans for managing the Pacific Coast groundfish fisheries that prevent overfishing and loss of habitat, yet provide the maximum net value of the resource, and achieve maximum biological yield. Alternatives 2 is consistent with FMP goal 1-objective 1, and goal 3-objective 10.

Goal 1- Conservation: Objective 1 -- maintain an information flow on the status of the fishery and the fishery resource which allows for informed management decisions as the fishery occurs."

Goal 3- Utilization: Objective 10 -- strive to reduce the economic incentives and regulatory measures that lead to wastage of fish. Also, develop management measures that minimize bycatch to the extent practicable and, to the extent that bycatch cannot be avoided, minimize the mortality of such bycatch. In addition, promote and support monitoring programs to improve estimates of total fishing-related mortality and bycatch, as well as those to improve information necessary to determine the extent to which it is practicable to reduce bycatch and bycatch mortality.

LIKELY IMPACTS ON OTHER MANAGEMENT MEASURES AND OTHER FISHERIES

Data collected by observers would improve the ability to monitor some fisheries or sectors of the fleet, and is likely to provide information that can be used to assess the effectiveness of some management measures. As a means to address resource conservation issues, section 6.3.1 of the FMP authorizes the use of at-sea observers to collect data that is not available and would otherwise be too onerous for some fishermen to collect.

ECONOMIC IMPACTS, PARTICULARLY ON THE COST TO THE FISHING INDUSTRY

The economic impacts and costs to the industry have been addressed in sections 4.1 and 4.2.

ACCOMPLISHMENT OF ONE OF THE FACTORS LISTED IN FMP SECTION 6.2.3.

Under the socio-economic framework, the proposed action must accomplish at least 1 of the criteria defined in section 6.2.3 of the FMP. Alternative 2 is likely to accomplish objective 2) provide information to avoid exceeding a quota, harvest guideline or allocation, and objective 13) maintain data collection and means for verification.

5.2 Magnuson-Stevens Fishery Conservation and Management

The Magnuson-Stevens Act at 16 U.S.C. 1853(b)(8) provides that an FMP may require that one or more observers be carried on board a vessel of the United States engaged in fishing for species that are subject to the plan, for the purpose of collecting data necessary for the conservation and management of the fishery. Under the Magnuson-Stevens Act at 16 U.S.C. 1855(d), the Secretary of Commerce, acting through NMFS, has general responsibility to carry out any fishery management plan, and may promulgate such regulations as may be necessary to discharge this responsibility.

On March 3, 1999 those portions of Amendment 11 to the Pacific Coast Groundfish FMP concerning the reduction of bycatch and bycatch mortality were not approved by NMFS. Amendment 11 addresses bycatch

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through the FMP's framework mechanism, by revising one of the objectives of the FMP to read, "Strive to reduce the economic incentives and regulatory measures that lead to wastage of fish. Also, develop management measures that minimize bycatch to the extent practicable and, to the extent that bycatch cannot be avoided, minimize the mortality of such bycatch. In addition, promote and support monitoring programs to improve estimates of total fishing-related mortality and bycatch, as well as those to improve information necessary to determine the extent to which it is practicable to reduce bycatch and bycatch mortality." Although NMFS supports the Council's continued use of framework provisions in the FMP's regulatory structure, the bycatch provisions in Amendment 11 fail to respond meaningfully to the bycatch requirements of the Magnuson-Stevens Act. Requirements at Section 303(a)(11) of the Magnuson-Stevens Act clearly state that an FMP must "establish a standardized reporting methodology to assess the amount and type of bycatch occurring in the fishery, and include conservation and management measures that, to the extent practicable and in the following priority-- (A) minimize bycatch; and (B) minimize the mortality of bycatch which cannot be avoided." Efforts to establish provisions for an observer program aimed at collecting total catch data including at-sea discards, would address a portion of the Magnuson-Stevens Act bycatch requirements.

Essential Fish Habitat (EFH)

The Magnuson-Stevens Act requires that "each Federal agency shall consult with the Secretary of Commerce with respect to any action authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken, by such agency that may adversely affect any essential fish habitat identified under this Act." EFH is defined as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." EFH for WOC groundfish is further defined in Amendment 11 to the Pacific Coast FMP as "the entire EEZ and marine coastal waters inshore of the EEZ." NMFS guidelines (62 FR 66553, December 19, 1997) state that "adverse effects from fishing may include physical, chemical, or biological alterations of the substrate, and loss of, or injury to, benthic organisms, prey species and their habitat, and other components of the ecosystem..." The proposed action under alternative 2 is to allow implementation of a sampling program to monitor approved fishing activities. Because the action is not expected to change fishing behavior from the existing circumstances, no adverse impacts on EFH are expected.

5.3 Paperwork Reduction Act

Alternatives 2 contain a collection-of-information subject to the PRA. A request for approval of the collection will be submitted to the OMB. Under this rulemaking vessels would be required to submit information that would be used to coordinate and conduct effective and efficient deployment of observers. No new forms are proposed with this rulemaking. Notwithstanding any other provision of law, no person is required to respond to nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the PRA unless that collection of information displays a currently valid OMB Control Number.

5.4 Endangered Species Act

NMFS issued Biological Opinions under the ESA on August 10, 1990, November 26, 1991, August 28, 1992, September 27, 1993, May 14, 1996, and December 15, 1999 pertaining to the impacts of the groundfish fishery on Sacramento River winter chinook, Snake River fall chinook, Snake River spring/summer chinook, Central Valley spring chinook, California coastal chinook, Puget Sound chinook, lower Columbia River chinook, upper Willamette River chinook, Upper Columbia River Spring chinook, Hood Canal summer run chum, Columbia River Chum, Central California coastal coho, Oregon coastal coho, Snake River sockeye, Ozette Lake sockeye, southern California steelhead, south-central California steelhead, central California coast steelhead, upper Columbia River steelhead, Snake River Basin steelhead, lower Columbia River steelhead, California Central Valley steelhead, upper Willamette River steelhead, middle Columbia River steelhead, Umpqua river cutthroat trout, and the southwest Washington/Columbia cutthroat trout. The opinions concluded that implementation of the FMP for the Pacific Coast Groundfish Fishery is not expected to jeopardize the continued existence of any endangered or threatened species under the jurisdiction of NMFS, or result in the destruction or adverse modification of critical habitat. This rule is within the scope of these consultations. Because the impacts of this action fall within the scope of the impacts considered in these Biological Opinions, additional consultations on these species are not required for this action. None of the management alternatives is

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available. Discussion on Steller sea lions, which are listed as threatened in the WOC, can be found in section 3.4.

5.5 Marine Mammal Protection Act

Under the MMPA, marine mammals whose abundance falls below the optimum sustainable population level (usually regarded as 60% of carrying capacity or maximum population size) can be listed as “depleted”. Populations listed as threatened or endangered under the ESA are automatically depleted under the terms of the MMPA. Currently the Stellar sea lion population in the WOC is listed as threatened under the ESA and the fur seal population is listed as depleted under the MMPA. Incidental takes of these species in the Pacific coast fisheries are well under the annual PBR. None of the proposed management alternatives are likely to affect the incidental mortality levels of species protected under the MMPA.

The WOC groundfish fisheries are considered category III fisheries where the annual mortality and serious injury of a stock by the fishery is less than or equal to 1 percent of the PBR level. Under alternative 1, it is likely that information regarding the incidental take of marine mammals in the groundfish fishery will continue to be limited. Implementation of alternative 2 is expected to benefit MMPA species by providing additional documentation of interactions and incidental takes.

5.6 Coastal Zone Management Act

Section 307(c)(1) of the Federal Coastal Zone Management Act (CZMA) of 1972 requires all federal activities which directly affect the coastal zone be consistent with approved state coastal zone management programs to the maximum extent practicable. Under the CZMA, each state develops its own coastal zone management program which is then submitted for federal approval. This has resulted in programs which vary widely from one state to the next. The NMFS will correspond with the responsible state agencies under Section 307 of the CZMA to obtain their concurrence.

Because the proposed action is for a data collection program to monitor fishing activities, NMFS believes that it is consistent with each state’s coastal management program. The proposed program is expected to provide reliable information needed to assess and account for total fishing mortality and to evaluate the effectiveness of management measures. The proposed observation program would also allow for the collection of biological information currently not available, but necessary to define the harvest populations for stock assessments.

5.7 Summary of Potential Impacts

Table 5.6.1 Summary of Potential Impacts from Alternative Management Actions

	Alternative 1, Status Quo	Alternative 2, Adopt Observer Regulations
	Potential Impacts	Potential Impacts
Coastal Zone	No substantial impacts expected	No substantial impacts expected
Public Health and Safety	No substantial impacts expected	No substantial impacts expected
Unique Geographical Characteristics	No substantial impacts expected	No substantial impacts expected
Historical/Cultural Impacts	No substantial impacts expected	No substantial impacts expected
Endangered/Threatened Species	No substantial impacts expected	No substantial impacts expected
Uncertainty or Unique/Unknown Risks	No substantial impacts expected	No substantial impacts expected
Existing Habitat Protection Laws	No substantial impacts expected	No substantial impacts expected
Essential Fish Habitat	No substantial impacts expected	No substantial impacts expected
Marine Mammals	No substantial impacts expected	No substantial impacts expected
Seabirds	No substantial impacts expected	No substantial impacts expected

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6.0 Conclusions or Findings of no Significant Impact

Most groundfish vessels sort their catch at sea and discard species that are: in excess of cumulative trip limits; unmarketable; in excess of annual allocations; or incidentally caught non-groundfish species, including marine mammals and protected species. Because a portion of the catch is discarded at sea, there is no opportunity for NMFS or the states to monitor total catch (retained plus discarded catch) at onshore processing facilities. This lack of information on at-sea discards has resulted in very imprecise estimates of total catch and fishing mortality.

Discard information needed to assess and account for total fishing mortality and to evaluate management measures would most likely continue to be deficient under alternative 1, status quo. NMFS believes that observers would be a reliable source of biological data and information needed to estimate total catch; estimate discard rates by species by gear type; and collect biological information on depressed and primary species necessary to define the harvest populations for stock assessments. Alternative 2 allows NMFS to go forward with regulations to support an at-sea observer program.

Based on the biological, physical and socio-economic impacts of the alternatives that have been assessed in this document, it has been determined that implementation of the management alternative 2 would not significantly affect the quality of the human environment. Therefore, the preparation of an environmental impact statement for the proposed action is not required by Section 102 (2) (C) of the National Environmental Policy Act or its implementing regulations.

Assistant Administrator for Fisheries, NOAA

Date

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7.0 Literature Cited

NMFS. July 1994. NMFS Observer Programs, Minutes and recommendations from a Workshop held in Galveston, Texas November 10-11, 1993. NOAA Tech. Mem NMFS-OPR-94-1

NMFS December 15, 1999. Endangered Species Act - Reinitiated section 7 consultation , Biological Opinion for fishing conducted under the Pacific Coast Groundfish Fishery Management Plan for California, Oregon, and Washington groundfish fishery. National Marine Fisheries Service, Northwest and Southwset Regional Sustainable Fisheries Divisions.

PFMC October 1999. Status of the Pacific coast groundfish fishery through 1998 and recommended acceptable biological catches for 1999. Pacific Fisheries Management Council, Portland Oregon.

Wohl, K. D., P. J. Gould, S.M. Fitzgerald. January 1998. Incidental Mortality of Seabirds in Alaska, Incidental Take if Seabirds in Commercial Fisheries in Arctic Countries. Technical Report no. 1 from the Circumpolar Seabird Working Group Editors: Vidar Bakken and Knud Falk.

8.0 LIST OF PREPARES

The Observer Implementation Committee which is comprised of State, Federal, and Pacific States Marine Fisheries Commission representatives, met in June and again in September 1999 to discuss program design, coverage strategies, data priorities, program infrastructure, and the supporting regulatory package. These meetings were open to the public. Public comments provided to NMFS staff at committee and Council meetings were taken into consideration during the development of the proposed action. At the Council's September and November meetings, NMFS distributed an early draft of the proposed regulations. The draft rule was again distributed at the April 2000 Council meeting.

This document was prepared by NMFS Sustainable Fisheries Division staff Northwest Region 7600 Sand Point Way N.E., Seattle, WA 98115-0070, and incorporates information provided by: Jim Hastie, Northwest Fisheries Science Center, Jim Seger, Pacific Fishery Management Council Staff; Will Daspit, Dave Colpo, and Al Didier, Pacific States Marine Fisheries Commission; NOAA General Council Northwest Region.

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9.0 REGULATORY IMPACT REVIEW (RIR) AND REGULATORY FLEXIBILITY ANALYSIS

The RIR and IRFA analyses have many aspects in common with each other and with EAs. Much of the information required for the RIR and IRFA analysis has been provided above in the EA. Table 9.0.1 identifies where previous discussions relevant to the EA and IRFA can be found in this document. In addition to the information provided in the EA, above, a basic economic profile of the fishery is provided annually in the Council's SAFE document.

Table 9.0 1 Regulatory Impact Review and Regulatory Flexibility Analysis

RIR Elements of Analysis	Corresponding Sections in EA	IRFA Elements of Analysis	Corresponding Sections in EA
Description of management objectives	1.1, 3.1, 3.2	Description of why actions are being considered	1.1
Description of the Fishery	2.1, 2.2	Statement of the objectives of, and legal basis for actions	1.1, 5.1, 5.2
Statement of the Problem	1.1	Description of projected reporting, recordkeeping and other compliance requirements of the proposed action	4.1
Description of each selected alternative	1.2	Identification of all relevant Federal rules	5.0, 5.6
An economic analysis of the expected effects of each selected alternative relative to status quo	4.1, 4.2		

9.1 Regulatory Impact Review

The RIR is designed to determine whether the proposed actions could be considered a "significant regulatory actions" according to E.O. 12866. Table 9.0.2 identifies E.O. 12866 test requirements used to assess whether or not an action would be a "significant regulatory action", and identifies the expected outcomes of the proposed management alternatives. 1) Have a annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or state, local, or tribal governments or communities; 2) Create a serious inconsistency or otherwise interfere with action taken or planned by another agency; 3) Materially alter the budgetary impact of entitlement, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or 4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this executive Order. For the purposes of E.O. the proposed alternatives are not expected to be significant regulatory actions.

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Table 9.0.2 Summary of E.O. 12866 Test Requirements

E.O 12866 Test of "Significant Regulatory Actions"	Alternative 1: No Action	Alternative 2: Establish regulatory framework for an observer program
1) Have a annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or state, local, or tribal governments or communities;	No	No
2) Create a serious inconsistency or otherwise interfere with action taken or planned by another agency;	No	No
3) Materially alter the budgetary impact of entitlement, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or	No	No
4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this executive Order,	No	No

9.1 Initial Regulatory Flexibility Analysis

When an agency proposes regulations, the RFA requires the agency to prepare and make available for public comment an Initial Regulatory Flexibility Analysis (IRFA) that describes the impact on small businesses, non-profit enterprises, local governments, and other small entities. The IRFA is to aid the agency in considering all reasonable regulatory alternatives that would minimize the economic impact on affected small entities (attachment 1). To ensure a broad consideration of impacts on small entities, NMFS has prepared this IRFA without first making the threshold determination whether this proposed action could be certified as not having a significant economic impact on a substantial number of small entities. NMFS, must determine such certification to be appropriate if established by information received in the public comment period.

1) A description of the reasons why the action by the agency is being considered.

With the exception of the mid-water trawl fishery for Pacific whiting, most groundfish vessels sort their catch at sea and discard species that are in excess of cumulative trip limits, unmarketable, in excess of annual allocations, or incidentally caught non-groundfish species. Landed or retained catch is monitored by individual state fish ticket programs in Washington, Oregon, and California. However, because a portion of the catch is discarded at sea, there is no opportunity for NMFS or the states to monitor total catch (retained plus discarded catch) at onshore processing facilities. This lack of information on at-sea discards has resulted in imprecise estimates of total catch and fishing mortality.

Discard information is needed to assess and account for total fishing mortality and to evaluate management measures, including rebuilding plans for overfished stocks. Discard estimates based on limited studies conducted in the mid-1980's, and information on species compositions in landings, are available for some groundfish species. For other species there is little or no discard information. During the past decade there have been significant reductions in cumulative trip limits, and trip limits have been applied to increasing numbers of species. In light of these changes in the regulatory regime, doubt has been raised about the old discard estimates, which were based on data collected in the 1980's. Accurate estimates of discards are essential to computing total catch, and thus are an important component of any fishery conservation and management program. If the discard estimates are too high, harvest allocations may be set too low; if discard estimates are too low, then harvest allocations may be set too high, and the long-term health of the stock may be jeopardized.

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2) A succinct statement of the objectives of, and legal basis for, the proposed rule.

The Magnuson-Stevens Act at 16 U.S.C. 1853 (b) (8) provides that an FMP may require that one or more observers be carried on board a vessel of the United States engaged in fishing for species that are subject to the plan, for the purpose of collecting data necessary for the conservation and management of the fishery. The Pacific Coast Groundfish FMP provides that all fishing vessels operating in the groundfish fishery may be required to accommodate NMFS-certified on-board observers for purposes of collecting scientific data. Under the Magnuson-Stevens Act at 16 U.S.C. 1855 (d), the Secretary of Commerce, acting through NMFS, has general responsibility to carry out any fishery management plan, and may promulgate such regulations as may be necessary to discharge this responsibility.

Requirements at Section 303 (a) (11) of the Magnuson-Stevens Act state that an FMP must "establish a standardized reporting methodology to assess the amount and type of bycatch occurring in the fishery, and include conservation and management measures that, to the extent practicable and in the following priority--(A) minimize bycatch; and (B) minimize the mortality of bycatch which cannot be avoided." Efforts to establish provisions for an observer program aimed at collecting total catch data including at-sea discards, would address a portion of the Magnuson-Stevens Act bycatch requirements.

The primary objective is to create the regulatory structure necessary to support an at-sea observer program. Since the early 1990's the Council has regarded at-sea observers as a viable means to collect much-needed data. The Council's Groundfish Management Team has continually stressed the need for an on-board observer program to accurately assess total catch.

Observers are a uniformly trained group of qualified technicians. They are stationed aboard vessels to gather conservation and management data that is too burdensome for vessel personnel to collect, and which would otherwise not be available for managing the fisheries or assessing interactions with non-groundfish species. The purposes of this rulemaking are to establish the obligations of vessels that will be required to carry observers; to safeguard the observers' well-being; and to provide for sampling conditions necessary for an observer to follow scientific sampling protocols and thereby maintain the integrity of observer data collections.

The proposed regulations would provide for an at-sea observer program on all limited entry and open access catcher vessels. This rule requires vessels in the groundfish fishery to carry observers when notified by NMFS or its agent; establishes notification requirements for vessels that may be required to carry observers, and establishes responsibilities and prohibited actions for vessels that are required to carry observers.

3) A description of and, where feasible, and estimate of the number of small entities to which the proposed rule will apply;

For the purposes of this analysis all catcher vessels are considered small entities. It is possible that all vessels within a sector of the fleet designated for coverage could be required to provide logistical information necessary to place observers on vessels. If observed vessels were randomly selected from all open access and limited entry vessels it is possible that all 2,116 (100%) vessels would be required to provide logistical information.

The number of vessels or small entities affected by this proposed rule will depend on the coverage approach that is chosen. If 20 observers are deployed annually, the number of vessels that could potentially carry an observer is estimated to range between 967 (46% of all small entities) if observers sample vessel trips at random, and 60 (3% of all small entities) if each observer samples only one vessel over an entire cumulative trip limit period.

It is most likely that a coverage strategy would divide the open access and limited entry groundfish fleets into sectors by gear type and possibly divide the fishery further by geographical location and/or fishing strategy. Sectors with the greatest annual catch of groundfish or those that most frequently interact with species in which there is the greatest informational need, could be required to have a higher proportion of observer coverage than the other sectors. Because of the limited number of observers, some sectors may have very little or no coverage during a given year. In general, there is increased accuracy of estimates based on observer data with

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increasing levels of observer coverage. Depending on the events that are being measured, it is possible that more than 20% of the vessels in a given sector would be required to carry an observer and thereby be affected by this rulemaking.

4) A description of the projected reporting, recordkeeping and other compliance requirements of the proposed rule, including an estimate of the classes of small entities which will be subject to the requirement and the type of professional skills necessary for preparation of the report or record.

Vessels would be required to maintain logbooks as currently required by appropriate state law. In addition, each vessel within the sector(s) of the groundfish fleet that is designated for coverage, would be required to keep NMFS or its designated agent apprized of its fishing schedule, including anticipated departure dates and times, and when it is leaving the groundfish fishery. This would be a toll free phone call to NMFS or its designated agent to communicate the vessels name, identification number and fishing schedule information. No specialized skills are required. Vessels that are selected to carry observers may require additional time in port to coordinate observer coverage. In addition, a vessel would be asked to voluntarily participate in pre-trip meeting prior to their first observed trip. Again, no specialized skills would be required.

The costs to deploy observers under alternative 2, consists of seven components: 1) logistical information, 2) liability insurance, 3) food and living accommodations, 4) safety requirements, 5) a pre-trip meeting, and 6) adequate sample space and time, 7) liability insurance. The total costs to the individual vessel and to the fleet would vary depending on the coverage strategy that was used, as would the number of vessels affected. The sum of these costs is estimated to range between \$157 and \$3334 (\$11,044 if a vessel fished every day of the year) for the individual vessel and \$113,040 and \$193,086 for the fleet. The lowest costs to the individual vessel occurs when each observer samples only one limited entry vessel over an entire cumulative trip limit period and the highest cost to the individual vessel occurs when observers sample vessel trips at random and no vessel is sampled more than once. However, the highest and lowest costs to the fleet are in reverse order.

Among the vessels in the open access and limited entry groundfish fisheries that could be selected to carry an observer, there are substantial differences in terms of the annual ex-vessel value of their groundfish and WOC catch. Coastwide in 1999, approximately 9% of the limited entry trawl fleet, which includes the shore-based whiting vessels, had annual ex-vessel revenues from groundfish that were less than \$25,000 and 4% had annual gross fishery revenues that were less than \$25,000. This is compared to the limited entry fixed gear fleet in which 30% had annual ex-vessel groundfish revenues less than \$25,000 and 15% had annual gross fishery revenues that were less than \$25,000. In the open access fleet, which is comprised of many small vessels that have fewer and shorter trips, 97% of the fleet had annual ex-vessel groundfish revenues less than \$25,000 and 71% had annual gross fishery revenues that were less than \$25,000. It is expected that catch reduction in 2000 will lead to a large portion of the fleet having revenues less than \$25,000 annually.

5) An identification, to the extent practicable, of all relevant Federal rules which may duplicate, overlap, or conflict with the proposed rule.

NMFS believes that are no Federal rules will be duplicated, overlap, or conflict by the proposed action.

6) A description of any alternatives to the proposed rule which accomplish the stated objectives of applicable statutes and which minimizes and significant economic impacts of the proposed rule on small entities.

There are two alternatives under consideration in this proposed rulemaking. The status quo alternative, in which catcher vessels would have no obligation to provide NMFS or its designated agent with logistical information necessary to place observers on vessels, to safeguard the observers' well-being; or to provide for sampling conditions necessary for an observer to follow scientific sampling protocols. Under his alternative, a program could be designed where vessels carry observers on a voluntary basis. However, there would be no way to assure that a specific coverage plan could be followed or the integrity of the data collections maintained. Discard information needed to assess and account for total fishing mortality and to evaluate management measures would likely continue to be deficient under status quo.

It is unknown how the lack of information under status quo (alternative 1) is affecting the long-term health of the fishery. The lack of discard data used to estimate total catch poses the greatest risks to the economic

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stability in the fishery. If discard estimates are too high then harvest allocations may be set too low, resulting in the industry foregoing some short-term yield, and if the discard estimates are too low the long term yield and stability of the fishery may be affected.

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ATTACHMENT 1

Requirements of an IRFA

The Regulatory Flexibility Act (5 U.S.C. 603) states that:

- (b) Each initial regulatory flexibility analysis required under this section shall contain--
- (1) a description of the reasons why action by the agency is being considered;
 - (2) a succinct statement of the objectives of, and legal basis for, the proposed rule;
 - (3) a description of and, where feasible, and estimate of the number of small entities to which the proposed rule will apply;
 - (4) a description of the projected reporting, recordkeeping and other compliance requirements of the proposed rule, including an estimate of the classes of small entities which will be subject to the requirement and the type of professional skills necessary for preparation of the report or record;
 - (5) an identification, to the extent practicable, of all relevant Federal rules which may duplicate, overlap, or conflict with the proposed rule.
- (c) Each initial regulatory flexibility analysis shall also contain a description of any significant alternatives to the proposed rule which accomplish the stated objectives of applicable statutes and which minimize any significant economic impact of the proposed rule on small entities. Consistent with the stated objectives of applicable statutes, the analysis shall discuss significant alternatives such as--
- (1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities;
 - (2) the clarification, consolidation, or simplification of compliance and reporting requirements under the rule for such small entities;
 - (3) the use of performance rather than design standards; and
 - (4) an exemption from coverage of the rule, or any part thereof, for such small entities.

NMFS Guidance on RFA

NMFS has provided guidance as to how the regulatory flexibility analysis relates to other analyses and other applicable law. (source: "Operational Guidelines, Fishery Management Plan Process" National Marine Fisheries Service, Silver Spring MD, March 1, 1995, Appendix I.2.d.)

"The RFA requires that the agency identify and consider alternatives that minimize the impacts of a regulation on small entities, but it does not require that the agency select the alternative with the least net cost. Section 606 of the RFA clearly states that the requirements of a regulatory flexibility analysis do not alter standards otherwise applicable by law. Executive Order 12866 requires that agencies provide an assessment of the potential costs and benefits of a "significant" action, including an explanation of the manner in which the regulatory action is consistent with a statutory mandate and, to the extent permitted by law, promotes the President's priorities and avoids undue interference with State, local, and tribal governments in the exercise of their governmental function (section 6(a)(3)(B)(ii)). However, the Executive Order also requires agencies to adhere to the requirements of the RFA and other applicable law (section 6(a)(3)). In short, when either the regulatory flexibility analysis or the RIR conflict with a statutory mandate (e.g., the Magnuson Act), the resulting decision must conform to the statute."

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PRELIMINARY DISCUSSION OF ITQ/OVERHEAD CONSIDERATIONS
RELATING TO TRAWL STACKING

Examination of 1998 data reveals that only a small percentage of the top-99 permits (determined by total groundfish tonnage) landed more than 90% of the maximum amount of DTS species they could have for the entire year. Furthermore, many landed less than half the sum of the limits for the year. The number of permits falling into each of these categories for individual DTS species are shown in the table below. Permits not in the top-99 in overall tonnage would be expected, on average, to have even lower rates of limit utilization. This suggests that, given a continued moratorium on new ITQ programs, sufficient overhead would be generated in these fisheries under permit stacking without having to manipulate the length of cumulative periods, as is currently the case for fixed-gear sablefish.

Criteria / Sub-fleet	Permit participation in the 1998 DTS fishery			
	Sablefish	Dover sole	Shortspine thornyheads	Longspine thornyheads
Number of permits landing > 90% of maximum annual poundage				
Top-99 permits (mts)	14	4	8	0
< 200 mt whiting (65)	12	4	8	0
> 200 mt whiting (34)	2	0	0	0
Number of vessels landing < 50% of maximum annual poundage				
Top-99 permits (mts)	21	28	41	55
< 200 mt whiting (65)	3	3	14	23
> 200 mt whiting (34)	18	25	27	32

(over)

Factors that would influence the eventual amount of realized overhead

Analysis presented to the Strategic Planning Committee in February suggests that halving the number of trawl participants would roughly double the per-vessel limits for DTS species. This magnitude of limit increase would be expected to also increase the difference between actual and potential landings.

Voluntary stacking of a smaller number of permits would be expected to lower per-permit limits, resulting in higher per-vessel limits for those who stack, but lower per-vessel limits for the remainder of the fleet. This could reduce overall fleet overhead, somewhat, but probably not to unacceptably low levels.

Future development of a 'non-whiting groundfish' endorsement for trawl permits could greatly reduce overhead in that portion of the fishery, since many permits with large whiting participation, which typically have low rates of limit attainment for groundfish species other than whiting, would likely be removed from the calculation the maximum possible fleet landings.