Exhibit I.1 Attachment 1 March 2003

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List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Intergovernmental relations, Ozone, Particulate matter, Reporting and recordkeeping requirements, Volatile organic compounds. Dated: January 8, 2003.

A. Stanley Meiburg,

Acting Regional Administrator, Region 4. Part 52 of chapter I, title 40, Code of Federal Regulations is amended as follows:

PART 52-[AMENDED]

1. The authority for citation for part 52 continues to read as follows:

EPA APPROVED FLORIDA REGULATIONS

Authority: 42 U.S.C. 7401 et seq.

Subpart K—Florida

2. Section 52.520(c) is amended by revising the entry for "62–212.400" to read as follows:

§52.520 Identification of plan.

(c) * * *

*

				HEGOLAHONG			
State citation		Title/subject		State effective date	EPA approval date	Explanation	
*	*	• 62–212 Stationa	* ry Sources Prec	* onstruction Review	•	*	
. 62–212.400	* Prevention of S	* Significant Deterioration	*	* 08/15/1999	01/27/2003 [Insert	*	
		*	*	*	page citation of publication].	*	

[FR Doc. 03-1632 Filed 1-24-03; 8:45 am] BILLING CODE 6560-50-P

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 73

[DA 03–17, MM Docket No. 01–19: RM– 10048, RM–10027; MM Docket No. 01–27, RM–10056, RM–10118]

Radio Broadcasting Services; Clayton, Ruston, Saint Joseph, and Wisner, LA

AGENCY: Federal Communications Commission.

ACTION: Final rule.

SUMMARY: This document consolidates two rulemaking proceedings and allots Channel 257C3 to Saint Joseph, Louisiana, and Channel 300C3 to Wisner, Louisiana, as first local services. To accommodate the Saint Joseph allotment, the document also substitutes Channel 2666A for vacant Channel 257A at Clayton, Louisiana. See 66 FR 10267, February 14, 2001, and 66 FR 10659, February 16, 2001. This document also dismisses a counterproposal to upgrade Station KNBB(FM), Ruston, Louisiana, from Channel 257C3 to Channel 257C2, because it was not technically correct upon the date when it was filed. Rather, it was contingent on the dismissal of a counterproposal in an earlier rulemaking. The coordinates for Channel 257C3 at Saint Joseph are 32-51-44 and 91-11-41. The coordinates

for Channel 266A at Clayton are 31–44– 48 and 91–31–16. The coordinates for Channel 300C3 at Wisner are 32–05–28 and 91–28–57.

DATES: Effective February 24, 2003.

FOR FURTHER INFORMATION CONTACT: Andrew J. Rhodes, Media Bureau, (202) 418–2180.

SUPPLEMENTARY INFORMATION: This is a synopsis of the Commission's Report and Order in MM Docket Nos. 01-19 and 01-27, adopted January 6, 2003, and released January 8, 2003. The full text of this decision is available for inspection and copying during normal business hours in the FCC's Reference Information Center at Portals II, CY-A257, 445 12th Street, SW., Washington, DC. The complete text of this decision may also be purchased from the Commission's copy contractor, Qualex International, Portals II, 445 12th Street, SW., Room CY-B402, Washington, DC 20554, telephone 202-863–2893, facsimile 202–863–2898, or via e-mail qualexint@aol.com.

List of Subjects in 47 CFR Part 73

Radio, Radio broadcasting.

Part 73 of title 47 of the Code of Federal Regulations is amended as follows:

PART 73—RADIO BROADCAST SERVICES

1. The authority citation for part 73 continues to read as follows:

Authority: 47 U.S.C. 154, 303, 334 and 336.

§73.202 [Amended]

2. Section 73.202(b), the Table of FM Allotments under Louisiana, is amended by removing Channel 257A and adding Channel 266A at Clayton, by adding Saint Joseph, Channel 257C3, and Wisner, Channel 300C3.

Federal Communications Commission.

John A. Karousos,

Assistant Chief, Audio Division, Media Bureau.

[FR Doc. 03-1745 Filed 1-24-03; 8:45 am] BILLING CODE 6712-01-P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 660

[Docket No.; 021016235-3005-02; I.D. 092402E]

RIN 0648-AP87

Fisheries Off West Coast States and in the Western Pacific; Coastal Pelagic Species Fishery; Amendment 10

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Final rule.

SUMMARY: NMFS issues a regulation to implement Amendment 10 to the Coastal Pelagic Species (CPS) Fishery Management Plan (FMP), which was submitted by the Pacific Fishery Management Council (Council) for review and approval by the Secretary of Commerce. Amendment 10 addresses the two unrelated subjects of the transferability of limited entry permits and maximum sustainable yield (MSY) for market squid. Only the provisions regarding limited entry permits require regulatory action. The primary purpose of this final rule is to establish the procedures by which limited entry permits can be transferred to other vessels and/or individuals so that the holders of the permits have maximum flexibility in their fishing operations while the goals of the FMP are achieved. DATES: Effective January 27, 2003, except for §660.512(h), which is effective February 26, 2003. **ADDRESSES:** Copies of Amendment 10, which includes an environmental assessment/regulatory impact review, and determination of the impact on small businesses may be obtained from Donald O. McIssac, Executive Director, Pacific Fishery Management Council, 7700 NE Ambassador Place, Suite 200, Portland, OR 97220. Comments regarding the collection-of-information requirements contained in this rule should be sent to Rodney R. McInnis, Acting Regional Administrator, Southwest Region, NMFS, 501 West Ocean Blvd., Suite 4200, Long Beach, CA 90802-4213, and to the Office of Information and Regulatory Affairs, Office of Management and Budget (OMB), Washington, DC 20503 (ATTN: NOAA Desk Officer).

FOR FURTHER INFORMATION CONTACT: James Morgan, Sustainable Fisheries Division, NMFS, at 562-980-4036. SUPPLEMENTARY INFORMATION: The Council distributed a draft of Amendment 10 for public review on April 22, 2002. At its June 2002 meeting, the Council reviewed written comments, received comments from its advisory bodies, and heard public comments. On October, 3, 2002, a notice of availability of Amendment 10 and the associated documents was published in the Federal Register (67 FR 62001). A proposed rule was published in the Federal Register on October 30, 2002 (67 FR 66103), requesting public comment. The comment period ended on December 16, 2002. Two letters were received. Amendment 10 was approved by NMFS on December 30, 2002.

Background

On June 10, 1999, Amendment 8 to the Northern Anchovy Fishery Management Plan, which was renamed the Coastal Pelagic Species Fishery Management Plan, was partially approved by the Secretary of Commerce. Two of the provisions of Amendment 8 were disapproved. However, these two provisions addressed matters required by the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) to be included in all fishery management plans. As such, the Council was required to revisit these issues in subsequent actions. First, bycatch provisions of Amendment 8 were disapproved because they did not contain a standardized reporting methodology to assess the amount and type of bycatch in the fishery. Bycatch requirements of the Magnuson-Stevens Act were eventually addressed in Amendment 9, which was approved on March 22, 2001. Second, optimum yield for market squid (Loligo opalescens) was disapproved because Amendment 8 did not provide an estimate of MSY. The Council is addressing MSY through submission of Amendment 10.

Market Squid

Various approaches to determine an MSY proxy for market squid have been attempted. With little knowledge of the biology of squid and inadequate data available, other than landings, results from all methods used to determine an or proxy for MSY proved to be ineffective for monitoring the resource. Amendment 10, which contains a description of these methods, examines such things as historical landings, the range of the species, and the manner in which the fishery is conducted.

Additional data on squid became available from research conducted by the California Department of Fish and Game through a program implemented by State legislation establishing permit fees to fund squid research. With new information on growth, maturity, and fecundity, the Council implemented a scientific review, which resulted in the development of a proxy for MSY that came to be known as the egg escapement (EE) method. A discussion of the approach the Council used was published in the proposed rule and will not be repeated here.

The EE method is based on a modeling approach that addresses the life history of the species, with a focus on the mortality and spawning rates of sexually mature females and is based on determining a sustainable level of egg escapement. A sustainable level of egg escapement can be practically interpreted as a level of reproductive (egg) escapement that is believed to be at or near a minimum level necessary to allow the population to maintain its level of abundance into the future, that is, allow for sustainable reproduction year after year.

With the approval of Amendment 10, the FMP now uses the EE method to monitor the market squid fishery. The adoption of the EE method for this purpose does not require implementing rules because it sets a policy for monitoring the fishery and has no direct effect on the conduct of the fishery.

Capacity Goal

Amendment 10 establishes a capacity goal for the fleet and sets conditions for the transfer of permits to maintain the capacity goal. The purpose of the capacity goal is to ensure that fishing capacity in the CPS limited entry fishery is in balance with resource availability. Measuring the actual harvesting capacity of a vessel and monitoring each vessel's capacity can be complicated because the amount of fish a vessel can carry depends on many factors; therefore, Amendment 10 uses an aggregate gross tonnage (GT) of 5,650.9 mt as a proxy for fleet capacity. The aggregate gross tonnage level of 5,650.9 mt results in a fleet that is larger than necessary solely to harvest available CPS; however, the CPS finfish fleet also relies on other fishing opportunities such as fishing for squid and tuna. The current fleet of 65 vessels, which totals 5,650.9 mt GT, meets the necessity of controlling the size of the CPS fleet while taking in consideration the economic needs of the fishery. Estimated normal harvesting capacity for the current fleet, which was determined by reviewing historical average and maximum landings per trip, ranged from 60,000 mt to 111,000 mt per year. The physical harvesting capacity of the current fleet ranged from 361,000 to 539,000 mt per year. Physical capacity is a technological or engineering measure of the maximum potential output per unit of time.

Permit Transfers

As long as aggregate fleet GT is not above 5,933.5 mt (fleet GT plus 5 percent) limited entry permits can be transferred with the following restrictions: (1) Full transferability of permits only to vessels of comparable capacity (vessel GT +.10 (GT) or less), and (2) permits can be combined up to a greater level of capacity in cases where the vessel to which the permits would be transferred to is of greater harvesting capacity than the vessel from which the permit originated.

NMFS will endorse each limited entry permit based on the currently permitted vessel's calculated GT as defined by the formula in 46 CFR 69.209 for shipshaped hulls. This formula is used by the U.S. Coast Guard (GT = $0.67 \times \text{length}$ x breadth x depth/100). Records of length, breadth, and depth used for determining GT will be those recorded

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on the vessel's Coast Guard documentation.

The original permits and their respective endorsements will remain in effect for the lifetime of each permit, regardless of the GT of a vessel to which it was transferred. In cases where a permit is transferred to a vessel with a smaller GT, the original GT endorsement will remain, and excess GT cannot be split out from the original permit configuration and sold. In cases where two or more permits are transferred to a larger vessel, the larger vessel will hold the original permits and can fish for CPS finfish as long as the aggregate GT endorsements, including the 10 percent allowance, as defined by the formula for comparable capacity (vessel GT + .10 (GT) or less) adds up to or exceeds the new vessel's calculated GT. In the event that a vessel with multiple permits leaves the CPS limited entry program, the permits can be sold together or separately, but the original permit endorsement cannot be altered.

To ensure manageability of the permit program and stability of the fleet, only one transfer per permit will be allowed during each calendar year. Permits can be used only on the vessel to which they were registered. Catch history will be tied to the vessel and not to the permits.

Maintaining the Capacity Goal

When the upper threshold of aggregate fleet capacity plus 5 percent (5,933.5 mt) is reached, fleet capacity will be restored to the capacity goal (5,650.9 mt) by restricting conditions for permit transfer. The choice of 5 percent is a balance between allowing permit owners flexibility to improve their economic situation by modifying existing vessels or acquiring new vessels without leading to a fleet capacity that will take too long to return to the capacity goal. When the threshold of 5,933.5 mt is reached or exceeded, permits can only be transferred to vessels with equal or smaller GT, and the 10-percent vessel allowance will be removed. Restoring the 10 percentallowance can be considered when total aggregate fleet capacity reaches the 5,650.9 mt target.

Procedures for Issuing New Limited Entry Permits

Based on changes in CPS finfish resources or market conditions, the Council may recommend to NMFS that new limited entry permits should be issued. If NMFS approves the recommendation, a notice will be published in the **Federal Register** describing the details of the recommendation. If new permits are issued, the qualifying criteria originally established in the FMP will be used for issuance. This will entail continuing down the list of vessels having landings during the 1993–97 window period in order of decreasing window period landings from the original qualifying level of 100 mt. If no vessel meets the qualifying criteria of 100 mt, then the permit will be issued to the vessel with total landings nearest 100 mt during the qualifying period. New permits can be issued on either a temporary or permanent basis, depending on the circumstances surrounding the need for additional fleet capacity.

Comments and Responses

Two letters were received. The comments therein focused primarily on the process used to issue new limited entry permits. Under Amendment 10 and the proposed rule, the Regional Administrator would use the qualifying period of January 1, 1993, through November 5, 1997, and the same qualification of landing at least 100 mt during this period as described in Amendment 8 to the FMP. If no vessel meets the landing requirement, then the permit would be issued to the vessel with landings nearest 100 mt.

Comment 1: The approach is arbitrary because (1) any gear that made the landing would be eligible, which could create a windfall for the qualifying vessel through transfer of the permit from a vessel that did not intend to fish CPS; (2) the procedure does not take into account section 301(a)(8) of the Magnuson-Stevens Act, which requires that proposed actions provide for sustained participation of fishing communities and minimize the impact on fishing communities, in this case, the fishing community of San Diego; and (3) the status of the California market squid fishery and the CPS finfish fishery, which are limited by the geographical range of the limited entry regime and recognized as closely related economically by the FMP, were not taken into account.

The commenter recommended that the inadequacies of Amendment 10 described in the previous paragraph be corrected by the following:

1. Issue permits to round-haul vessels that hold a market squid permit from the State of California. Amendment 10 recognizes the importance of squid to the CPS fishery, and some of these vessels that have participated in the CPS fishery before the qualifying period hold these permits.

2. Include as criteria for a permit, provisions of a California law that requires eligibility for fishermen that can provide evidence showing participation as a commercial fisherman for 20 years and who were participants in the CPS fishery for at least one of those years.

3. Include vessels that have a drift gill net shark and swordfish permit issued by the State of California.

4. Include vessels that have a history of participation in the tropical tuna fishery and the owner of the vessel is a member of the San Diego fishing community.

5. Include vessels that did not land 100 mt during the qualifying period.

The proposed remedy would not contribute to overcapitalilzation because fewer than 10 vessels are likely to qualify. The remedy also would minimize the impact on the fishing community in San Diego. Some vessels have squid permits but do not have CPS limited entry permits. Vessels that lost fishing access to Mexico when the Magnuson-Stevens Act extended jurisdiction to highly migratory species entered the drift gill net fishery. Recognizing the importance of having a squid permit and a CPS limited entry permit, and implementing the California criteria of historical participation makes a more reasonable accommodation to the fishing community in San Diego.

Response: The FMP does not specify the gear used for taking CPS because how the resource is harvested has never been an issue. Implementation of limited entry was expected to be beneficial to the economics of the fishery as a whole and may or may not be beneficial to any specific fisherman, because the value of permits is related to the condition of the resource and the prevailing markets for the harvest, both of which fluctuate over time. Nevertheless, limiting the number of harvesters tends to reduce individual risk. New permits would be issued only if the capacity of the fleet falls below the goal or the condition of the resource is such that new permits are warranted. Those individuals who participated in the fishery in the past but left the fishery and did not make the required landings during the window period, may qualify under the procedures of Amendment 10 if landings lower than 100 mt are considered. The Council decided to retain the current control date, window period, and level of landings required when issuing additional permits. This approach was adopted to be less disruptive in terms of displacing vessels from the fishery and reduces impacts on existing fishing patterns, and, therefore, on fishing communities.

Through Amendment 8 NMFS closely examined the relationship between vessels harvesting CPS finfish and those harvesting squid with respect to economic dependence. NMFS found that almost all of the originally permitted vessels also had squid permits from the State of California. Thus, NMFS chose not to issue permits to all holders of squid permits because the fleet would have been too large.

Implementation of Amendment 10 will allow permits to be transferable to another individual or to another vessel. Permits will have a cost, but the cost of a permit is expected to reflect the value of the permit. Therefore, those individuals needing to improve their business opportunities through the purchase of a permit will be able to assess the value of making the purchase by considering future potential harvests and the prevailing market for permits.

Comment 2: Amendment 10 does not present information as required under section 303(a)(4)(C) of the Magnuson-Stevens Act to provide data on the extent to which U.S. processors, on an annual basis, will process CPS landed by the CPS fleet.

Response: Harvesting capacity not processing capacity as it relates to overcapitalization is the subject of Amendment 10. Nevertheless, the FMP assumed that landings and processing capacity would increase as the biomass increased. Processing capacity has increased, and it continues to increase.

Comment 3: Amendment 10 does not discuss an option based on grandfathered permits as provided in California law.

Response: California law requires that any California fisherman with 20 years of participating in any fishery and 1 year in the fishery slated for limited entry be given a preference. While experience was considered in Amendment 10, only participation in the CPS fishery was considered in an effort to determine those individuals that depend on CPS and to prevent overcapitalization.

Comment 4: The provision to issue new permits is not fair and equitable. Amendment 10 requires new permits to be issued from the original list of vessels. The list of potentially qualifying vessels was developed under Amendment 8, before a fishery began off Oregon and Washington, which is a bias toward California fishermen. If fisheries off Oregon and Washington had existed when Amendment 8 was implemented, many Oregon and Washington fishermen would have received a permit.

Response: The decision was made by the Council to rely on the existing window period and required landings, which continues the Council's preference for historical participation.

Before the FMP was implemented, some fishermen from other states entered the squid fishery, landed CPS, and qualified for a limited entry permit, an option open to anyone, regardless of state residency. New entrants in the fishery who have benefitted from participating in the open access fishery may also enter the limited entry fishery by purchasing a permit under the rules established by Amendment 10.

Classification

The Administrator, Southwest Region, NMFS, determined that the FMP Amendment 10 is necessary for the conservation and management of the coastal pelagic species fishery and that it is consistent with the Magnuson-Stevens Act and other applicable laws.

Because the rule relieves a restriction on the sale to other individuals and/or transfer to other vessels of limited entry permits, it is not necessary to delay the effective date of this final rule for 30 days under 5 U.S.C. 553(d)(1), except for §660.512(h). This rule will give individuals flexibility in managing their business affairs by allowing them to invest in the fishery through the purchase of a permit or to sell a permit on the open market.

This final rule has been determined to be not significant for the purposes of Executive Order 12866.

The Chief Counsel for Regulation of the Department of Commerce certified to the Chief Counsel for Advocacy of the Small Business Administration that the proposed rule for this action would not have a significant economic impact on a substantial number of small entities. No comments were received regarding this certification. However, several comments addressed the economic impact of the rule. Responses to these comments are presented above. None of these comments resulted in a change to the determination that the rule would not have a significant economic impact. As a result, a regulatory flexibility analysis was not prepared.

This final rule contains a collectionof-information requirement subject to the Paperwork Reduction Act (PRA) and which has been approved by OMB under control number 0648-0204. Public reporting burden for an application for transfer of a limited entry permit is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate, or any other aspect of this data collection, including suggestions for

reducing the burden, to NMFS (See ADDRESSES) and to OMB at the Office of Information and Regulatory Affairs, OMB, Washington, D.C. 20503 (Attention: NOAA Desk Officer).

Notwithstanding any other provision of the 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.

There have been no changes to the regulatory text in the proposed rule.

List of Subjects in 50 CFR Part 660

Administrative practice and procedure, American Samoa, Fisheries, Fishing, Guam, Hawaiian Natives, Indians, Northern Mariana Islands, Reporting and recordkeeping requirements.

Dated: January 21, 2003.

Rebecca Lent,

Deputy Assistant Administrator for Regulatory Programs, National Marine Fisheries Service.

For the reasons set out in the preamble, NMFS amends 50 CFR part 660 as follows:

PART 660—FISHERIES OFF WEST COAST STATES AND IN THE WESTERN PACIFIC

1. The authority citation for part 660 continues to read as follows:

Authority: 16 U.S.C. 1801 et seq. 2. In §660.502, definitions for "comparable capacity", and "gross tonnage'' are added, in alphabetical order, to read as follows:

§ 660.502 Definitions.

Comparable capacity means gross tonnage plus 10 percent of the vessel's calculated gross tonnage.

Gross tonnage (GT) means gross tonnage as determined by the formula in 46 CFR 69.209(a) for a vessel not designed for sailing (.67 x length xbreadth x depth/100). A vessel's length, breadth, and depth are those specified on the vessel's certificate of documentation issued by the U.S. Coast Guard or State.

3. In § 660.512, a new paragraph (h) is added to read as follows:

§ 660.512 Limited entry fishery. *

* *

(h) Issuance of new permits. (1) When the aggregate gross tonnage of all vessels participating in the limited entry fishery

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declines below 5,650.9 metric tons (mt), the Council will review the status of the fishery, taking into consideration:

(i) The changes in gross tonnage that have and are likely to occur in the transfer of limited entry permits;

(ii) The actual harvesting capacity as experienced in the current fishery in comparison to the capacity goal;

(iii) Comments of the CPSMT;

(iv) Any other relevant factors related to maintaining the capacity goal.

(2) Following its review, the Council will recommend to NMFS whether additional permit(s) should be issued and if the new permit(s) should be temporary or permanent. The issuance of new permit(s) shall be based on the following:

(i) The qualifying criteria in paragraph (b) of this section, but vessels that were issued a permit before December 31, 2000, are not eligible.

(ii) If no vessel meets the qualifying criteria in paragraph (b), then the permit(s) will be issued to the vessel(s) with total landings nearest 100 mt during the qualifying period of paragraph (b).

(iii) No vessel will be issued a permit under this paragraph (h) that is currently registered for use with a permit.

(3) The Regional Administrator will review the Council's recommendation and determine whether issuing additional permit(s) is consistent with the FMP and with paragraph (h)(2) of this section. If issuing additional permit(s) is appropriate, the Regional Administrator will:

(i) Issue the appropriate number of permits consistent with the Council's recommendation; and

(ii) Publish a document in the **Federal Register** notifying the public that new permits or a new permit has been issued, the conditions attached to any permit, and the reasons for the action.

4. Section 660.514 is revised to read as follows:

§660.514 Transferability.

(a) *General*. (1) The SFD will process applications for transferring limited entry permits to a different owner and/ or to a different vessel according to this section.

(2) After January 27, 2003, the SFD will issue a limited entry permit to the owner of each vessel permitted to participate in the limited entry fishery for CPS. This permit will replace the existing permit and will include the gross tonnage of the vessel, which will constitute an endorsement for that vessel for the purpose of regulating the transfer of limited entry permits. (b) *Criteria*. (1) When the aggregate gross tonnage of all vessels participating the limited entry fishery is at or below 5,650.9 mt, a permit may be transferred to a different owner or to a different vessel in the following circumstances only:

(i) A permit may be transferred to a vessel without a permit if the vessel without a permit has a comparable capacity to the capacity on the permit or is less than comparable capacity on the permit.

(ii) When a permit is transferred to a vessel without a permit that has less gross tonnage than that of the permitted vessel, the excess gross tonnage may not be separated from the permit and applied to a second vessel.

(iii) A permit may be transferred to a vessel without a permit that is of greater than comparable capacity only if two or more permits are transferred to the vessel without a permit to equal the gross tonnage of the vessel. The number of permits required will be determined by adding together the comparable capacity of all permits being transferred. Any gross tonnage in excess of that needed for a vessel remains with the permit.

(2) When a vessel with multiple permits leaves the fishery, the permits may be sold separately and applied to other vessels according to the criteria in this section.

(c) *Stipulations*. (1) The gross tonnage endorsement of a permit is integral to the permit for the duration of the permit, regardless of the gross tonnage of any vessel to which the permit is transferred.

(2) Permits may be used only on the vessel for which they are registered by the SFD. All permits that authorize a vessel to operate in the limited entry fishery must be on board the vessel during any fishing trip on which CPS is harvested or is on board.

(3) A permit may be transferred only once during a calendar year.

(d) Vessel alterations. (1) A permitted vessel's length, breadth, or depth may be altered to increase the gross tonnage of the vessel only if the aggregate gross tonnage of all vessels participating in the limited entry fishery equals, or is below 5,650.9 mt, and only under the following conditions:

(i) The gross tonnage of the altered vessel, calculated according to the formula in 46 CFR 69.209(a), does not exceed 110 percent of the vessel's original gross tonnage endorsement, and

(ii) A new certificate of documentation is obtained from the U.S. Coast Guard or State. Modifications exceeding 110 percent of the vessel's gross tonnage endorsement will require registration of the vessel under an additional permit or permits or under a permit with a sufficient gross tonnage endorsement.

(2) A copy of the certificate of documentation indicating changes in length, depth, or breadth must be provided to the SFD.

(3) The revised gross tonnage will not be valid as an endorsement until a revised permit is issued by the SFD.

(e) Applications. (1) All requests for the transfer of a limited entry permit will be made to the SFD in writing and shall contain the following information:

(i) Name, address, and phone number of the owner of the permitted vessel.

(ii) Name of the permitted vessel and documentation number of the vessel.

(iii) Name, address, and phone number of the owner of the vessel to which the permit is to be transferred.

(iv) Name and documentation number of the vessel to which the permit is to be transferred.

(v) Signature(s) of the owner(s) of the vessels participating in the transfer. (vi) Any other information that the

SFD may request.

(2) No permit transfer is effective until the transfer has been authorized by the SFD.

(f) Capacity reduction. (1) When the aggregate gross tonnage of the limited entry fleet reaches 5,933.5 mt, a permit may be transferred to a vessel without a permit only if the vessel without a permit is of the same or less gross tonnage.

(2) When the aggregate gross tonnage of the limited entry fleet reaches 5,933.5 mt, alterations in the length, depth, or breadth of a permitted vessel may not result in an increase in the gross tonnage of the vessel.

[FR Doc. 03–1784 Filed 1–24–03; 8:45 am] BILLING CODE 3510–22–S

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 679

[Docket No. 021212307-2307-01; I.D. 012103F]

Fisheries of the Exclusive Economic Zone Off Alaska; Shortraker/Rougheye and Northern Rockfish in the Bering Sea Subarea of the Bering Sea and Aleutian Islands Management Area

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Closure.

COASTAL PELAGIC SPECIES UPDATE

Amendment 10

The final rule implementing Amendment 10 to the FMP was published in the Federal Register on January 27, 2003. The rules establishing the fleet capacity limit and the rules governing the transfer of limited entry permits were effective on date of publication, and new permits bearing each vessel's calculated gross tonnage were mailed to the fleet by January 31, 2003. Section 660.512(h), which governs the procedure for considering issuing new permits, was made effective on February 26, 2003.

The form used to apply for the transfer of a vessel, the regulations implementing Amendment 10, a compliance guide explaining the regulations, and a list of limited entry vessels in the coastal pelagic species fishery with each vessel's calculated gross tonnage is available on the Southwest Region's web site at http://swr.nmfs.noaa.gov. This material was also mailed to each holder of a limited entry permit.

2003 Sardine Fishery

On December 31, 2002, the announcement of the Pacific sardine harvest guideline for the January 1, 2003, to December 31, 2003, fishing season was published in the Federal Register. The harvest guideline of 110,908 metric tons (mt) is divided one-third north of Pt. Piedras Blancas (36,969 mt) and two-thirds south of Pt. Piedras Blancas (73,939 mt). During January, 4,161 mt were landed in the northern area and 4,546 mt were landed in the southern area.

2002 Sardine Fishery

A total of 100,963 mt of Pacific sardine was landed during the 2002 fishing season, which left 17,479 mt of the 2002 harvest guideline unharvested. A total of 78,583 mt was landed during the 2001 fishing season.

2002 - 2003 Pacific Mackerel Fishery

For the July 1, 2002 to June 30, 2003 Pacific mackerel fishing season, only 3,457 mt have been landed. The harvest guideline of 12,535 mt was divided with at least 9,500 mt allocated to a directed fishery and 3,035 mt reserved for incidental landings should the 9,500 mt be landed.

Landings summaries from these fisheries follow.

2002 Pacific Sardine Harvest Status

The Pacific sardine resource off California, Oregon, and Washington is managed under the authority of the Coastal Pelagic Species Fishery Management Plan on a January through December fishing season. The harvest guideline for January 1, 2002, through December 31, 2002, is 118,442 metric tons (mt) (66 FR 66811, December 27, 2001). The northern allocation is 39,481 mt (north of Pt. Piedras Blancas 35° 40' 00" N. latitude), and the southern allocation is 78,961 mt.

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Month	Pacific Sardine Harvest in Metric Tons	
2002 Fishing Season	North	South
January	226	4,772
February	1,120	7,669
March	162	6,355
April	65	5,144
May	1	2,052
June	2,912	629
July	11,603	3,020
August	20,205	4,432
September	6,055	4,066
October	7,069	3,809
November	2,248	3,340
December	337	3,672
Totals	52,003	48,960

As of February 14, 2003, the harvest for the 2002 fishing season was 100,963 mt, which left a total of 17,479 mt of the 118,442 mt harvest guideline unharvested.

-			
Month	California	Oregon	Washington
January	4,999	0	0
February	8,789	0	0
March	6,516	0	0
April	5,209	0	0
Мау	2,053	0	0
June	630	2,494	418
July	3,349	7,152	4,123
August	7,454	9,405	7,778
September	5,008	3,260	1,854
October	9,435	402	1,040
November	5,589	0	0
December	4,009	0	0
Total	63,040	22,713	15,213

2002 SARDINE HARVEST BY STATE

Figures as of 02/14/2003

Notes

- The allocation of 39,481 mt north of point Piedras Blancas was expected to be reached on September 14; therefore, the fishery was closed (67 FR 62001). Estimated landings were 41,147 mt.
- Reallocation of unharvested sardine was implemented by emergency rule on September 20 (67 FR 60601).

State	Metric tons
California	14,078
Oregon	22,713
Washington	15,213
Total	52,004

Pacific Mackerel Harvest Status

The Pacific mackerel resource off California, Oregon, and Washington is managed under the authority of the Coastal Pelagic Species Fishery Management Plan on a July 1 through June 30 fishing season. The harvest guideline for July 1, 2002, through June 30, 2003, is 12,535 metric tons (mt). Below is the monthly harvest beginning on July 1, 2002.

Month	Pacific Mackerel Harvest (mt)
July	208
August	568
September	1,048
October	973
November	372
December	166
January	119
February	3
March	
April	
May	
June	
Total	3,457

The harvest guideline is low (12,535 mt); therefore, there will be a directed fishery of at least 9,500 mt, with 3,035 mt of the harvest guideline utilized for incidental landings following the closure of the directed fishery. When the 9,500 mt is caught, no more than 40 percent by weight of a landing of Pacific sardine, northern anchovy, jack mackerel, or market squid can consist of Pacific mackerel.

The above landings are figures as of February 6, 2003 and includes Pacific mackerel caught off Oregon and Washington.

NATIONAL MARINE FISHERIES SERVICE REPORT ON COASTAL PELAGIC SPECIES MANAGEMENT

<u>Situation</u>: National Marine Fisheries Service (NMFS) will briefly report on recent developments in the coastal pelagic species fishery and other issues of relevance to the Council.

Council Task:

1. Council Discussion

Reference Materials:

- 1. Exhibit I.1, NMFS Report
- 2. Exhibit I.1, Attachment 1– Federal Register notice for Amendment 10 final rule.

Agenda Order:

- a. Informational Update
- b. Reports and Comments of Advisory Bodies
- c. Public Comment
- d. Council Discussion

PFMC 02/18/03 Svein Fougner

DRAFT REGULATORY AMENDMENT AND ANALYSIS FOR CHANGES TO SARDINE ALLOCATION

<u>Situation</u>: The Council will review Exhibit I.2.b, CPSMT Report – *Discussion and Analysis of Management Alternatives for an Interim Revision to the Pacific Sardine Allocation Framework within the Coastal Pelagic Species Fishery Management Plan.* This draft Environmental Assessment (EA) was prepared per Council guidance at the November 2002 meeting. Based on its review of the EA, advisory reports, and public comment, the Council is scheduled to consider preliminary action on the allocation alternatives and provide guidance to the advisory bodies.

At the November 2002 meeting, the Council adopted a set of proposed management alternatives and directed the Coastal Pelagic Species (CPS) Management Team (CPSMT) to analyze these alternatives for the purpose of developing a regulatory amendment to the CPS fishery management plan (FMP). The basis of this action was information prepared by the CPSMT and advice from National Marine Fisheries Service (NMFS) on the form and schedule the management action could take. The proposed schedule calls for preliminary action at the March 2003 Council meeting, final action at the April 2003 Council meeting, and NMFS implementation of a regulatory amendment in August 2003.

In considering preliminary action, the Council may want to indicate a preferred management alternative and provide specific direction for completion of the regulatory amendment package. In taking this action, the Council may also want to consider the brief period of time between the March and April Council meetings and the constraint on workload this may create.

Council Action:

1. Consider preliminary action to guide regulatory amendment process and guidance to advisory bodies.

Reference Materials:

- 1. Exhibit I.2.b, CPSMT Report Discussion and Analysis of Management Alternatives for an Interim Revision to the Pacific Sardine Allocation Framework within the Coastal Pelagic Species Fishery Management Plan.
- 2. Exhibit I.2.c, Public Comment.

Agenda Order:

- a. Agendum Overview
- b. Reports and Comments of Advisory Bodies
- c. Public Comment
- d. **Council Action**: Consider Preliminary Action to Guide Regulatory Amendment Process and Guidance to Advisory Bodies

PFMC 02/24/03 Dan Waldeck

Discussion and Analysis of Management Alternatives for an Interim Revision to the Pacific Sardine Allocation Framework within the Coastal Pelagic Species Fishery Management Plan

I. Introduction

Purpose: Implement an interim¹ allocation framework that seeks optimal use of the annual Pacific sardine harvest guideline with minimal impacts on any sector of the West Coast sardine fishing industry and fishing communities.

Need: This action addresses recent problems which have occurred as a result of the current allocation framework.

Description of Purpose and Need

Critical to any Environmental Assessment (EA) is the degree to which the alternative management actions have biological and/or socioeconomic impacts on the affected environment. The affected environment germane to this EA is the West Coast population of Pacific sardine, the ecosystem in which they reside, the various regional harvesting and processing sectors, and the communities dependent on the sardine resource. The critical consideration for this proposed action is the distinction between biological and economic effects of the various management alternatives.

The Coastal Pelagic Species Management Team (CPSMT) generally agreed that (measurable) implications of alternative allocation schemes used to partition the Pacific sardine harvest guideline largely involve socioeconomic considerations, given the current recommended yield is generated from analysis based on the dynamics of a single, coast-wide population. Moreover, the CPSMT is confident the sardine harvest guideline control rule provides an appropriate means to manage the sardine fishery (see the CPS Fishery Management Plan [FMP]). However, in the future, the CPSMT suggests that biological-based implications of different allocation schemes be further evaluated, at least in qualitative terms, to provide management some guidance regarding how the operations of the sectoral fisheries might impact the dynamics of the sardine population at large. For example, research on coastwide abundance of sardine and a CPS Stock Assessment Review (STAR) process will occur in 2003. These initiatives should provide useful information that could be incorporated into considerations of longer-term allocation measures.

In summary, there is a compelling need to prevent socioeconomic problems in 2003 and there is not a resource sustainability concern. Therefore, development of an interim management measure for allocation of the coastwide harvest guideline is being pursued and analysis of alternatives will focus on economic information. It is the intent of the Council to follow this action with a more comprehensive development of a longer-term allocation mechanism that would entail a more detailed analysis of alternative allocation frameworks in terms of socioeconomic and biological impacts. It is important to note that the CPSMT recognized that a more detailed analysis that meets long-term goals may require substantial work and subsequent, time demands on researchers. In this regard, the CPSMT strongly advised that the revisions to the current allocation scheme discussed here be considered strictly temporary measures that address emergency-related issues associated with early closures to fisheries based on quota stipulations. The CPSMT further concurred the interim measures (i.e., re-allocation regulations) be considered for the current fishing year (2003) and potentially 2004. The CPSMT advised that a longer-term allocation scheme should be in place prior to the 2005 fishing year.

^{1/} Interim measures are being considered for the current fishing year (2003) and potentially 2004. The intent is to develop a longer-term allocation scheme after this action is completed.

Background

The current allocation formula partitions the annual harvest guideline 66% to the southern subarea and 33% to the northern subarea. Nine months after the January 1 start of the fishery (i.e., October 1) the remaining harvest guideline is pooled and re-allocated 50-50 to each subarea. The current subarea line is 35° 40' N latitude (approximately Pt. Piedras Blancas). This formula was incorporated into federal management from existing California state law. At the time of the FMP's implementation, this was considered a status quo action with no environmental impacts. No alternative allocation formulae were considered. The FMP does not preclude additional allocations based on other geographic areas or other factors developed under the authority of the FMP and provides for allocation matters to be addressed under the socioeconomic point-of-concern framework. The southern subarea primarily includes the fleet based in San Pedro and Los Angeles, California. The northern subarea includes fisheries off Monterey, California; Oregon; and Washington.

With expansion of the Pacific sardine fishery into the Pacific Northwest, the northern area allocation is now shared by Monterey-, Oregon-, and Washington-based fisheries. Concern has been expressed the current allocation formula does not provide optimal harvest opportunity to these respective fisheries. For example, under the current allocation framework (and given status quo harvest levels) there is a high likelihood the northern area fisheries will attain their portion of the annual harvest guideline prior to the scheduled October 1 reallocation, which (as described below) effectively causes premature closure of the Pacific Northwest fishery. Specific socioeconomic concerns include:

- Pacific Northwest fisheries generally finish operations in October, because weather and ocean conditions make fishing difficult or impossible for purse-seine gear and less productive because sardine schools are harder to locate. In 2002, the northern area allocation was reached and the fishery closed on September 14, 2002 (67*FR*58733). Due to concern over community impacts resulting from this closure, NMFS promulgated an emergency rule, to re-allocate the unused amount of the coastwide harvest guideline on September 26, 2002 (67*FR*60601). That is, emergency action was taken to reallocate before October 1, 2002. The express purpose of this emergency rule was to avoid unnecessary economic hardship. Sufficient amounts of the sardine harvest guideline remained to satisfy all users.
- Monterey area fisheries target squid (when available) during the first half of the year and begin to target sardine around August, with their season running through January or February of the following year. Concern has been expressed that harvest opportunity for the Monterey fishery could be preempted by the Pacific Northwest fishery. The existing allocation system (as incorporated from the former California state management system) was designed to prevent the Southern California fishery from preempting the fishery in Monterey. However, the development of significant fisheries off Oregon and Washington has changed the harvesting dynamics.
- The harvest control rule for Pacific sardine is environmentally-based and tuned to the importance of sardine within the ecosystem. It is based on the best available science and the annual harvest guideline is set at a sustainable level. A principle goal of the CPS FMP is to ensure full utilization of the annual coastwide harvest guideline. However, in recent years as much as 59,000 mt of the harvest guideline was left unharvested at the end of the season. Concern has been expressed that this foregone harvest opportunity could be exacerbated by the current allocation formula, and could result in an unnecessary impact to the coastwide fishery and loss in net national benefit.

Each of the three sectors operate over a unique schedule. Generally, Southern California starts harvesting sardine January 1 and increases steadily throughout the year; Northern California starts in August (tied to market squid availability) and increases through January or February of the following year; and Oregon and Washington have a much more abbreviated season, which starts in June and ends in October. Because these sectors operate on very different schedules, annual allocations help to ensure that each sector receives a reasonable fishing opportunity. Landings in all sectors are driven by domestic and international market forces. The Northern California fishery is also influenced by availability and adverse weather. The Pacific Northwest fishery is affected by sardine availability and adverse weather.

Future Considerations

In the future, when information becomes available, some biological questions relating to allocation and differential impacts on the coastwide resource from the three fishing sectors that could be evaluated generally include:

- Impacts to the coastwide population from a fishery that targets older, mature fish.
- Impacts to the coastwide population from a fishery that targets younger, immature fish.
- Recent indications of changes in maturity rates (i.e., delayed maturity) in the southern fishery resulting from density-dependent factors.
- Potential refinements to the Pacific sardine assessment and/or harvest control rule in response to new biological information.

As data become available, this information, along with more robust economic information on producer profit and surplus, will be considered in crafting longer-term management alternatives for annual allocation of the Pacific sardine harvest guideline. As noted, it is expected that, once an interim measure is in place, the Council will embark on an amendment to the CPS FMP.

II. <u>Management Alternatives Considered</u>

In developing alternative management measures for an interim change to the Pacific sardine allocation formula the CPSMT started from an initial suite of alternatives proposed by the Council in November 2002. The Council gave discretion to the CPSMT to develop the most appropriate set of alternatives, including

development of new alternatives. As described below, the CPSMT settled on a set of alternatives that could most practicably provide for consideration of an interim change that could be implemented in 2003.

The alternatives *initially* reviewed by the CPSMT are:

- 1. Status quo.
- 2. No allocation institute a coastwide harvest guideline.
- 3. Move northern boundary of southern subarea from 35_40' N latitude to 39_ N latitude, change reallocation date from October 1 to September 1 (or August 1), and provide for December 1 reallocation to a coastwide harvest guideline.

Sub-alternatives for initial allocation a. 33% to the north, 66% to the south.

- b. 50% to the north, 50% to the south.
- 4. Change reallocation date from October 1 to September 1 or (August 1), and provide for December 1 reallocation to a coastwide harvest guideline.

Sub-alternatives for initial allocation a. 33% to the north, 66% to the south.

b. 50% to the north, 50% to the south.

In analyzing these initial alternatives, some alternatives were eliminated and other alternatives were developed. The full range of alternatives considered by the CPSMT is described in Section 4 along with the rationale for eliminating particular alternatives. A key consideration was – what are the most practicable alternatives for implementation in 2003 to prevent adverse fishery impacts? These alternatives and analyses were developed during public meetings of the CPSMT, Coastal Pelagic Species Advisory Subpanel (CPSAS), and Council. Opportunity for public comment was provided and public input was considered.

The CPSMT alternatives put forward for Council consideration are:

- Alternative 1 Status quo.
 Alternative 2 Move subarea line to 39° N latitude, change reallocation date to September 1 (50% to the south and 50% to the north), add December coastwide reallocation.
- Alternative 3 Move subarea line to 39° N latitude, change reallocation date to September 1 (80% to the south and 20% to the north), add December coastwide reallocation.
- Alternative 4 Do not change subarea line, change reallocation date to September 1 (50% to the south and 50% to the north), add December coastwide reallocation.

Summary of Impacts

Alternative 1 (status quo) – With a 10% increase in harvest from 2002, the northern subarea would close in late-August. Reallocation (50-50) would occur on October 1, the Monterey fishery would likely reopen, but Oregon and Washington would be shut down the remainder of the year. Approximately 9,847 mt of the coastwide harvest guideline would not be caught by the end of the season. Southern California would gain about 2,501 mt, Northern California would forego 2,240 mt and Oregon/Washington would forego 10,108 mt.

Alternative 2 (start year with 66-33 allocation, subarea line to 39° N latitude, September [50-50] reallocation, and December [coastwide] reallocation) – With a 10% increase in harvest from 2002, the coastwide fishery closes early in November. This does not impact the Oregon/Washington fishery, which, generally, closes in October due to weather. The fishery would reopen coastwide on December 1, but approximately 3,321 mt of the coastwide harvest guideline would remain at the end of the year. Southern California would forego 1,117 mt and Northern California would forego 2,204 mt.

Alternative 3 (start year with 66-33 allocation, subarea line to 39° N latitude, September [80-20] reallocation, and December [coastwide] reallocation) – With a 10% harvest increase, the Oregon/Washington fishery closes in late-September. Both California fisheries close in late December. All of the coastwide harvest guideline would be harvested. Southern California would gain about 2,276 mt, Northern California would gain 209 mt and Oregon/Washington would forego 2,485 mt.

Alternative 4 (start year with 66-33 allocation, subarea line not changed, September [50-50] reallocation, and December [coastwide] reallocation) – With a 10% increase in harvest, the northern subarea would close in late-August. Reallocation (50-50) would occur on September 1, the Monterey fishery would likely reopen, close again in mid-November, and reopen in December; Oregon and Washington would be shut down the remainder of the year. Approximately 1,482 mt of the coastwide harvest guideline would not be caught by the end of the season. Southern California would gain about 2,501 mt, Northern California would forego 1,966 mt and Oregon/Washington would forego 2,017 mt.

The following table displays relative impacts of the four alternatives; impacts include early closure of a sector, foregone harvest by sector, and un-attained coastwide harvest guideline.

Table 2-1.	Options fo	or restructuring	the 200	3 sardine	allocation	framework	(based	upon	2002	landings
	inflated by	an assumed e	xpansio	n of 10% f	or each se	ctor).				

		S. CA			N. CA	C	R/WA	Coastwide OY		
		Early Close	Gained or (Foregone) harvest (mt)	Early Close	Gained or (Foregone) harvest (mt)	Early Close	Gained or (Foregone) harvest	Achieved ?	Amount left (mt)	
1.	Status Quo	Ν	2,501	Y	(2,240)	Y	(10,108)	Ν	9,847	
2.	(Pt Arena, Sept. 50-50, Dec. coastwide)	Y	(1,117)	Y	(2,204)	N	0	Ν	3,321	
3.	(Pt. Arena, Sept. 80-20, Dec. coastwide)	Y	2,276	Y	209	Y	(2,485)	Y	0	
4.	(Sept. 50-50, Dec. coastwide)	Y	2,501	Y	(1,966)	Y	(2,017)	Ν	1,482	

III. Affected Environment

As noted above, this interim action is not anticipated to have positive or negative biological impacts or create resource conservation concerns. Impacts are anticipated to be isolated to trade-offs among harvest opportunity provided to each of the three fishery sectors and attainment of the annual harvest guideline.

Comprehensive information on the affected environment may be found in Appendix A and Appendix D to the CPS FMP². The California Current is the eastern boundary of the North Pacific great subtropical anticyclonic gyre. At the northern extreme, subarctic water is entrained to flow equatorward. The great shifts in ocean climate at the decadal to century scale control the eastern boundary along the coasts of Washington, Oregon, California and Baja California. The California Current and the subarctic entrained waters are known as the "Transition" zone. The mixing of these waters with the seasonal coastal wind driven upwelling yield highly structured waters with patches of high nutrient and high productivity. High nutrient levels result from a winter buildup of regenerated nutrients and new nutrients from a shoaling thermocline, an influx of high-nutrient, subarctic water and small coastal intrusions of newly upwelled water. Pelagic fish species dominate the exploitable biomass of the system, with major concentrations of anchovy and squid close to the coastline ranging offshore to the habitats of sardine and jack mackerel. The California Current ecosystem is essentially a region of transport, coastal jets, divergence, and upwelling. None of the stocks managed under the CPS FMP are considered overfished.

Seasonal and interannual environmental variability within the California Current ecosystem are associated with variations in the Pacific Basin atmospheric pressure systems, which control the local winds and Ekman transport, and affect flows of the equatorward California Current, the poleward undercurrent, and the inshore countercurrent. Variations on time scales of several years to decades are associated with alterations in the tropical and Aleutian pressure systems, (i.e., the El Niño southern oscilation [ENSO] phenomenon and the Pacific Decadal Oscillation [PDO]). ENSO and PDO events markedly alter flow and temperature of currents in the California Current.

Anchovy, sardine, hake, jack mackerel, and Pacific mackerel achieve the largest populations in the California current region as well as in other major eastern boundary currents. These populations are key to the trophic dynamics of the entire California Current ecosystem. Anchovy and sardines are the only fish in the ecosystem that consume large quantities of primary production (phytoplankton), all five of the species are significant consumers of zooplankton. All five species of fish, particularly mackerels and hake, and also squid are important predators of the early stages of fish. The juvenile stages of squid and all five species of finfish, and in many cases the adults, are important as forage for seabirds, pinnipeds, cetaceans, and other fish.

Trophic interactions between CPS and higher-trophic-level fish are poorly understood, and it is unknown if populations of individual predaceous fish are enhanced or hindered by large populations of CPS. It is not known if the value of CPS as forage to adult predators outweighs the negative effects of predation by CPS on larvae and juveniles of predator fish species plus competitive removal of phytoplankton, zooplankton, and other fish.

Essential Fish Habitat

A complete description of CPS essential fish habitat (EFH) may be found in Appendix D of the CPS FMP. In determining EFH for CPS, the estuarine and marine habitat necessary to provide sufficient production to support maximum sustainable yield and a healthy ecosystem were considered. Using presence/absence data, EFH is based on a thermal range bordered within the geographic area where a managed species occurs at any life stage, where the species has occurred historically during periods of similar environmental conditions, or where environmental conditions do not preclude colonization by the species. The specific description and identification of EFH for CPS finfish accommodates the fact the

^{2/} Unless stated, appendices cited in Section 3 refer specifically to appendices to the CPS FMP, not the current EA/RIR document.

geographic range of all species varies widely over time in response to the temperature of the upper mixed layer of the ocean, particularly in the area north of 39° N latitude. This generalization is probably also true for market squid, but few data are available. Adult CPS finfish are generally not found at temperatures colder than 10° C or warmer than 26° C. Preferred temperatures (including minimum spawning temperatures) are generally above 13° C. Spawning is most common at 14° C to 16° C.

Predators

Northern anchovy, Pacific sardine, and market squid are probably important as forage to a long list of fish, birds, and mammals, including threatened, endangered, and depleted species (Morejohn et al. 1978). Some of the more important squid predators are king salmon, coho salmon, lingcod, rockfish, harbor seals, California sea lions, sea otters, elephant seals, Dall's porpoise, sooty shearwater, Brandt's cormorant, rhinoceros auklet, and common murre.

Coastal pelagic species are eaten by several species of marine mammals, dependence on CPS varies by age from predator to predator. A great deal of information is available about the diets of adult marine mammals, and the total amount of CPS eaten per year has been estimated for a few. It is not currently possible, however, to estimate the total amount of CPS used as forage by all marine mammals in the California Current ecosystem or the size of CPS populations necessary to sustain predator populations. Some of the species, such as the Pribilof population of the northern fur seal, are listed as depleted, but a local stock at San Miguel Island is not depleted.

Pelagic schooling fish are key components of marine food webs and primary prey of many seabirds. CPS are important to seabirds because of their abundance near the sea surface, relatively small size, fusiform shape, and dense concentration. Seabird populations of the California Current ecosystem and other eastern boundary currents are large relative to areas not driven by large-scale coastal upwelling.

Coastal pelagic species are consumed by a large number of seabirds off the coasts of California, Oregon, and Washington. Availability of anchovies is known to directly affect the breeding success of pelicans, terns, gulls, and auks. It is likely that many predators of anchovies will also eat sardines as the sardine population increases. Owing to their size and occurrence near the surface, Pacific mackerel are likely to be important to seabirds, especially in Southern California. Pacific mackerel have been observed in the diet of pelican. Adult jack mackerel are probably less important to seabirds, because of their large size and relatively deep schooling habits. Studies of seabird diet during autumn, however, when small jack mackerel are near shore and more available, may indicate their seasonal importance as forage. Recent increased abundance of sardines off Southern California was followed by increased breeding success and abundance of brown pelicans.

Fishing Industry

The sardine fishery was first developed in response to demand for food during World War I. Landings increased from 1916 to 1936, and peaked at over 700,000 mt. The Pacific sardine supported the largest fishery in the western hemisphere during the 1930s and 1940s, with landings along the coast in British Columbia, Washington, Oregon, California, and Mexico. The fishery declined, beginning in the late 1940s and with some short-term reversals, to extremely low levels in the 1970s. There was a southward shift in the catch as the fishery decreased, with landings ceasing in the northwest in 1947 through 1948, and in San Francisco in 1951 through 1952. Sardine were primarily used for reduction to fish meal, oil, and as canned food, with small quantities taken for live bait. An extremely lucrative dead bait market developed in central California in the 1960s.

In the early 1980s, sardine began to be taken incidentally with Pacific (chub) mackerel and jack mackerel in the Southern California mackerel fishery and primarily canned for pet food, although some were canned for human consumption. As sardine continued to increase in abundance, a directed fishery was reestablished.

Coastal pelagic species of finfish landed by the roundhaul fleet (fishing primarily with purse seine or lampara nets) are sold as relatively high volume/low value products (e.g., Pacific mackerel canned for pet

food, Pacific sardine frozen and shipped to Australia to feed penned tuna or to Japan for longline bait, and Northern anchovy reduced to meal and oil). In addition to fishing for CPS finfish, many of these vessels fish for market squid, Pacific bonito, bluefin tuna, and Pacific herring.

Other vessels target CPS finfish in small quantities, typically selling their catch to specialty markets for relatively high prices. During the period 1993 through 1997, these included:

- Approximately 18 live bait vessels in Southern California and two vessels in Oregon and Washington that landed about 2,000 mt per year of CPS finfish (mostly Northern anchovy and Pacific sardine) for sale to recreational anglers.
- Roundhaul vessels that take a maximum of 1,000 mt to 3,000 mt per year of Northern anchovy that are sold as dead bait to recreational anglers.
- Roundhaul and other mostly small vessels that target CPS finfish (particularly Pacific mackerel and Pacific sardine) for sale in local fresh fish markets or canneries.

In Oregon, Pacific sardine is managed as a developmental fishery. In 2001, the number of permits was increased from 15 to 20. Permit stipulations include: permit is not transferable; logbook is required; observers are allowed on board; a grate must be place over the hold to sort out larger fish; renewal of the permit is subject to meeting minimum annual landing requirements of five landings of sardines of at least 500 pounds each, or one landing of at least 5,000 pounds.

In Washington, sardines are currently managed under Emerging Commercial Fishery provisions as a trial commercial fishery. The Washington Fish and Wildlife Commission first approved a trial ocean purse seine sardine fishery in 2000, and the fishery has occurred for the last three years. As part of the trial fishery regulations, Washington Department of Fish and Wildlife (WDFW) requires fishers to pay for, and carry at-sea observers, primarily to collect bycatch information. Bycatch has been recorded in terms of species, amount, and condition; observers noted whether the fish were released or landed, and whether the fish were alive, dead, or in poor condition. Permits in a trial emerging fishery, by law, may not be limited. However, WDFW is currently pursuing moving the fishery to limited entry. In 2002, WDFW issued 35 permits and 19 vessels made landings. The majority of the catch was accounted for by 13 vessels. In 2002, Washington's trial fishery was managed to a state harvest guideline of 15,000 mt.

Community Dependence

To be completed.

IV. Analysis of Management Alternatives

As noted above, this interim action is not anticipated to have adverse biological impacts or create resource conservation concerns. Impacts are anticipated to be isolated to trade-offs among harvest opportunity provided to each of the three fishery sectors and attainment of the annual harvest guideline. Analysis of the environmental impacts of the Pacific sardine harvest control rule are available in the CPS FMP.

Anticipated Impacts in Terms of Attainment of the Harvest Guideline and Foregone Harvest

In developing and analyzing the management alternatives, the CPSMT used an analytical tool that forecasted how the various alternatives would impact the three fishing sectors. The analysis provided expected yields to each fishing sector for each of the alternatives, based on 2002 landing statistics. Inputs included average landings by month and area and maximum landings by month and area. Generally speaking, the two areas (north and south) include three fishing sectors – Southern California, Northern California, and Pacific Northwest. Under certain of the alternatives (Alternative 3 and its variations), the area "south" includes Southern and Northern California, and the area "north" includes Oregon and Washington. Under alternatives, "south" represents Southern California and "north" represents Northern California, Oregon and Washington.

This approach provides information regarding the amount of the annual harvest guideline likely to be left unharvested at the end of the year, as well as the amount of harvest opportunity gained or foregone by each sector under the various alternatives. As noted in Section I, for this interim management measure, these two issues are the central focus of the analysis – (1) how to ensure achievement of the coast-wide harvest guideline, while (2) minimizing detrimental economic impacts on the various fishery sectors. The former is measured by how much of the harvest guideline remains at the end of the year and the latter in terms of how much harvest opportunity is foregone by a given sector and the timing and duration of subarea closures.

Initially, three different landings utilization scenarios were reviewed. Each scenario provided insight into how the 2003 fishing season would be expected to progress based on landing statistics observed in 2002. The first was based on average monthly landings for each of the three sectors. The second was based on average monthly landings in each of the California fisheries and maximum monthly landings in the Pacific Northwest; this was premised on the assumption that California fisheries are generally stable, whereas Oregon and Washington fisheries are expanding. The scenarios were reviewed to ensure they would provide a realistic analysis of potential impacts and if they should be used to compare impacts of the alternatives.

In regard to maximum versus average monthly landings, it was noted that in California the squid fishery will heavily influence sardine landings. If squid is available, sardine landings are likely to be in accord with recent averages. If squid is not available sardine landings will likely approach recent maximum landings.

It was also noted the scenario premised on average landings coastwide is probably not representative of how the fishery will operate in the future. Notably, because the northern fishery is still expanding and market disruptions (domoic acid, VHS) that dampened the southern fishery might not repeat during the 2003 fishery. Also, a scenario premised on average landings is more risk-prone, because the likelihood of exceeding the projections is greater than under the maximum-based scenarios.

Conversely, using combined maximum landings for all areas might misrepresent the potential fishery in Southern California, which has not caught the available harvest in recent years. For example, combining maximum monthly landings for Southern California results in approximately 64,000 mt annual landings, whereas recent annual landings in this area have not exceeded 49,000 mt. However, without a clear reason it might be inconsistent to use one standard in one area and a different standard in a second area.

In deciding which were the most appropriate scenarios the CPSMT concluded that, generally, the various sardine fisheries would operate in 2003 much the same as in 2002. In the analysis, to provide for possible fishery expansion, projections for 2003 would be based on 2002 landings plus 10%. Expansion could occur in the Pacific Northwest, because these fisheries have experienced major expansion in recent years and are expected to see continued expansion in 2003. Expansion in California fisheries was premised on squid availability, market increases, decrease in domoic acid and VHS impacts. Thus, two scenarios emerged:

Scenario I 2002 as a baseline; and Scenario II 2002 + 10% to account for potential expansion.

The decision analysis tool was revised to enable comparison of these two scenarios for each of the management alternatives. Three qualitative criteria were considered in analyzing the various alternatives. Under the two scenarios, (1) how often did a subarea use up their allocation prior to the reallocation date, resulting in closure of the fishery in that sector, (2) which alternatives are better at ensuring full use of available annual harvest guideline, and (3) what are the impacts (in foregone harvest opportunity relative to the status quo or no action alternative) on the three sectors?

As noted in Section II, the CPSMT started from an initial suite of alternatives proposed by the Council in November 2002. The Council gave discretion to the CPSMT to develop the most appropriate set of alternatives, including development of new alternatives. The narrative below describes how the CPSMT's proposed alternatives evolved from the initial alternatives. For clarity, the CPSMT alternatives are in bold typeface.

After reviewing several of the initial alternatives under both scenarios it became obvious that impacts under 2002 + 10% would be similar to 2002 baseline conditions. Thus, the analysis focused only on a comparison of the qualitative impacts of the various alternatives under Scenario II (2002 landings + 10%).

The various initial alternatives are presented to demonstrate that a full range of alternatives was analyzed in developing the set of alternatives the CPSMT provided to the Council.

Anticipated impacts for the full range of alternatives are ("full range" equates to the initial set of alternatives as well as variations developed by the CPSMT):

Alternative 1 (status quo) – With a 10% increase in harvest from 2002, the northern subarea would close in late-August. Reallocation (50-50) would occur on October 1, the Monterey fishery would likely reopen, but Oregon and Washington would be shut down the remainder of the year. Approximately 9,847 mt of the coastwide harvest guideline would not be caught by the end of the season. Southern California would gain about 2,501 mt, Northern California would forego 2,240 mt and Oregon/Washington would forego 10,108 mt.

Alternative 2 (no allocation – coastwide harvest guideline) – With a 10% increase in harvest from 2002 the coastwide fishery closes early in December. This does not impact the Oregon/Washington fishery, which, generally, closes in October due to weather. The coastwide harvest guideline in achieved and, generally, no sector gains or foregoes harvest opportunity. However, Southern California and Northern California fisheries would be closed prior to the end of their typical season which runs through January or February of the following year.

Alternative 3A (start year with 66-33 allocation, subarea line to 39° N latitude, September [50-50] reallocation, and December [coastwide] reallocation) – With a 10% increase in harvest from 2002, the coastwide fishery closes early in November. This does not impact the Oregon/Washington fishery, which, generally, closes in October due to weather. The fishery would reopen coastwide on December 1, but approximately 3,321 mt of the coastwide harvest guideline would remain at the end of the year. Southern California would forego 1,117 mt and Northern California would forego 2,204 mt.

Alternative 3B (start year with 50-50 allocation, subarea line to 39° N latitude, September [50-50]

reallocation, and December [coastwide] reallocation) – With a 10% harvest increase the impacts are the same as under Alternative 3A.

Alternative 4A (start year with 66-33 allocation, subarea line not changed, September [50-50] reallocation, and December [coastwide] reallocation) – With a 10% increase in harvest, the northern subarea would close in late-August. Reallocation (50-50) would occur on September 1, the Monterey fishery would likely reopen, close again in mid-November, and reopen in December; Oregon and Washington would be shut down the remainder of the year. Approximately 1,482 mt of the coastwide harvest guideline would not be caught by the end of the season. Southern California would gain about 2,501 mt, Northern California would forego 1,966 mt and Oregon/Washington would forego 2,017 mt.

Alternative 4B (start year with 50-50 allocation, subarea line not changed, September [50-50] reallocation, and December [coastwide] reallocation) – With a 10% increase in harvest from 2002 the Northern California and Oregon/Washington fisheries would close in late-October and remain closed in November. The Northern California fishery would likely resume December 1. The Southern California fishery would not close. Approximately 279 mt of the coastwide harvest guideline would remain uncaught. Southern California would gain about 2,501 mt, Northern California would forego 2,692 mt and Oregon/Washington would forego 87 mt.

The Council also requested information on effects of changing the reallocation date to August 1 -

Under 4Ai (modified to start year with 66-33 allocation, subarea line not changed, **August** [50-50] reallocation, and December [coastwide] reallocation) – With a 10% increase in harvest from 2002 the northern subarea (both Monterey and Oregon/Washington) would close in late-September. Southern California would not close early. Approximately 8,093 mt of the coastwide harvest guideline would not be caught by the end of the season. Southern California would forego 8,627 mt and Oregon/Washington would forego 1,967 mt.

Given the apparent severe impacts on the Northern California fishery from an August 1 reallocation date, consideration of the August 1 reallocation date within the other alternatives was not considered further.

In an effort to develop alternatives that would maximize attainment of the annual harvest guideline and minimize sectoral impacts, the CPSMT developed two modified alternatives, titled 3Aii and 3Aiii –

Alternative 3Aii (start year with 66-33 allocation, subarea line to 39° N latitude, September [**coastwide**] reallocation) – With a 10% harvest increase the impacts are the same as under Alternative 2. That is, coastwide harvest guideline in achieved and, generally, no sector gains or foregoes harvest opportunity. However, Southern California and Northern California fisheries would be closed prior to the end of their typical season which runs through January or February of the following year.

Alternative 3Aiii (start year with 66-33 allocation, subarea line to 39° N latitude, September [80-20] reallocation, and December [coastwide] reallocation) – With a 10% harvest increase, the Oregon/Washington fishery closes in late-September. Both California fisheries close in late December. All of the coastwide harvest guideline would be harvested. Southern California would gain about 2,276 mt, Northern California would gain 209 mt and Oregon/Washington would forego 2,485 mt.

From this qualitative review it can be seen that no alternative is not without some impact on either attainment of the coastwide harvest guideline or foregone sectoral fishing opportunity or both. It should be noted that given the short season of the Oregon/Washington fishery, closure of this fishery prior to October (when weather generally closes the fishery) could have a significant impact on dependent communities. Closure of the Southern California fishery in November or early December could also have community impacts, because the peak season for the San Pedro-based CPS fleet runs from the Fall months through January or February. In addition, representatives from the Pacific Northwest sector

remarked that, under status quo, shutting down production for more than a week would result in the loss of their labor force making it impossible to restart after the reallocation on October 1.

The CPSMT discussed potential impacts from having no allocation (i.e., a coastwide harvest guideline). There is concern that this could result in a derby fishery, with associated negative consequences. It was also perceived as a very radical change from the current fishery and, hence, not practicable without a comprehensive analysis of impacts.

The CPSMT also noted the 10% estimated increase in landings is a conservative estimate. Oregon and Washington fisheries could easily expand more than 10% in 2003. This would likely accelerate the impacts of the proposed allocation alternatives.

One critical basis of this analysis is the relatively stable harvest guideline. That is, available harvest in 2003 is very similar to what was available in 2002. If available harvest were to decline (e.g., in response to a decrease in sea surface temperature) the predicted impacts noted above would likely not be accurate, but could be predictably more severe.

The CPSMT discussed the practicality of implementing the various alternatives to prevent problems from occurring in 2003. Considerations included controversy (e.g., no allocation) and the need to change regulations mid-season (e.g., harvest guideline already allocated 66-33). The CPSMT concluded:

While alternatives 3B and 4B seem to provide a relatively even distribution of impacts, they may not be practicable in that they call for a 50-50 initial subarea allocation.

Alternative 4Ai (notably, the August 1 reallocation) would severely impact the Northern California fishery.

Alternative 2 (no allocation) is highly controversial.

The CPSMT also discussed the idea of establishing a "set aside" at the outset of the fishing season. This amount would be taken off the top of the harvest guideline and held in trust to be used by a sector if they reached their subarea harvest guideline prior to a reallocation date. While this idea may have merits, and be practicable in the future, it did not seem possible for the 2003 season.

Finally, the CPSMT selected a suite of alternatives that seem to provide a balance between achieving the harvest guideline and minimizing sectoral impact, and are practicable for implementation in 2003. These selected alternatives will be provided to the CPSAS and Council at the March Council meeting and will be the basis for a regulatory amendment to be implemented during the 2003 sardine season.

The CPSMT set of alternatives put forward for Council consideration are:

Alternative 1	Status quo;
Alternative 2	Move subarea line to 39° N latitude, change reallocation date to September 1 (50% to
	the south and 50% to the north), add December coastwide reallocation;
Alternative 3	Move subarea line to 39° N latitude, change reallocation date to September 1 (80% to
	the south and 20% to the north), add December coastwide reallocation;
Alternative 4	Do not change subarea line, change reallocation date to September 1 (50% to the
	south and 50% to the north), add December coastwide reallocation.

These correspond to initial alternatives 1, 3A, 3Aiii, and 4A described above.

Summary of Impacts. Note that Table 1 (below) displays this narrative information and additional detail for the "full range" of alternatives.

Alternative 1 (status quo) – With a 10% increase in harvest from 2002, the northern subarea would close in late-August. Reallocation (50-50) would occur on October 1, the Monterey fishery would likely reopen, but Oregon and Washington would be shut down the remainder of the year.

Approximately 9,847 mt of the coastwide harvest guideline would not be caught by the end of the season. Southern California would gain about 2,501 mt, Northern California would forego 2,240 mt and Oregon/Washington would forego 10,108 mt.

Alternative 2 (start year with 66-33 allocation, subarea line to 39° N, September [50-50] reallocation, and December [coastwide] reallocation) – With a 10% increase in harvest from 2002, the coastwide fishery closes early in November. This does not impact the Oregon/Washington fishery, which, generally, closes in October due to weather. The fishery would reopen coastwide on December 1, but approximately 3,321 mt of the coastwide harvest guideline would remain at the end of the year. Southern California would forego 1,117 mt and Northern California would forego 2,204 mt.

Alternative 3 (start year with 66-33 allocation, subarea line to 39° N, September [80-20] reallocation, and December [coastwide] reallocation) – With a 10% harvest increase, the Oregon/Washington fishery closes in late-September. Both California fisheries close in late December. All of the coastwide harvest guideline would be harvested. Southern California would gain about 2,276 mt, Northern California would gain 209 mt and Oregon/Washington would forego 2,485 mt.

Alternative 4 (start year with 66-33 allocation, subarea line not changed, September [50-50] reallocation, and December [coastwide] reallocation) – With a 10% increase in harvest, the northern subarea would close in late-August. Reallocation (50-50) would occur on September 1, the Monterey fishery would likely reopen, close again in mid-November, and reopen in December; Oregon and Washington would be shut down the remainder of the year. Approximately 1,482 mt of the coastwide harvest guideline would not be caught by the end of the season. Southern California would gain about 2,501 mt, Northern California would forego 1,966 mt and Oregon/Washington would forego 2,017 mt.

Anticipated Impacts in Terms of Producer Surplus and Producer Profits

The economic analysis of alternative allocation schemes used to partition the Pacific sardine harvest guideline estimates the incremental change in producer surplus/private profit (PS) for each fishery sector when comparing each of the proposed allocation alternatives to the status quo. The procedure used estimates both the distributional changes and total changes in PS under each option. Specifically, the year-end projected landings for each fishery sector under each alternative are subtracted from the corresponding projected year-end landings under the status quo. The differences in landings are multiplied by an estimate of PS per metric ton for each fishery sector to obtain estimates of the change in sectorial PS. The sectoral changes in PS are summed to obtain an estimate of the total change in PS associated with the option. The measures of PS are derived from processor cost and earnings data that were voluntarily provided by industry members.

Given that the allocation alternative is to be a short-run, interim measure, it was assumed that there will be no significant changes in the basic operations of sardine processors during its term. There was not expected to be any significant changes in investment, or other restructuring by processors that would alter the costs of operations during the period of the selected action. Under these circumstances, all but the variable costs of sardine processing (in particular, the costs of labor, energy/utilities, raw fish, and other inputs that vary directly with the quantities of sardines processed) were considered fixed over the time horizon of the action, and therefore, would not effect estimates of PS, i.e., only the, variable costs of processing sardines were used in the calculations of PS. Producer surplus was calculated as the difference between gross revenue from the sales of processed sardine products, and the total variable cost of producing those products. This aggregate estimate was divided by the total quantity of processed product sold to get a weighted average, per unit measure of PS which was then used to estimate the incremental changes in PS associated with the proposed allocation alternatives.

It was assumed that each of the inputs are traded in perfectly competitive markets, and, therefore, their private cost will be equal to their social opportunity cost. Under this assumption, there will be no difference in measures of producer surplus and private profit. In other words the profits realized from sardine processing are the same as the net benefits to the nation. Estimates of the incremental changes in PS relative to the status quo were positive for each of the allocation alternatives (Table 2).

				RE	GION								
CPSMT Alternatives	Initial Alternatives	S	. CA	١	N. CA OR/WA Coastwide HG		vide HG	How close to closure prior to reallocation?			Do-able in 2003?		
		Early Close	Impact - gain or (loss)(mt)	Early Close	Impact - gain or (loss)(mt)	Early Close	Impact - gain or (loss)(mt)	Achieved?	Remaining (mt)	South (mt)	North (mt)	As of	
Alternative 1	Status Quo	Ν	2,501	Y	(2,240)	Y	(10,108)	Ν	9,847	31,986	0	end of Sep	
	No Allocation	Y	1	Y	0	Y	0	Y	0	n/a	n/a	n/a	N
Alternative 2	3a (66/33 Pt Arena)	Y	(1,117)	Y	(2,204)	Ν	0	Ν	3,321	31,040	3,012	end of Aug	
	3aii (Coastwide - Sep 1)	Y	1	Y	0	Ν	0	Y	0	31,040	3,012	end of Aug	N
Alternative 3	3aiii (80/20 on Sep 1)	Y	2,276	Y	209	Y	(2,485)	Y	0	31,040	3,012	end of Aug	
	3b (50/50 Pt Arena)	Y	(1,117)	Y	(2,204)	Ν	0	Ν	3,321	12,556	21,497	end of Aug	N
Alternative 4	4a (66/33 Sep Re-all)	Ν	2,501	Y	(1,966)	Y	(2,017)	Ν	1,482	36,459	0	end of Aug	
	4ai (66/33 Aug Re-all)	Ν	2,501	Y	(8,627)	Y	(1,967)	N	8,093	41,344	18,097	end of July	
	4b (50/50 Sep Re-all)	Ν	2,501	Y	(2,692)	Y	(87)	Ν	279	17,974	16,078	end of Aug	Ν

Table 1. Summary of options for restructuring the 2003 sardine allocation framework (Based upon 2002 landings inflated by 10% for every sector)

Table 2.	Estima	ated chang	ges in prod	ucer surplus/p	rivate	profits (PS) from pro	posed Wes	t Coast,
sardine	harvest	guideline	allocation	alternatives.	Full	suite of	alternatives	displayed,	CPSMT
recomme	ended ar	re shaded.							

	Reg	ional Impact		
	Southern CA No	orthern CA C	OR & WA	Total
1. Option: Status Quo (2002 Lan	dings + 10%, 66/3	3, Pt. Piedras B	lancas, Re-all	Oct 1)
Projected Landings (mt)	53,856	14,060	33,145	101,061
Estimated PS				\$15,375,972
Option: No Allocation (HG ava	ilable coastwide a	ll year)		
Projected Landings (mt)	51,356	16,299	43,253	110,908
Change from Status Quo (mt)	(2,500)	2,239	10,108	9,847
Change in PS				\$2,315,725
2. Option: 3a (66/33, Pt. Arena, F	Re-all Sep 1, coast	wide Dec 1)		
Projected Landings (mt)	50,239	14,095	43,253	107,587
Change from Status Quo (mt)	(3,618)	35	10,108	6,526
Change in PS				\$2,058,657
Option: 3aii (66/33, Pt. Arena,	coastwide Sep 1)			
Projected Landings (mt)	51,356	16,299	43,253	110,908
Change from Status Quo (mt)	(2,500)	2,239	10,108	9,847
Change in PS				\$2,315,725
3. Option: 3aiii (66/33, Pt. Arena,	Re-all 80/20 Sep	1, coastwide De	ec 1)	
Projected Landings (mt)	53,631	16,508	40,767	110,907
Change from Status Quo (mt)	(225)	2,449	7,622	9,846
Change in PS				\$1,987,184
Option: 3b (50/50, Pt. Arena, F	Re-all Sep 1, coast	wide Dec 1)		
Projected Landings (mt)	50,239	14,095	43,253	107,587
Change from Status Quo (mt)	(3,618)	35	10,108	6,526
Change in PS				\$2,058,657
4. Option: 4a (66/33, Pt. Piedras	Blancas, Re-all Se	ep 1, coastwide	Dec 1)	
Projected Landings (mt)	53,856	14,334	41,236	109,426
Change from Status Quo (mt)	0	274	8,091	8,365
Change in PS				\$2,007,161
Option: 4ai (66/33, Pt. Piedras	Blancas, Re-all A	ug 1, coastwide	Dec 1)	
Projected Landings (mt)	53,856	7,672	41,286	102,815
Change from Status Quo (mt)	0	(6,387)	8,141	1,754
Change in PS				\$1,645,606
Option: 4b (50/50, Pt. Piedras	Blancas, Re-all Se	ep 1, coastwide	Dec 1)	
Projected Landings (mt)	53,856	13,607	43,166	110,629
Change from Status Quo (mt)	0	(453)	10,021	9,568
Change in PS				\$2,441,499

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Appendix A -- Displays of Fishing Seasons Under the Various Alternatives

2,501

Impact

2,240

10,108

INPUT HG: 110,908 <--- 2003 HG

STATUS O	ATUS QUO (66/33, Pt. Piedras Blancas, Re-all Oct 1)					U.S. HG=	110,908			
2002 Lanc	lings + 10%					Initial Subarea HG=	73,939	36,969		
	REGI	ON LANDI	NGS	SUBAREA LAN	IDINGS		ALLOC AVAILABLE (M	onth Start)		
Month	SC 2002	NC 2002	OW 2002	South	North		South	North		
Jan	5,250	249	0	5,250	249	Jan	73,939	36,969		
Feb	8,435	1,232	0	8,435	1,232	Feb	68,689	36,721		
Mar	6,990	178	0	6,990	178	Mar	60,254	35,488		
Apr	5,658	71	0	5,658	71	Apr	53,264	35,311		
May	2,257	1	0	2,257	1	May	47,605	35,239		
Jun	692	1	3,450	692	3,451	Jun	45,348	35,238		
Jul	3,322	362	13,329	3,322	13,691	Jul	44,656	31,788		
Aug	4,875	2,934	15,163	4,875	18,097	Aug	41,334	18,097	South	North
Sep	4,473	0	0	4,473	0	Sep	36,459	0	31,986	0 < HG remaining Sep 30
Oct	4,190	6,188	1,204	4,190	7,392	Oct	15,993	15,993	< Reallocat	te 50:50 on Oct 1
Nov	3,674	2,473	0	3,674	2,473	Nov	11,803	8,601		
Dec	4,039	371	0	4,039	371	Dec	8,129	6,128		
Total	53,856	14,060	33,145	53,856	47,205		4,090	5,757	< HG Rem	aining Season End
Status Que	51,355	16,299	43,253							

NO ALLO	CATION (H	G available	coastwide a	all year)	U.S. HG=	110,908	
2002 Lanc	lings + 10%	, D			_		
	REG	GION LAND	INGS		A	LABLE (Month Start)	
Month	SC 2002	NC 2002	OW 2002	U.S. Landings		U.S.	
Jan	5,250	249	0	5,498	Jan	110,908	
Feb	8,435	1,232	0	9,668	Feb	105,410	
Mar	6,990	178	0	7,168	Mar	95,742	
Apr	5,658	71	0	5,730	Apr	88,574	
May	2,257	1	0	2,258	May	82,845	
Jun	692	1	3,450	4,143	Jun	80,586	
Jul	3,322	362	13,329	17,013	Jul	76,444	
Aug	4,875	3,324	17,179	25,379	Aug	59,431	
Sep	4,473	2,079	8,091	14,643	Sep	34,052	
Oct	4,190	6,188	1,204	11,582	Oct	19,409	
Nov	3,674	2,473	0	6,147	Nov	7,827	
Dec	1,539	141	0	1,679	Dec	1,680	
Total	51,356	16,299	43,253	110,908		0 <	< HG Remaining Season End
Status Que	51,355	16,299	43,253				
Impact	1	0	0				

3A (66/33, Pt. Arena, Re-all Sep, Coastwide Dec 1)										
2002 Landings + 10%										
	REG	GION LAND	INGS		SUBAREA LANDINGS					
Month	SC 2002	NC 2002	OW 2002		South	North				
Jan	5,250	249	0		5,498	0				
Feb	8,435	1,232	0		9,668	0				
Mar	6,990	178	0		7,168	0				
Apr	5,658	71	0		5,730	0				
May	2,257	1	0		2,258	0				
Jun	692	1	3,450		693	3,450				
Jul	3,322	362	13,329		3,684	13,329				
Aug	4,875	3,324	17,179		8,199	17,179				
Sep	4,473	2,079	8,091		6,552	8,091				
Oct	4,190	6,188	1,204		10,378	1,204				
Nov	57	39	0		96	0				
Dec	4,039	371	0		4,410	0				
Total	50,239	14,095	43,253		64,334	43,253				
Status Que	51,355	16,299	43,253							
Impact	1,117	2,204	0							

U.S. HG=	110,908			
Subarea HG=	73,939	36,969		
	ALLOC AVAILABLE (N	Nonth Start)		
	South	North		
Jan	73,939	36,969		
Feb	68,440	36,969		
Mar	58,773	36,969		
Apr	51,605	36,969		
May	45,875	36,969		
Jun	43,617	36,969		
Jul	42,924	33,520	South	North
Aug	39,240	20,191	31,040	3,012 < HG remaining Aug 31
Sep	17,026	17,026	< Realloc	ate 50:50 on Sep 1
Oct	10,474	8,935		
Nov	96	7,731	0	7,731 < HG remaining Nov 30
Dec	7,731		< Open co	pastwide Dec 1
	3,321		< HG Rer	naining Season End

3A2 (66/33, Pt. Arena, Coastwide Sep 1)											
2002 Land	ings + 10%	5									
	REG	GION LAND	INGS	SUBAREA LANDINGS							
Month	SC 2002	NC 2002	OW 2002	South North							
Jan	5,250	249	0	5,498 0							
Feb	8,435	1,232	0	9,668 0							
Mar	6,990	178	0	7,168 0							
Apr	5,658	71	0	5,730 0							
May	2,257	1	0	2,258 0							
Jun	692	1	3,450	693 3,450							
Jul	3,322	362	13,329	3,684 13,329							
Aug	4,875	3,324	17,179	8,199 17,179							
Sep	4,473	2,079	8,091	6,552 8,091							
Oct	4,190	6,188	1,204	10,378 1,204							
Nov	3,674	2,473	0	6,147 0							
Dec	1,539	141	0	1,679 0							
Total	51,356	16,299	43,253	67,655 43,253							
Status Quo	51,355	16,299	43,253								
Impact	1	0	0								

U.S. HG=	110,908			
Subarea HG=	73,939	36,969		
ALLO	C AVAILABLE (Mon	th Start)		
	South	North		
Jan	73,939	36,969		
Feb	68,440	36,969		
Mar	58,773	36,969		
Apr	51,605	36,969		
May	45,875	36,969		
Jun	43,617	36,969		
Jul	42,924	33,520	South	North
Aug	39,240	20,191	31,040	3,012 < HG remaining Aug 31
Sep	34,052	<	Open coa	astwide Sep 1
Oct	19,409			
Nov	7,827			
Dec	1,680			
	0	<	HG Rem	aining Season End
	U.S. HG= Subarea HG= ALLO Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec	U.S. HG= 110,908 Subarea HG= 73,939 ALLOC AVAILABLE (Mon South Jan 73,939 Feb 68,440 Mar 58,773 Apr 51,605 May 45,875 Jun 43,617 Jul 42,924 Aug 39,240 Sep 34,052 Oct 19,409 Nov 7,827 Dec 1,680 0	U.S. HG= 110,908 Subarea HG= 73,939 36,969 ALLOC AVAILABLE (Month Start) South North Jan 73,939 36,969 Feb 68,440 36,969 Mar 58,773 36,969 Mar 58,773 36,969 May 45,875 36,969 May 45,875 36,969 Jun 43,617 36,969 Jun 43,617 36,969 Jul 42,924 33,520 Aug 39,240 20,191 Sep 34,052 < Oct 19,409 Nov 7,827 Dec 1,680 0 <	U.S. HG= 110,908 Subarea HG= 73,939 36,969 ALLOC AVAILABLE (Month Start) South North Jan 73,939 36,969 Feb 68,440 36,969 Mar 58,773 36,969 Mar 58,773 36,969 May 45,875 36,969 Jun 43,617 36,969 Jun 43,617 36,969 Jul 42,924 33,520 South Aug 39,240 20,191 31,040 Sep 34,052 < Open coa Oct 19,409 Nov 7,827 Dec 1,680 0 < HG Rem.

3A3 (66/33	, Pt. Arena	, Re-all 80/2	20 Sep 1, C	oastwide Dec 1)								
2002 Land	2002 Landings + 10%											
	REG	GION LAND	INGS	SUBAREA	LANDINGS							
Month	SC 2002	NC 2002	OW 2002	South	North							
Jan	5,250	249	0	5,498	0							
Feb	8,435	1,232	0	9,668	0							
Mar	6,990	178	0	7,168	0							
Apr	5,658	71	0	5,730	0							
May	2,257	1	0	2,258	0							
Jun	692	1	3,450	693	3,450							
Jul	3,322	362	13,329	3,684	13,329							
Aug	4,875	3,324	17,179	8,199	17,179							
Sep	4,473	2,079	6,810	6,552	6,810							
Oct	4,190	6,188	0	10,378	0							
Nov	3,674	2,473	0	6,147	0							
Dec	3,814	350	0	4,164	0							
Total	53,631	16,508	40,767	70,140	40,767							
Status Quc	51,355	16,299	43,253									
Impact	2,276	209	2,485									

		U.S. HG=	110,908			
		Subarea HG=	73,939	36,969		
AREA L	ANDINGS	ALLOC	AVAILABLE (Mon	th Start)		
South	North		South	North		
5,498	0	Jan	73,939	36,969		
9,668	0	Feb	68,440	36,969		
7,168	0	Mar	58,773	36,969		
5,730	0	Apr	51,605	36,969		
2,258	0	May	45,875	36,969		
693	3,450	Jun	43,617	36,969		
3,684	13,329	Jul	42,924	33,520	South	North
3,199	17,179	Aug	39,240	20,191	31,040	3,012 < HG remaining Aug 31
6,552	6,810	Sep	27,242	6,810 <	reallocate	80:20 Sep 1
),378	0	Oct	20,690	0		
5,147	0	Nov	10,312	0	4,164	0 < HG remaining Nov 30
4,164	0	Dec	4,165	<	Open coa	stwide Dec 1
0,140	40,767		1	<	HG Rema	aining Season End

3B (50/50, Pt. Arena, Re-all Sep 1, Coastwide Dec 1)										
2002 Landings + 10%										
	REG	SION LAND	NGS	SUBAREA	LANDINGS					
Month	SC 2002	NC 2002	OW 2002	South	North					
Jan	5,250	249	0	5,498	0					
Feb	8,435	1,232	0	9,668	0					
Mar	6,990	178	0	7,168	0					
Apr	5,658	71	0	5,730	0					
May	2,257	1	0	2,258	0					
Jun	692	1	3,450	693	3,450					
Jul	3,322	362	13,329	3,684	13,329					
Aug	4,875	3,324	17,179	8,199	17,179					
Sep	4,473	2,079	8,091	6,552	8,091					
Oct	4,190	6,188	1,204	10,378	1,204					
Nov	57	39	0	96	0					
Dec	4,039	371	0	4,410	0					
Total	50,239	14,095	43,253	64,334	43,253					
Status Que	51,355	16,299	43,253							
Impact	1,117	2,204	0							

U.S. HG=	110,9	800				
Subarea HG=	55,4	54 55,454	Ļ			
	ALLOC AVAILABLI	E (Month Start)				
	So	uth North	1			
Jan	55,4	54 55,454	Ļ			
Feb	49,9	56 55,454	Ļ			
Mai	40,2	288 55,454	Ļ			
Арі	33,1	20 55,454	Ļ			
May	27,3	91 55,454	Ļ			
Jun	25,1	32 55,454	Ļ			
Ju	24,4	39 52,004	South	North		
Aug	20,7	755 38,676	12,556	21,497	< HG remaining Aug 31	
Sep	17,0	17,026	S < Reallocate	e 50:50 or	n Sep 1	
Oct	10,4	8,935	5			
Nov	,	96 7,731	0	7,731	< HG remaining Nov 30	
Dec	7,73	31	< Open coas	stwide De	c 1	
	3,32	21	< HG Remai	ining Sea	ason End	

4A (66/33	, Pt. Piedras	Blancas,	Re-all Sep 1	, Coastwide Dec 1)		U.S. HG=	110,908			
2002 Land	lings + 10%					Initial Subarea HG=	73,939	36,969		
	REG	ION LAND	INGS	SUBAREA L	ANDINGS		ALLOC AVAILABLE (M	lonth Start)		
Month	SC 2002	NC 2002	OW 2002	South	North		South	North		
Jan	5,250	249	0	5,250	249	Jan	73,939	36,969		
Feb	8,435	1,232	0	8,435	1,232	Feb	68,689	36,721		
Mar	6,990	178	0	6,990	178	Mar	60,254	35,488		
Apr	5,658	71	0	5,658	71	Apr	53,264	35,311		
May	2,257	1	0	2,257	1	May	47,605	35,239		
Jun	692	1	3,450	692	3,451	Jun	45,348	35,238		
Jul	3,322	362	13,329	3,322	13,691	Jul	44,656	31,788	South	North
Aug	4,875	2,934	15,162	4,875	18,097	Aug	41,334	18,097	36,459	0 < HG remaining Aug 31
Sep	4,473	2,079	8,091	4,473	10,170	Sep	18,230	18,230	< Realloca	te 50:50 on Sep 1
Oct	4,190	6,188	1,204	4,190	7,392	Oct	13,757	8,060		
Nov	3,674	668	0	3,674	668	Nov	9,566	668	5,892	0 < HG remaining Nov 30
Dec	4,039	371	0	4,039	371	Dec	5,892		< Open co	astwide Dec 1
Total	53,856	14,334	41,236	53,856	55,569		1,482		< HG Rem	aining Season End
Status Quo	51,355	16,299	43,253							
Impact	2,501	1,966	2,017							

4A1 (66/3	3, Pt. Piedra	as Blancas	, Re-all Aug	1, Coastwide Dec 1)		U.S. HG=	110,908			
2002 Lanc	lings + 10%					Initial Subarea HG=	73,939	36,969		
	REG	ION LAND	INGS	SUBAREA I	ANDINGS		ALLOC AVAILABLE (N	Ionth Start)		
Month	SC 2002	NC 2002	OW 2002	South	North		South	North		
Jan	5,250	249	0	5,250	249	Jan	73,939	36,969		
Feb	8,435	1,232	0	8,435	1,232	Feb	68,689	36,721		
Mar	6,990	178	0	6,990	178	Mar	60,254	35,488		
Apr	5,658	71	0	5,658	71	Apr	53,264	35,311		
May	2,257	1	0	2,257	1	May	47,605	35,239		
Jun	692	1	3,450	692	3,451	Jun	45,348	35,238	South	North
Jul	3,322	362	13,329	3,322	13,691	Jul	44,656	31,788	41,334	18,097 < HG remaining Jul 31
Aug	4,875	3,324	17,179	4,875	20,504	Aug	29,715	29,715	< Reallocat	te 50:50 on Aug 1
Sep	4,473	1,883	7,328	4,473	9,211	Sep	24,840	9,212		
Oct	4,190	0	0	4,190	0	Oct	20,367	0		
Nov	3,674	0	0	3,674	0	Nov	16,177	0	12,503	0 < HG remaining Nov 30
Dec	4,039	371	0	4,039	371	Dec	12,503		< Open coa	astwide Dec 1
Total	53,856	7,672	41,286	53,856	48,959		8,093		< HG Rem	aining Season End
Status Que	51,355	16,299	43,253							
Impact	2,501	8,627	1,967							

4B (50/50, Pt. Piedras Blancas, Re-all Sep 1, Coastwide Dec 1)						U.S. HG=	110,908				
2002 Landings + 10%						Initial Subarea HG=	55,454	55,454			
	REGION LANDINGS			SUBAREA L	SUBAREA LANDINGS		ALLOC AVAILABLE (Month Start)				
Month	SC 2002	NC 2002	OW 2002	South	North		South	North			
Jan	5,250	249	0	5,250	249	Jan	55,454	55,454			
Feb	8,435	1,232	0	8,435	1,232	Feb	50,204	55,205			
Mar	6,990	178	0	6,990	178	Mar	41,769	53,973			
Apr	5,658	71	0	5,658	71	Apr	34,779	53,795			
May	2,257	1	0	2,257	1	May	29,121	53,724			
Jun	692	1	3,450	692	3,451	Jun	26,863	53,723			
Jul	3,322	362	13,329	3,322	13,691	Jul	26,171	50,272	South	North	
Aug	4,875	3,324	17,179	4,875	20,504	Aug	22,849	36,582	17,974	16,078 < amount remaining Aug 31	
Sep	4,473	2,079	8,091	4,473	10,170	Sep	17,026	17,026 <	Reallocate 50:50 on Sep 1		
Oct	4,190	5,739	1,117	4,190	6,856	Oct	12,553	6,856			
Nov	3,674	0	0	3,674	0	Nov	8,363	0	4,689	0 < HG remaining Nov 30	
Dec	4,039	371	0	4,039	371	Dec	4,689	<	< Open coastwide Dec 1		
Total	53,856	13,607	43,166	53,856	56,773		279	<	< HG Remaining Season End		
Status Que	51,355	16,299	43,253								
Impact	2,501	2,692	87								

COASTAL PELAGIC SPECIES ADVISORY SUBPANEL COMMENTS ON DRAFT REGULATORY AMENDMENT AND ANALYSIS FOR CHANGES TO SARDINE ALLOCATION

The Coastal Pelagic Species Advisory Subpanel (CPSAS) heard a presentation from CPS Management Team (CPSMT) Chair Dr. Sam Herrick summarizing the analysis of sardine harvest guideline allocation options. The CPSAS supports the process and methods utilized by the CPSMT to provide a baseline for analysis of the various alternatives. The CPSAS unanimously supports the suite of four alternatives going out to the public for review and believes that the options represent a reasonable range of alternatives to consider. For completeness, a majority (eight of nine) of the CPSAS supports adding an additional alternative identified as alternative 3aii from the original suite of alternatives, the minority (one of nine) believes this is redundant.

While status quo is an option the CPSAS supports going out for public review to complete the range of reasonable alternatives, it is important to note the CPSAS does not support status quo or no action for 2003. This is an unacceptable alternative that will result in severe economic hardship in Northern California, Oregon, and Washington.

The majority (seven of nine) of the CPSAS supports identifying Alternative 3 as the CPSAS's preferred option for the short-term. The CPSAS believes this option is the most suitable for addressing the problems realized in the 2002 fishery, including the premature closure of the Northern California and Oregon and Washington fisheries. This alternative also provides the best opportunity for total utilization of the optimum yield. The majority of the CPSAS believes this alternative will not negatively impact Southern California fisheries for the reason that the current scheme allocates a much larger amount of fish to the southern area then they have harvested in recent years. The CPSAS also believes this step allows us to proceed cautiously with an interim plan (one to two years) which more equitably distributes the available harvest, while longer term research efforts are completed.

A minority (two of nine) of the CPSAS preferred Alternative 4, moving the allocation date up to September 1, over Alternative 3, as a short-term mitigation to reduce economic impacts in the northern fishery while minimizing negative effects in the southern fishery. It was felt that changing the reallocation date is the simplest measure to achieve better utilization of optimum yield in the short term in light of uncertainties expressed. This minority opinion advocates research before further expansion beyond alternative 4.

The majority of the CPSAS (six yes, one no, one abstention), in their review of the economic data presented, believe data from the sample of southern area processors is not representative of the southern area fishery as a whole.

The CPSAS continues to unanimously support increased research on the stock and economics of the fishery as part of the process for determining a long-term allocation scheme for the West Coast sardine fishery.

PFMC 03/13/03

Exhibit I.2.b Supplemental CPSMT Presentation March 2003

Analysis of Sardine Harvest Guideline Allocation Options

Presentation to the Pacific Fishery Management Council March 13, 2003

Purpose

Implement an interim Pacific sardine harvest guideline allocation framework.

• Need

 To address recent problems which have occurred as a result of the current allocation framework.

Background

- On January 1 the annual HG is partitioned 66% to the southern sub-area and 33% to the northern sub-area
- The current sub-area line is 35° 40' N latitude (approximately Pt. Piedras Blancas).
- On October 1 the remaining harvest guideline is pooled and re-allocated 50-50 to each sub-area.
- The southern sub-area primarily includes the fishery based in San Pedro and Los Angeles.
- Background (continued)
 - The northern sub-area includes fisheries off Monterey (Northern CA), Oregon and Washington.
 - The Southern California fishery starts harvesting sardine January 1 and increases steadily throughout the year.
 - The Northern California fishery starts in August (tied to market squid availability) and increases through January or February of the following year.

- **Background** (continued)
 - The Oregon and Washington fisheries have a much more abbreviated season, which starts in June and ends in October.
 - In 2002, the northern sub-area allocation was reached and the fishery closed on September 14, 2002.
 - Under the status quo there is a high likelihood that the northern sub-area will fully utilize its initial allocation prior to October 1, 2003.
 - The Council proposed an initial suite of alternatives for an interim change to the sardine HG allocation formula in November 2002, and gave discretion to the CPSMT to develop the most appropriate set of alternatives, including new alternatives.

- Management Alternatives Developed by the CPSMT
 - Status quo, 110% 2002 monthly landings for each fishery.
 - No allocation institute a coastwide HG.
 - Move N-S boundary from 35°40'N to 39°N
 - 50:50 reallocation Sep 1; coastwide reallocation Dec 1
 - Coastwide reallocation Sep 1
 - 80:20 reallocation Sep 1; coastwide reallocation Dec 1
 - 50:50 initial allocation; 50:50 reallocation Sep 1; coastwide reallocation Dec 1

- Management Alternatives Developed by the CPSMT (continued)
 - N-S boundary at 35°40'N
 - 50:50 reallocation Sep 1, coastwide reallocation Dec 1
 - 50:50 reallocation Aug 1, coastwide reallocation Dec 1
 - 50:50 initial allocation; reallocation Sep 1, coastwide reallocation Dec 1

- Analysis
 - Factors considered in analyzing the various alternatives:
 - Early closure of a fishery sector;
 - Landings forgone/gained relative to the status quo for the three fishery sectors - - S. CA, N. CA and OW;
 - Full use of available annual harvest guideline;
 - Incremental changes in net national benefits (producer surplus) under each alternative;
 - Is the alternative doable in 2003?
 - For 2003: HG=110,908 mt; initial allocation 66% south, 33% north; N-S line at Pt Piedras Blancas.
 - Monthly landings were projected for each fishery sector under each allocation alternative.

- **Analysis** (continued)
 - Annual landings across all sectors were constrained by the 2003 HG.
 - For each fishery sector, the change in annual landings from the status quo was calculated for each alternative.
 - Unit measures of producer surplus (PS) for each sector were estimated from cost and earnings data provided by sardine processors.
 - For each fishery sector the incremental change in PS was estimated for each alternative.
- Results

Monthly La	ndings of l	Pacific Sar	dine Unde	r Proposed HG	Allocatio	n Options						
Status Quo, 2002 Landings + 10% (110,908 mt Harvest Guideline; 66% S, 33% N; N-S Line at 35° 40' N;												
Reallocate Remaining HG 50:50 October 1)												
	REGION LANDINGS			SUBAREA LAN	NDINGS	ALLOC A\	AILABLE	Month Star	t)			
Month	SC 2002	NC 2002	OW 2002	South	North	South	North					
Jan	5,250	249	0	5,250	249	73,939	36,969					
Feb	8,435	1,232	0	8,435	1,232	68,689	36,721					
Mar	6,990	178	0	6,990	178	60,254	35,488					
Apr	5,658	71	0	5,658	71	53,264	35,311					
May	2,257	1	0	2,257	1	47,605	35,239					
Jun	692	1	3,450	692	3,451	45,348	35,238					
Jul	3,322	362	13,329	3,322	13,691	44,656	31,788	HG remain	ning Sep 3	0		
Aug	4,875	2,934	15,163	4,875	18,097	41,334	18,097	South	North			
Sep	4,473	0	0	4,473	0	36,459	0	31,986	0			
Oct	4,190	6,188	1,204	4,190	7,392	15,993	15,993	Reallocate	50:50 on C	Oct 1		
Nov	3,674	2,473	0	3,674	2,473	11,803	8,601					
Dec	4,039	371	0	4,039	371	8,129	6,128					
Total	53,856	14,060	33,145	53,856	47,205	4,090	5,757	HG Remai	ning Seas	on End		

Estimated economic impacts, changes in producer surplus (PS), of proposed West Coast												
sardine harvest guideline reallocat												
		Regional Impact										
	Southern CA	Northern CA	OR & WA	Total								
Option: STATUS QUO (20	002 Landings + 1	0%, 66/33, Pt. Pi	edras Blancas, R	Re-all Oct 1)								
Projected Landings (MT)	53,856	14,060	33,145	101,061								
PS Per Ton	\$134.40	\$130.26	\$205.64									
Total PS	\$7,238,050	\$1,831,481	\$6,815,794	\$15,885,326								
Option: NO	ALLOCATION (H	IG available coas	stwide all year)									
Projected Landings (MT)	51,356	16,299	43,253	110,908								
Change from Status Quo	2,500	2,239	10,108	9,847								
Change in PS	\$336,022	\$291,693	\$2,078,460	\$2,034,131								
Option: 3a (66/33, Pt. Arena,	Re-all Sep 1, Co	astwide Dec 1)									
Projected Landings (MT)	50,239	14,095	43,253	107,587								
Change from Status Quo	3,618	35	10,108	6,526								
Change in PS	\$486,175	\$4,624	\$2,078,460	\$1,596,909								
Option: 3aii (66/33, Pt. Arena, Coastwide Sep 1)												
Projected Landings (MT)	51,356	16,299	43,253	110,908								
Change from Status Quo	2,500	2,239	10,108	9,847								
Change in PS	\$336,022	\$291,693	\$2,078,460	\$2,034,131								
Option: 3aiii (66/33, Pt. Arena, Re-all 80/20 Sep 1, Coastwide Dec 1)												
Projected Landings (MT)	53,631	16,508	40,767	110,907								
Change from Status Quo	225	2,449	7,622	9,846								
Change in PS	\$30,239	\$318,951	\$1,567,441	\$1,856,152								
Option: 3b (50/50, Pt. Arena,	Re-all Sep 1, Co	astwide Dec 1)									
Projected Landings (MT)	50,239	14,095	43,253	107,587								
Change from Status Quo	3,618	35	10,108	6,526								
Change in PS	\$486,175	\$4,624	\$2,078,460	\$1,596,909								
Option: 4a (66/33	, Pt. Piedras Bla	ncas, Re-all Sep	1, Coastwide De	ec 1)								
Projected Landings (MT)	53,856	14,334	41,236	109,426								
Change from Status Quo	0	274	8,091	8,365								
Change in PS	\$0	\$35,692	\$1,663,693	\$1,699,385								
Option: 4ai (66/33	, Pt. Piedras Bla	ncas, Re-all Aug	1, Coastwide De	ec 1)								
Projected Landings (MT)	53,856	7,672	41,286	102,815								
Change from Status Quo	0	6,387	8,141	1,754								
Change in PS	\$0	\$832,052	\$1,674,141	\$842,089								
Option: 4b (50/50	, Pt. Piedras Bla	ncas, Re-all Sep	1, Coastwide De	ec 1)								
Projected Landings (MT)	53,856	13,607	43,166	110,629								
Change from Status Quo	0	453	10,021	9,568								
Change in PS	\$0	\$58,960	\$2,060,570	\$2,001,609								

Summary of options for restructuring the 2003 sardine allocation framework.												
(Based upon 20	002 landings inflated by 10% for e	every se	ctor)									
								Harvest	Change in			
CPSMT	Initial	Ea	rly Clo	sure	Change	in Utilizat	tion (MT)	Guideline	Producer	Do-able		
Alternative	Alternatives	S. CA	N. CA	OR/WA	S. CA	N. CA	OR/WA	Remaining (MT)	Surplus (2001 \$)	in 2003		
Alternative 1	Status Quo	No	Yes	Yes	0	0	0	9,847	\$0	Yes		
	No Allocation	Yes	Yes	Yes	-2,500	2,239	10,108	0	\$2,034,131	No		
Alternative 2	3a (66/33, Pt Arena)	Yes	Yes	No	-3,618	35	10,108	3,321	\$1,596,909	Yes		
	3aii (66/33, Coastwide - Sep 1)	Yes	Yes	No	-2,500	2,239	10,108	0	\$2,034,131			
Alternative 3	3aiii (66/33, 80/20 on Sep 1)	Yes	Yes	Yes	-225	2,449	7,622	1	\$1,856,152	Yes		
	3b (50/50, Pt Arena)	Yes	Yes	No	-3,618	35	10,108	3,321	\$1,596,909	No		
Alternative 4	4a (66/33, Sep Re-all)	No	Yes	Yes	0	274	8,091	1,482	\$1,699,385	Yes		
	4ai (66/33, Aug Re-all)	No	Yes	Yes	0	-6,387	8,141	8,093	\$842,089			
	4b (50/50, Sep Re-all)	No	Yes	Yes	0	-453	10,021	279	\$2,001,609	No		
Note: All "3" options shift the allocation line to Pt. Are												
	CPSMT alternative											
	Not do-able in 2003											
	Rejected by CPSMT as not reaso	onable										

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON DRAFT REGULATORY AMENDMENT AND ANALYSIS FOR CHANGES TO SARDINE ALLOCATION

Dr. Sam Herrick briefed the Scientific and Statistical Committee (SSC) on the alternatives for an interim Pacific sardine allocation formula and the analysis of these alternatives. A status quo and eight other alternatives were considered, based on the choice of a north/south boundary, the initial allocation between the northern and southern subareas, the date of the re-allocation of any remaining optimum yield (OY) between these subareas, the split between these areas at the re-allocation, and the date of a coastwide allocation. The nine alternatives were reduced to four by the Coastal Pelagic Species Management Team (CPSMT) based on feasibility, equitability, the full utilization of the annual OY, the estimated change in net national benefits, and the probability of one of the fishing sectors having to close prematurely.

The allocation formula being considered is only expected to be used for two years (2003 and 2004) with plans to replace it by a formula that takes fuller account of biological and economic factors. The SSC noted that analysis of a long-term allocation formula should make use of the results of the sardine surveys that are planned to start in 2003. These surveys should provide information regarding biomass levels off Oregon and Washington relative to those off California. The analysis of future alternatives should also be based on economic data collected from designed surveys rather than voluntary information and attempt to incorporate the impacts of the seasonal variability in landings.

The SSC notes that all of the alternatives would increase harvest opportunities off Oregon and Washington. However, these alternatives are only designed to avoid the problems encountered in 2002; future analyses may identify other alternatives. The SSC, therefore, cautions that the alternatives under consideration for 2003 and 2004 should not be interpreted as a signal that the Oregon and Washington fisheries can continue to expand and suggests the current number of state permits for the Oregon/Washington-based sectors be frozen until a long-term allocation formula is selected.

PFMC 03/13/03

CALIFORNIA WETFISH PRODUCERS ASSOCIATION

2194 SIGNAL PLACE SAN PEDRO, CA 90731

PFMC

FEBRUARY 21, 2003

 ORLANDO AMOROSO
 DR. HANS RADTKE, CHAIR, DR. DON MCISAAC, EXECUTIVE DIRECTOR AND

 S.CA. COMMERCIAL
 MEMBERS OF THE PACIFIC FISHERY MANAGEMENT COUNCIL

 FISHING ASSOC.
 MEMBERS OF THE PACIFIC FISHERY MANAGEMENT COUNCIL

 7700 NE AMBASSADOR PLACE, SUITE 200

 PORTLAND, OR 97220

 VANESSA DELUCA

 SUBJECT: ALLOCATION OF THE SARDINE RESOURCE

DEAR DR. RADTKE, DR. MCISAAC AND COUNCIL MEMBERS,

STATE FISH COMPANY

JOHN CAR TRI-MARINE FISH CO.

PETE GUGLIELMO SOUTHERN CA SEAFOOD

FRANK TOMICH TOMICH BROS. SEAFOOD

PETER DIVONA CRS / STANDARD SEAFOOD

JOE BURCH OCEAN GEM SEAFOOD

MIKE CARPENTER SUN COAST CALAMARI

JOHN GINGERICH HUENEME FISH PROCESSORS INC.

.

REPRESENTING

29 PURSE SEINE VESSEL OWNERS WHO EMPLOY

232 FISHERMEN

8 COMPANIES WITH 1,370 EMPLOYEES THE CALIFORNIA WETFISH PRODUCERS ASSOCIATION REPRESENTS THE SAN PEDRO PURSE SEINE FLEET AND THE MAJORITY OF SARDINE PROCESSORS IN SOUTHERN CALIFORNIA. WE THANK THE COUNCIL, THE CPS MANAGEMENT TEAM AND THE SCIENCE AND STATISTICAL COMMITTEE FOR YOUR LETTER OF NOVEMBER 27 TO DR. WILLIAM HOGARTH, HIGHLIGHTING THE IMPORTANCE OF THE SARDINE RESOURCE AND THE URGENT NEED FOR EXPANDED SARDINE RESEARCH. WE VERY MUCH APPRECIATE YOUR EFFORTS, AS WELL AS THE COMMITMENT OF DR. HOGARTH AND NMFS SOUTHWEST REGION TO ACCOMPLISH THIS RESEARCH, BEGINNING THIS YEAR.

THE COUNCIL'S LETTER AND ATTACHMENTS ALSO LIST MANY UNKNOWNS REGARDING NORTHERN SARDINE STOCKS THAT ARE ESSENTIAL TO MANAGE THE FISHERY ACCURATELY. THE CURRENT STOCK ASSESSMENT AND HARVEST GUIDELINE ARE BASED ON "MASSIVE ASSUMPTIONS", IN THE WORDS OF A RESPECTED SARDINE BIOLOGIST. AT PREVIOUS COUNCIL MEETINGS I'VE VOICED CONCERN ABOUT THE RECENT RAPID EXPANSION OF THE SARDINE FISHERY IN THE PACIFIC NORTHWEST, WHICH HAS TAKEN PLACE WITHOUT FEDERAL OVERSIGHT AND IN THE ABSENCE OF KNOWLEDGE ABOUT NORTHERN SARDINE STOCKS. NOTHING I'VE HEARD OR READ LATELY DIMINISHES MY CONCERN FOR THIS RESOURCE, EVEN ACKNOWLEDGING THAT THE ALLOCATION DECISION TO BE MADE IN THE NEXT TWO MONTHS IS SHORT-TERM—EFFECTIVE ONLY FOR 2003 AND POSSIBLY THE 2004 SEASON.

REGARDING BIOLOGY, I'D LIKE TO REITERATE DR. RAY CONSER'S COMMENT IN THE NOVEMBER SUPPLEMENTAL SSC REPORT, NOTING THAT FUTURE COUNCIL "QUOTAS" COULD CONSTRAIN THE U.S. FISHERY IF SEA SURFACE TEMPERATURE CONTINUES TO DECLINE, DROPPING THE HARVEST RATE FROM 15% TO 5%, AND IF U.S. SARDINE FISHERIES CONTINUE TO GROW... HE ALSO CAUTIONED THAT AN INCREASE IN MEXICAN HARVEST...MAY AFFECT THE U.S. FISHERY, WITH OR WITHOUT OCEANIC TEMPERATURE DECLINES.

UNDER THE CURRENT MANAGEMENT FRAMEWORK, THE 2002 TOTAL COAST-WIDE SPAWNING BIOMASS WAS ESTIMATED AT JUST UNDER ONE MILLION MT. AT A 15% HARVEST RATE, THE GROSS COASTWIDE HARVEST IS ESTIMATED AT ABOUT 150,000 MT. CANADA HAS ANNOUNCED A CLOSELY-CONTROLLED 5,000 MT FISHERY. AT THE 2003 TRI-NATIONAL SARDINE FORUM, MEXICO ALSO ANNOUNCED PLANS TO HARVEST ABOUT 40,000 TONS THIS YEAR. DOING THE MATH, THAT LEAVES LESS THAN THE 110,908 MT HG APPROVED FOR THE U.S. FISHERY. THE TAKE-HOME MESSAGE IS WE'RE DANGEROUSLY CLOSE TO OVER-FISHING SARDINES COASTWIDE. THERE IS NO ROOM FOR EXPANSION IN THE SARDINE FISHERY.

PLEASE CONSIDER THAT SOUTHERN CALIFORNIA HAS EXERCISED RESTRAINT IN HARVESTING THE INCREASED NUMBER OF SMALL FISH OBSERVED IN THE SOUTHERN FISHERY SINCE 1998. THESE FISH MAY BE FROM THE SOUTHERN STOCK, MOVED UP FROM MEXICAN WATERS AS A RESULT OF THE 1998 EL NIÑO. THE FISH "LEFT ON THE TABLE" IN SOUTHERN CALIFORNIA ARE THE FUTURE OF THE SARDINE RESOURCE.

THE ALLOCATION DECISION THE COUNCIL MAKES, EVEN FOR THE SHORT TERM, SETS A PRECEDENT. THE MANAGEMENT TEAM ACKNOWLEDGES IT DOES NOT KNOW THE MIGRATION

PATTERN, RELATIONSHIP TO THE BIOMASS, OR THE IMPACT OF INCREASING HARVEST OF THE MATURE, FECUND SARDINES IN THE PACIFIC NORTHWEST. THANKS TO THE COUNCIL'S EFFORTS, WE'RE CLOSE TO GAINING A BETTER UNDERSTANDING OF THE COAST-WIDE NATURE OF THE SARDINE RESOURCE. PLEASE EXERCISE PRECAUTION UNTIL THIS RESEARCH PROVIDES CLUES TO THE RELATIONSHIP OF THE FECUND NORTHERN SPAWNING STOCK TO THE RESOURCE AS A WHOLE. WE STRONGLY SUPPORT A STATEMENT MADE BY DR. KEVIN HILL AT THE CPS MANAGEMENT TEAM MEETING IN JANUARY, ENCOURAGING "BABY STEPS" IN MAKING REALLOCATION DECISIONS.

PLEASE ALSO CONSIDER THE HISTORIC AND CURRENT IMPORTANCE OF THE SARDINE FISHERY TO CALIFORNIA. SARDINES HAVE BEEN THE FOUNDATION OF CALIFORNIA'S FISHING INDUSTRY SINCE THE EARLY 1900S. FROM 1916 TO 1968, CALIFORNIA LANDED 97 PERCENT OF THE U.S. CATCH, WHILE THE PACIFIC NORTHWEST WAS RESPONSIBLE FOR THREE PERCENT. CALIFORNIA'S TRADITIONAL SARDINE FISHERY IS AN INTEGRAL PART OF THE INDUSTRY AS WELL AS THE CULTURE OF THE GOLDEN STATE.

- THE WETFISH INDUSTRY IN CALIFORNIA REPRESENTS ABOUT 84 PERCENT OF TOTAL COMMERCIAL FISHERY LANDINGS IN THE STATE. THE EX-PROCESSOR VALUE OF CALIFORNIA'S WETFISH INDUSTRY EXCEEDS \$100 MILLION (\$100,865,441), MEASURED IN 2000 DOLLARS.
- SARDINES ARE AND HAVE ALWAYS BEEN THE "BREAD AND BUTTER" FISHERY OF THE WETFISH INDUSTRY. SARDINES ARE ESPECIALLY IMPORTANT TO CALIFORNIA NOW, AS SQUID AND MACKEREL ARE LARGELY UNAVAILABLE.
- IN RECENT YEARS, ON AVERAGE 80 PERCENT OF THE CALIFORNIA SARDINE HARVEST HAS BEEN LANDED IN SOUTHERN CALIFORNIA. THE MAJORITY OF FISHERMEN WITH CPS LIMITED-ENTRY PERMITS OPERATE IN SOUTHERN CALIFORNIA.

THE CPS FMP ESTABLISHED A LIMITED-ENTRY PERMIT SYSTEM IN CALIFORNIA THAT OPERATES UNDER A CAPACITY GOAL. CALIFORNIA FISHERMEN WITH A HISTORY IN THE FISHERY BUT WHO DID NOT HAVE LANDINGS IN THE WINDOW PERIOD WERE PRECLUDED FROM ENTRY. THESE FISHERMEN, AS WELL AS CALIFORNIA PROCESSORS, WONDER WHY THE COUNCIL IS NOW CONSIDERING RESTRICTING THE FEDERALLY-PERMITTED LIMITED-ENTRY FISHERY IN CALIFORNIA – THE TRADITIONAL FISHERY -- TO ENCOURAGE GROWTH AND EXPANSION OF A NEW FISHERY INFRASTRUCTURE IN THE PACIFIC NORTHWEST.

SARDINE BIOMASS ESTIMATES AND HARVEST GUIDELINES HAVE DECLINED FOR THE PAST THREE YEARS AND WILL LIKELY DECLINE AGAIN IN 2004. WHAT HAPPENS WHEN CONTINUED WATER TEMPERATURE DECLINES CUT THE HARVEST RATE FROM 15 PERCENT TO 5 PERCENT? THAT COULD HAPPEN AS SOON AS 2004. THE SAME ARGUMENTS OF ECONOMIC HARDSHIP ADVANCED BY PACIFIC NORTHWEST INTERESTS ARE ALSO TRUE FOR CALIFORNIA. SARDINES ARE A CYCLICAL RESOURCE THAT MAY WELL BE ENTERING A NATURAL DECLINE. SARDINES NOT A SHORT-TERM REPLACEMENT FISHERY FOR CALIFORNIA – THEY ARE AND ALWAYS HAVE BEEN THE BACKBONE OF CALIFORNIA'S FISHING INDUSTRY.

ATTACHED TO THIS LETTER IS A PICTORIAL NARRATIVE BRIEFLY HIGHLIGHTING THE HISTORY AND CULTURAL IMPORTANCE OF CALIFORNIA'S SARDINE INDUSTRY. WE HOPE COUNCIL MEMBERS WILL GAIN A DEEPER APPRECIATION OF THE DEPTH AND BREADTH OF THIS TRADITIONAL CALIFORNIA INDUSTRY, AND TAKE THE NECESSARY STEPS TO PROTECT IT.

CALIFORNIA'S WETFISH INDUSTRY HAS PAID A HIGH PRICE FOR SARDINE RECOVERY AND WE DO NOT WANT TO REPEAT THE HISTORY OF THIS FISHERY. WE URGE THE COUNCIL TO EXERCISE PRECAUTION IN BOTH SHORT- AND LONG-TERM ALLOCATION DECISIONS.

ON BEHALF OF CALIFORNIA'S WETFISH INDUSTRY, THANK YOU VERY MUCH FOR YOUR CONSIDERATION. I LOOK FORWARD TO FURTHER DISCUSSION OF ALLOCATION OPTIONS AT THE MARCH COUNCIL MEETING.

SINCERELY, and these Straly)

DIANE PLESCHNER-STEELE

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For CALIFORNIA WETFISH PRODUCERS ASSOCIATION

THE HISTORY OF CALIFORNIA'S WETFISH INDUSTRY

1











California's fishing industry was largely founded on "wetfish." The traditional catch -- sardines, mackerels, market squid and anchovy -- were called wetfish because they were canned "wet from the sea", with little pre-processing. Most of California's coastal tuna catch was also made by the wetfish fleet.

Then as now, wetfish were harvested with round-haul nets like the lampara and purse seine. Fishermen were literally drenched in a shower of seawater as they hauled the nets aboard, which may be another reason for the term "wetfish."

The complex of fisheries that makes up California's wetfish industry helped to build the ports of San Pedro and Monterey, as well as San Diego and San Francisco.

The immigrant Asian, Italian, Slavic and other nationalities of fishermen who came to America introduced new fishing methods.

Immigrant fishermen and their enterprise have also shaped the melting-pot character of California culture, as well as California cuisine.

Wetfish have contributed the lion's share of California's commercial harvest since before the turn of the 20th century.

In many ways the history of the sardine fishery complements that of squid.

When the first sardine cannery opened in 1889 in San Francisco, the bay saw its first "haulseines", used to take anchovies and sardines. Five years later, when the San Francisco cannery moved its equipment to San Pedro, sardines and mackerel were harvested with purse seines.

Another industry milestone, Frank Booth moved to Monterey in 1900. Before his move, Booth and his father had canned salmon in Pittsburg, California. But Booth was impressed by the sheer number of sardines that abounded in Monterey Bay. He founded the F.E. Booth Company and built a plant in 1902 -- the real beginning of Monterey's famed sardine industry.

Not long after Booth launched Monterey sardines as a canned product, Knute Hovden arrived in town. Hovden came from Norway and was a skilled professional in fish packing. He teamed up with Booth and Monterey's canning industry bloomed. The time soon came when their biggest problem was securing a steady supply of fish.









In 1904, Pietro Ferrante -- known as Pete -- arrived on the scene from Sicily. Pete was an accomplished fisherman. He adapted traditional Italian fishing gear -- the lampara net -- for use in Monterey Bay. Ferrante sent word to his fishermen friends in Sicily and northern California, urging them to come to Monterey to join in the hunt for sardines.

Pietro Ferrante is sometimes called the "father" of Monterey's fishing fraternity, but many other pioneer fishermen also helped to make Monterey a major fishing port.

With the supply of sardines increasing, Knute Hovden opened his own cannery in 1914. By 1918 Monterey boasted a total of 9 canning plants on Cannery Row, with more to follow. By 1945 Monterey boasted 19 canneries and 20 reduction plants.

From its beginnings, supplying needed food during World War I, California's sardine industry grew to become the largest fishery in the western hemisphere, capitalizing on an abundance of sardines whose vast schools ranged from the Gulf of California to Southeast Alaska. From spawning centers off Baja and southern California, a silver tide of sardines migrated north in summer.

In late fall and winter the fish reversed direction, moving south. Off San Francisco and Monterey, fishing peaked in fall, and off southern California it peaked in winter, when the largest fish returned from their northerly migrations.

The abundance of sardines spurred a great debate over how much fish could be reduced to meal and oil and how much reserved for human consumption.

In the 1940s, more than 100 canneries and reduction plants from San Francisco to San Diego employed thousands of workers to process sardines, and the fishing fleet numbered 376 vessels.

The toil of immigrant fishermen built up a fishing commerce that became the lifeblood of San Pedro, Monterey, San Francisco and San Diego. All these cities boomed on the crest of the silver tide of sardines.

At its peak in the 1936-37 season, California's sardine fishery landed more than 726,000 tons of fish. Overall, about 70 percent of the catch went to reduction and 30 percent into cans for food.

Canneries put up nearly 3 million cases of canned sardines that season -- mostly headless, tailless fish swimming in tomato sauce or mustard. Annual landings averaged about 600,000 tons from the 1934-35 season until the mid-1940s.

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Then, suddenly, sardines vanished -- first from the Pacific Northwest, then from Monterey, and in the late 1950s from southern California. The cause of the fishery's collapse evoked great debate. Was it overfishing? Natural cycles? A combination of both?

Years later, marine biologists measuring fish scale deposits in deep ocean sediments off southern California found layers of sardine scales and layers of anchovy, with nine major sardine recoveries and subsequent collapses over a 1700-year period. Sardines and anchovies both vary in abundance over periods of about 60 years. Cold-water oceanic cycles favor anchovies and warm-water cycles favor sardines. The average time to recover a sardine population is 30 years. Researchers found the current sardine recovery similar to those of the past; sardines disappear periodically even without fishing pressure.

After sardines vanished, the wetfish industry turned to other fish, including anchovy and squid. Squid became the number one catch in Monterey. Squid fishing in southern California began in earnest in the 1950s and surpassed Monterey's harvest after the 1982-83 El Niño.

From the beginning, in fact, California's round-haul fleets fished on a diversity of species, depending on area, fishing gear (lampara net or purse seine), markets and seasons.

While lampara nets came to dominate Monterey's sardine fishery in the early years, San Pedro fishermen used purse seines, one net for sardines and another for mackerel, then a third for tunas. Purse seiners also caught "whitefish" -yellowtail, barracuda and white seabass. These they sold to the fresh fish markets, affectionately (or not so affectionately) known as "The Forty Thieves."

Then as now, the markets were an integral part of San Pedro's fishing community; they provided an alternative to the canneries and, in most years, a decent living for the purse seine fleet.

In 1928 the first large-scale canning of mackerel began. With the development of the mackerel canning industry, the mackerel catch skyrocketed, exceeded only by sardines.

THE HISTORY OF CALIFORNIA'S WETFISH INDUSTRY







Smaller lampara boats dominated the mackerel fishery in the late 1920s. The light-weight lampara had the advantage on smaller boats, as early cotton purse seines were heavy and required a large crew to pull by hand. But as the number of canneries increased, along with demand for fish, boats ranged farther afield. By 1934 the larger purse seine boats proved better adapted to large-scale fishing. By 1937 a total of 16 canneries packed mackerel in southern California, and the total number of boats harvesting mackerel had increased to 477. With inventions such as power pulling of nets, the purse seine drove lampara and ring nets into small-scale bait fishing.

Purse seine boats were wider, deeper and heavier than lampara boats. They were designed to carry most of the load in the hold rather than on deck. The purse seine fleet consisted of different kinds of boats, grouped into several categories. Some fished principally for mackerel and caught other fish only incidentally. Others fished for tuna in summer and sardines in winter, with mackerel an incidental catch. Some boats were old and small, others new and large.

Some crews were Japanese, some Italian and some Slavonian, and a very few were of other nationalities. Each group fished with a different style, and it was not unusual to see the Japanese fleet come in loaded while the Italian boats missed, or just as frequently the other way around.

As the fleet evolved, so did fishing gear and techniques --Brine refrigeration was introduced in the 1930s...

In 1954 nylon net replaced the cumbersome old-style cotton nets...

Power blocks were introduced around the same time.

The development of the purse seine liberated the fleet to search for fish far offshore --

And some fishermen built "super seiners" to fish specifically for tuna in the tropical Pacific.

Reportedly the failure of sardine runs off southern California in 1903, coupled with an experimental pack of albacore tuna, led to the development of the U.S. tuna canning industry.

The albacore boom of the early 1900s also established new tuna canneries. This opened the market for large catches, not only of tuna but sardines and mackerel.









But beginning in the 1980s, the large tuna canners began leaving California. The last tuna cannery closed its doors in 2001.

Sardines and mackerel disappeared in the 1940s due to natural forces, coupled with heavy fishing. Forty years later, the last of California's tuna canning industry disappeared from California, driven out by politics -- and the high cost of operating in the Golden State.

California's wetfish industry today is a traditional industry with a contemporary outlook.

Today's industry is streamlined -- only 65 boats are licensed to fish sardines, mackerel and anchovy under a limited entry program enacted in 1999. A few more than this number actively fish for squid. Although many boats have fished for decades, fishing gear is more advanced now and crews are smaller.

Processing facilities operate under strict sanitary rules mandated by the federal government.

Sardine and mackerel stocks rebounded, but wetfish fisheries -- now called Coastal Pelagic Species -- are managed under strict harvest guidelines, with more regulations proposed.

The sardine, mackerel and tuna canneries are all but gone -only one sardine cannery remains in Monterey. The cost of doing business in California is high, and California product must compete at market with imported canned sardines produced at much lower cost. But tradition continues nonetheless.

In fact, Monterey Fish Company built a new cannery a few years ago and packs tall cans, the traditional oval tin as well as a new "mini-pack" --

 $5 \frac{1}{2}$ ounce cans of sardines in tomato or chili sauce.

California's canned sardines are sold mainly in domestic markets across the U.S.; although a little production goes to South America and the Far East.

Today California sardines fill markets all over the world-and these markets were developed by California's wetfish industry.

The largest importers of fresh sardines are South Korea, Australia and Japan.

In 2001, more than 502 thousand kilos of fresh California sardines went to 9 countries -- from Asia to Europe.

THE HISTORY OF CALIFORNIA'S WETFISH INDUSTRY









More than 30.5 million kilos of frozen California sardines were exported to 26 countries around the globe.

The largest importers were Australia, Japan, China and Fiji.

In the prepared/preserved category -- which includes canned product --

California's wetfish industry exported 5.3 million kilos of sardines.

Australia and Japan again topped the list of 13 countries importing prepared product. Brazil, the Philippines and French Polynesia also used a lot of California sardines.

In 2001 our wetfish industry exported more than 36 million kilos of California sardines, with a value approaching \$18 million dollars.

Larger fish typically go to Japan for human consumption and hand-packed long-line bait;

large and smaller sardines are canned-- both for human consumption and pet food;

some sardines are Individually Quick Frozen; some are headed and gutted for canning overseas;



some sardines are block-frozen and exported for canning overseas, and also for tuna bait, fish and animal feed.

Southern CA and Monterey produce all these product forms. In the past decade, however, an average 80 percent of California's sardine harvest has come from <u>southern</u> CA.

THE HISTORY OF CALIFORNIA'S WETFISH INDUSTRY









San Pedro's "Forty Thieves", as well as wetfish markets elsewhere in California, are more important today than ever before. In the year 2000, this industry produced more than 455 million pounds of fish, nearly 84 percent of the total California catch, at a dockside value of close to \$39 million -- over 29 percent of total value of all fisheries in California. Squid has become the state's most valuable fishery, and the fully recovered sardine fishery is gaining ground.

Today the bulk of the wetfish catch is frozen and exported. California's wetfish industry fills another important economic role, helping to offset the US trade deficit -- for seafood is the second largest commodity deficit, after oil, in the United States.

To be sure much has changed in California's wetfish industry - but much remains the same -- the traditions, the culture, the importance.

The melting-pot culture that infused California along with the immigration of Asian, Italian, Slavonian and other fishermen, still enriches the fishing ports of California, as the fishing industry celebrates and is celebrated at holidays and blessings of the fleet.

Today the sons and daughters continue the enterprise begun by their fathers and grandfathers 50 or 100 years ago. California's wetfish industry still abides by its traditional reason for being -- summed up in an old Italian saying: "Eredita -- pass it on."

West Coast Pacific Sardine Landings (MT) 1916-1917 through 1967-1968 Seasons

Season	BC	%	WA	%	OR	%	CA	%	Baja	%	Total (MT)
1916-17	0	0.0%	0		0		24,975	100%	0		24,975
1917-18	73	0.1%	0		0		65.844	99.9%	0		65,917
1918-19	2 202	4.6%	0		0		68.529	95%	0		71,832
1919-20	2 976	4 7%	Õ		0		60.809	95%	0		63,785
1920-21	3 997	10.3%	ů ů		0		34,882	90%	0		38,873
1920-21	999	2.6%	Ő		Ő		33 1 13	97%	-		34.011
1921-22	070	1 50/	0		0		59.067	98%	0		59 993
1922-23	923	1.3%	0		0		76 141	00%	0		77.021
1923-24	880	1.1%	0		0		154 942	00%	0		158 206
1924-25	1,243	0.8%	0		0		130,703	0.0%	0		139,000
1925-26	14,470	10.4%	0		0		120,004	76%	0		182,000
1926-27	43,999	24.2%	0		0		130,004	70%	0		221.940
1927-28	62,079	26.8%	0		0		167,001	73%	0		201,700
1928-29	73,038	24.0%	0		0		230,863	76%	0		303,701
1929-30	78,327	21.0%	0		0		294,992	/9%	0		3/3,319
[930-3]	68,103	28.9%	0		0		167,940	/1%	0		236,043
1931-32	66,770	30.9%	0		0		149,365	69%	0		216,134
1932-33	40,234	15.0%	0		0		227,424	85%	0		267,659
1933-34	3,674	1.0%	0		0		347,845	99%	0		351,519
1934-35	39,009	6.7%	0		0		539,829	93%	0		578,839
1935-36	41,114	7.2%	9	0.0%	23,796	4.1%	508,480	89%	0		573,399
1936-37	40,325	5.6%	5,951	0.8%	12,882	1.8%	658,735	92%	0		717,893
1937-38	43,618	9.6%	15,513	3.4%	15,114	3.3%	377,904	84%	0		452,149
1938-39	46,965	7.7%	24,023	3.9%	15,440	2.5%	521,897	86%	0		608,325
1939-40	5,008	0.9%	16,112	3.0%	20,258	3.8%	487,405	92%	0		528,782
1940-41	26,100	5.8%	735	0.2%	2,867	0.6%	417,839	93%	0		447,541
1941-42	54,477	8.8%	15,513	2.5%	14,379	2.3%	532,861	86%	0		617,230
1942-43	59,766	11.5%	526	0.1%	1,769	0.3%	457,825	88%	0		519,887
1943-44	80,504	15.3%	9,471	1.8%	1,651	0.3%	433,756	83%	0		525,382
1944-45	53.633	9.6%	18	0.0%	0	0.0%	503,407	90%	0		557,058
1945-46	31,117	7.8%	2.096	0.5%	82	0.0%	366,219	92%	0		399,513
1946-47	3,620	1.6%	5,570	2.5%	3,593	1.6%	212,104	94%	0		224,886
1947-48	445	0.4%	1.234	1.0%	6.287	5.3%	110.080	93%	0		118,045
1948-49	0	0.0%	45	0.0%	4,826	2.8%	166,675	97%	0		171,547
SubTreal	990 694	10.0%	96.816	1.0%	122 944	1.2%	8 726 264	88%			9.936.707
Sub rotar	770,004	10.078	147.016	1.6%	122,944	1.4%	8 726 264	97%			8.996.224
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1949-50	0		0		0		307,471	100%			307,471
1950-51	0		0		0		320,319	100%	0		320,319
1951-52	0		0		0		117,122	89%	14,682	11.1%	131,804
1952-53	0		0		0		5,181	38%	8,312	61.6%	13,493
1953-54	0		0		0		4,075	24%	12,978	76.1%	17,053
1954-55	0		0		0		62,111	85%	11,285	15.4%	73,397
1955-56	Ő		0		0		67,551	95%	3,817	5.3%	71,367
1956-57	õ		0		0		30.521	71%	12.388	28.9%	42,908
1957.58	Ő		0		0		20,205	69%	9.003	30.8%	29,208
1050 50	0		ů		0		94 322	82%	20.261	17.7%	114.583
1050 40	0		ů O		ů 0		33 798	63%	19,456	36.5%	53.254
1939-60	0		0		0		26 198	59%	18.052	40.8%	44.250
1960-61	0		0		0		20,170	55%	19,002	45 5%	42 455
1961-62	0		0		0		23,137	22%	13 263	77.8%	17 048
1962-63	0		0		0		3,765	1.4%	16,205	86.2%	19 347
1763-64	0		0		0		2,007	100/	10,070	81 49	30 140
1964-65	0		0		0		3,33/	10%	27,003	01.0%	30,170 30.03F
1965-66	0		0		0		652	3%	20,182	70.7%	20,035
1966-67	0		0		0		312	2%	17,718	78.3%	18,030
1967-68	0		0		0		64	0%	25,090	77.1%	25,155
Subtotal	0		0		0		1,125,052		267,064		1,392,117
Grand Total	990,684	8.7%	96,816	0.9%	122,944	1.1%	9,851,316	87%	267,064	2.4%	11,328,824

SAM FARR

COMMITTEE ON APPROPRIATIONS SUBCOMMITTEES: IRICULTURE, RUNAL DEVELOPMENT, FOOD AND UJG ADMINISTRATION, AND RELATED AGENCES MILITARY CONSTRUCTION

> CHAIR, CALIFORNIA DEMOCRATIC CONGRESSIONAL DELLIGATION

CO-CHAIR, CONGRESSIONAL FRAVEL AND TOURISM CAUCUS

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DATE:	20 February 2003	
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	Dr. Hans Radtke	FEB 2 0 2003
TO:		PFMC
FROM:	Amanda Leland	

MESSAGE:

Dear Dr. Radtke,

Enclosed is a letter supporting the Pacific Fisheries Management Council's call for a coast-wide sardine research program. This initiative is co-sponsored by the following Members of Congress: Congressman Sam Farr, Congressman Randy 'Duke' Cunningham, Congressman George Miller, Congresswoman Lois Capps, Congressman Mike Honda, Congresswoman Barbara Lee, Congressman Doug Ose, Congresswoman Lynn Woolsey, Congresswoman Jane Harman, Congresswoman Dana Rohrabacher, Congressman Tom Lantos, and Congresswoman Anna Eshoo. Please contact me in Congressman Farr's office with any questions (Amanda.Leland@mail.house.gov).



Congress of the United States House of Representatives Washington, DC 20515

February 21, 2003

Dr. Hans Radtke, Chair, and Members of the Pacific Fishery Management Council 7700 NE Ambassador Place, Suite 200 Portland, OR 97220

Dear Dr. Radtke and Council Members:

Pacific sardines arc an historic and cultural resource, and economically valuable to the State of California. During the 1930s and early 1940s, when sardines were the largest fishery in the western hemisphere, California landed 97 percent of the U.S. Pacific sardine harvest. When the resource declined in the 1940s and collapsed in the 1950s, California's fishing industry suffered the greatest during a fishing moratorium that extended nearly 20 years. Industry-supported research and cooperation with the Department of Fish and Game fostered better understanding of the sardine resource in California, and ultimately, led to its recovery.

California's historic fishery has since come full circle, and the industry is once again dependent on sardines. As in the traditional fishery, sardines, mackerel and squid represent more than 80 percent of California's total commercial fishery harvest today.

Since 2000, the sardine fishery has been managed under the federal Coastal Pelagic Species (CPS) Fishery Management Plan (FMP). California's fishery is managed under a limited entry program, but "open access" fisheries have emerged and expanded rapidly in Oregon and Washington. However, all of the biomass estimates and harvest guidelines are still based on research conducted off southern California. To date, the stock structure and migration rates of the sardine resource in the Pacific Northwest are largely unknown.

In recent years, scientists have acknowledged the uncertainties and limitations inherent in extrapolating to the Northwest stock assessments and harvest guidelines developed off California. Furthermore, they do not know the impact of increasing the harvest of the mature fish that are the target in the Pacific Northwest fishery.

The current stock assessment finds that sardine population growth appears to have leveled off. Harvest guidelines have declined for the past three years, and the ocean may have entered another cold-water cycle, causing a natural decline of the sardine resource. The historical pattern of the sardine fishery strongly suggests that this is a time to exercise caution in fishery management. This caution should be amplified by the degree of uncertainty expressed by scientists.

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We, the undersigned, support the Council's recent call for a coast-wide research program on the sardine resource. Considering the facts at hand - declining harvest quotas and possibly a declining resource - we recommend that the Council obtain the necessary information about this resource before authorizing further expansion of the sardine fishery in the Pacific Northwest. In the absence of knowledge about the stocks, eliminating the existing allocation system would encourage a derby fishery and over-capitalization, and jeopardize the sardine resource. In the absence of precaution, the sardine resource could crash as it did in the 1950s, and the resulting economic hardship would surely parallel the current groundfish crisis.

The sardine resource is the foundation of California's fishing industry, and it is important to learn from the lessons of the past. We thank you for your consideration of this request.

Sincerely,

February 21, 2003

Dr. Hans Radtke, Chair Dr. Don McIsaac, Executive Director Members of the Pacific Fishery Management Council

RE: Allocation of Pacific Sardine Resource

Dear Dr. Radke, Dr. Mc Isaac and Council members,

If one fishery characterizes the California fishing industry it is sardines. It is the first major commercial fishery and since the 1930s has represented an important part of the local industry and an economic resource for the communities surrounding Monterey Bay and San Pedro. The sardine catch currently supports thousands of families and related support business.

The sardine moratorium is the recent past. In the 1970s and 80s the California Department of Fish and Game and the wetfish community worked in cooperation to finance the research which led to the rehabilitation of this resource. The increase in quota has come gradually. Management plans were based on the historic California landings. It has only been 3 years since the quota has been larger than the catch. It has only been 3 years since the fish appeared in the Pacific Northwest.

Given the history of the collapse of this fishery, its slow rehabilitation, the management based on spotter plane observations, at sea surveys, extensive dock sampling and modeling it is not prudent to encourage a developing fishery in a new area with none of the science that was required to re-open the California fishery. We have a limited-entry fishery facing a new experimental fishery.

I encourage you to support expanded research, hopefully resulting in the expansion of the coast-wide quota and not encourage investment in a new fishery before we have solid basis for this decision.

Thank you.

Vanessa DeLuca State Fish Company



COMMITTEE ON APPROPRIATIONS COMMITTEE ON ENERGY AND NATURAL RESOURCES COMMITTEE ON FULES AND ADMINISTRATION SELECT COMMITTEE ON INTELLIGENCE

United States Senate

WASHINGTON, DC 20510-0504 http://feinstein.senate.gov

March 10, 2003

Exhibit I.2.C Congressional comment March, 2003

Supplemental

(Received 3-12-037

Dr. Hans Radtke, Chair, and Members of the Pacific Fishery Management Council 7700 NE Ambassador Place, Suite 200 Portland, OR 97220

Dear Dr. Radtke and Council members,

I am writing to ask the Pacific Fishery Management Council to conduct thorough research on current fish stocks and use caution before authorizing further expansion of the sardine fishery in the Pacific Northwest. In the absence of knowledge about the stocks, eliminating the existing allocation system would jeopardize the sardine resource.

Pacific sardines are an historic and cultural resource, and economically valuable to the State of California. During the 1930s and early 1940s, when sardines were the largest fishery in the western hemisphere, California landed 97 percent of the U.S. Pacific sardine harvest. When the resource declined in the 1940s and collapsed in the 1950s, California's fishing industry suffered the greatest during a fishing moratorium that extended nearly 20 years. Industry-supported research and cooperation with the Department of Fish and Game fostered better understanding of the sardine resource in California, and ultimately, led to its recovery.

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Please know I support the Council's recent call for a coast-wide research program on the sardine resource. Considering the facts at hand – declining harvest quotas and possibly a declining resource – I recommend that the Council obtain the necessary information about this resource before authorizing further expansion of the sardine fishery in the Pacific Northwest. In the absence of precaution, the sardine resource could crash as it did in the 1950s, and the resulting economic hardship would surely parallel the current groundfish crisis.

The sardine resource is the foundation of California's fishing industry, and it is important to learn from the lessons of the past. Thank you very much for your consideration of this request.

Sincerely yours,

Exhibit I.2.c Supplemental Public Comment 2 March 2003

Comministers FRANK UNFRED

MULC POLLO

JIM STIEBRIT7.

PORT OF ILWACO P.O. Box 307

Ilwaco, Washington

98624



Area Code 360 Phone 642-3143 FAX 642-3148 www.portofilwaco.com

March 4, 2003

RECEIVED

MAR 4 2003

PFMC

Dr. Hans Radtke, Chair and Council Members Pacific Fishery Management Council 7700 NE Ambassador Place, Suite 200 Portland, OR 97220

Dear Dr. Radtke and Council Members,

The Port of Ilwaco advocates the following position to the Pacific Fishery Management Council:

The Coastal Pelagic Species Fishery Management Plan (FMP) should be changed so that the Pacific Sardine quota shall be reallocated between the north and south areas no later than August 1 each year. In 2002 the reallocation was based on an emergency rule. In 2003 the business uncertainty will be reduced by an earlier reallocation.

Below are the reasons that we cite:

1. The Sardine season means approximately 1000 jobs at the mouth of the Columbia River in Astoria, OR (pop. 10,000) and Ilwaco, WA (pop. 970).

2. The southern California quota has never been fully utilized. One of the goals of the FMP is full utilization of the available harvest guideline. Changing the allocation date will help accomplish that goal.

3. The Pacific sardine biomass is currently estimated by the PFMC at 999,871 metric tons. The harvest guideline is 110,908 metric tons (11.1% of the biomass). The PFMC along with the three states of California, Oregon and Washington are closely monitoring the sardine catch.

4. The sardines harvested in the north are a different product than those fish caught in the south. The fish that are caught in the north are approximately three times larger than the sardines harvested in the south with a much higher fat and oil content. Thus a smaller number of individual fish are caught in order to reach the limit. In addition the larger sardines are sold in a different market for approximately 50 - 100% greater price per ton than in the south.

Thank you for your consideration.

Sincerely,

Mark Funk

ELTON GALLEGLY 23D DISTRICT, CALIFORNIA

www.house.gov/gallegly/

2427 RAYBURN BUILDING WASHINGTON, DC 20515–0523 (202) 225–5811

 300 ESPLANADE DRIVE SUITE 1800
 OXNARD, CA 93030-1262
 (805) 485-2300
 (800) 423-0023

Congress of the United States House of Representatives Mashington, DC 20515–0523

COMMITTEES: INTERNATIONAL RELATIONS SUBCOMMITTEES: EUROPE, CHAIRMAN WESTERN HEMISPHERE

> JUDICIARY SUBCOMMITTEES: IMMIGRATION AND CLAIMS COURTS, THE INTERNET AND INTELLECTUAL PROPERTY

RESOURCES SUBCOMMITTEE: NATIONAL PARKS, RECREATION AND PUBLIC LANDS

February 20, 2003

RECEIVED

PFMC

4 2003

MAR

Dr. Hans Radtke, Chair Pacific Fishery Management Council 770 NE Ambassador Place, Suite 200 Portland, OR 97220

Dear Chairman Radtke:

I am contacting you regarding the concerns of my constituent, Mr. Wagner of Ventura.

Mr. Wagner has concerns with the proposed expansion of the Pacific Northwest Fishery into California waters for the purposes of sardine fishing. More specifically, Mr. Wagner believes that not enough research has occurred regarding what the effects would be to the California sardine populations should the Pacific Northwest Fishery expand into California waters.

I would appreciate a response to Mr. Wagner's comments in a timely fashion. Should you have any questions, please have your staff call Brian Clifford of my office at (202) 225-5811.

Again, thank you for contacting me. Please feel free to correspond with me anytime.

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ELTON GALLEGLY Member of Congress

EG:bpc

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February 7, 2003

The Honorable Elton Galleghly United States House of Representatives Attn: Brian Clifford

FAX: 202 225 1100

RE: Support for southern California's sardine industry

Dear Mr. Gaileghly,

I'm writing to request your help on an issue of critical importance to southern California's sardine industry. This industry contributes significant revenue to the port districts in Ventura, Channel Islands and Pt. Hueneme, which until recently were in your district.

Summarizing our problem: a rapidly growing sardine fishery in the Pacific Northwest is seeking to expand its sardine allocation at the expense of the southern California fishery. The current allocation system provides 1/3 of the harvest to the northern sub-area (including Monterey, Oregon and Washington), and 2/3 to southern California, a system carried over from state regulations and set initially because the southern fishing fleet and processing capacity were much larger than the Monterey industry.

Pacific Northwest fishery interests have appealed to the Pacific Fishery management Council to eliminate the allocation system altogether in favor of a coast-wide quota with no sub-area allocations. We feel this would encourage further expansion and overcapitalization in the Pacific Northwest, as well as hasten the natural decline of the resource. This reallocation would have a significant negative impact on our local sardine industry

The California fishery (both Monterey and southern CA) operate under a limited entry program that became effective in 2000, when sardines, along with other coastal pelagic species, transferred to federal management under the CPS FMP. The Pacific Northwest fishery emerged and has expanded in the past three years without federal guidance, and now seeks to restrict the limited-entry fishery in southern California so it can expand further.

California's sardine industry members are gravely concerned over this expansion, particularly because the PNW fishery targets the mature spawning stocks, and no research has been done to establish the relationship of those stocks to the southern biomass. Biologists acknowledge a great deal of uncertainty in their current biomass assessments and harvest guidelines, all of which are based on research conducted in southern California.

Moreover, coast-wide harvest guidelines have declined for the past three years and are likely to decline further, as the ocean appears to be moving into another "regime shift," an extended cold-water period unfavorable to sardines. Our local fishermen point out that quotas for the traditional limited-entry sardine industry are going down: they ask, why should the Pacific Northwest allocation increase now?

1449 Spinnaker Dr., Suite A • Ventura, CA 93001 • 805/654-0546 • FAX 805/644-0557 www.andriasseafood.com California's sardine industry wants to avoid another costly moratorium, which prohibited sardine fishing for nearly 20 years after the resource crashed in the 1950s.

On behalf of California's limited entry fishery from both Monterey and Southern California, your colleagues Sam Fart, Duke Cunningham and George Miller are circulating letters among California Congressional Representatives. Lotters addressed to the Pacific Pishery Management Council, with a companion letter to NMFS, Dr. William Hogarth, emphasize the historic and present importance of California's sardine industry to California. These letters also reaffirm the need for an expanded research program investigating the sardine biomass beyond California and recommend the PFMC exercise precaution and not approve further expansion of the Pacific Northwest sardine fishery until research on those stocks provides some answers.

In addition to Mr. Farr, Mr. Cunningham and Mr. Miller, many members of the California delegation have agreed to sign on in support. These members incude Mrs. Lois Capps, new representative for the Ventura port district; and Mrs. Jane Harman, former representative of Port of Los Angeles, as well as other representatives.

As noted on the "Dear Colleague" letter that your office received recently, Kathleen shields from Mr. Cunningham's office is the contact person to signify your participation on the letters. Her phone number in WA DC is 5-5452.

You have strongly supported our local fishing industry in the past, and I would greatly appreciate your continued support for California's sardine resource and traditional sardine industry by signing the letters, which will be submitted to the Pacific Fishery management Council at the time of Council review of allocation issues in march 2003

Thank you very much for your consideration of this request.

Sincerely, ichael J. Wagny

Michael Wagner

nto otton Michael Nac Andrias Sean Ventur





Proposed Interim Revision to Pacific Sardine Allocation Framework

Regional Economic Impacts of Increased Allocation

to Oregon and Washington



ECOMorthwest

ECONOMICS • FINANCE • PLANNING 888 SW Fifth Avenue Suite 1460 Portland, Oregon 97204 503-222-6060 www.econw.com

Interim Revision to Pacific Sardine Allocation Framework

Regional Economic Impacts of Increased Allocation to Oregon and Washington

> Prepared by Eric Fruits, Ph.D. Alec Josephson

ECONorthwest 888 SW Fifth Avenue, Suite 1460 Portland, Oregon 97204 503-222-6060

I. Introduction and Summary

Astoria Holdings, Inc. ("Astoria Holdings") asked ECONorthwest to estimate the regional economic impacts associated with a proposed redistribution of sardine fishing quotas from the southern portion of California to the area north of Monterey, California, including Oregon and Washington. This harvest reallocation would offer a potential net increase in the harvest enjoyed by the Oregon and Washington commercial fishing and fish processing industries.

ECONorthwest was asked to model a harvest liberalization scenario based on an estimated harvest of 700 metric tons of sardines per day over an additional, twenty-five day harvest period each year for two years (17,500 metric tons per year). Using 2001 and 2002 production data supplied by Astoria Holdings and a widely-used regional input-output models, ECONorthwest estimates the following annual economic impacts for the Pacific Northwest:

- The processing of an additional 17,500 metric tons of sardines will directly generate approximately 134 jobs and \$3.4 million in income for workers and businesses ("personal income") in the regional seafood processing industry. These direct impacts are assumed to be enjoyed by the primary sardine fishing and processing communities in Oregon (Astoria, Hammond, Warrenton, Newport and Salem) and in Washington (Ilwaco, Westport, Woodland, Seattle and Bellingham).
- In addition to the direct impacts in the seafood-processing sector, harvest liberalization will also indirectly benefit the regional commercial fishing industry and other suppliers. ECONorthwest estimates that the increased sardine harvest will generate 16 jobs and \$607,000 in personal income annually for the commercial fishing sector. Other sectors that supply intermediate goods to seafood processors—such as utilities, transportation, or accounting and bookkeeping services—will experience an increase of 21 jobs and \$1.1 million in personal income.

The direct and indirect increases in jobs and incomes will enhance the purchasing power of households and, thereby, induce further spending impacts. It is this multiplier process that generates economic impacts for workers and small business owners in a wide array of economic sectors. In total, harvest liberalization will generate approximately 188 jobs and \$6.7 million in wages and business income for households in Oregon and Washington annually during the two-year harvest extension.

From an economic development perspective, the proposed harvest liberalization is particularly potent for the regional economy as it is an "export-based" activity; it is our understanding that nearly all of the sardine harvest is exported. The following pages provide additional detail on the economic impacts associated with the proposed harvest liberalization.

II. The Modeling Process

The processing and export of an estimated, additional 17,500 metric tons of frozen sardines annually during a two-year period of extended harvest will affect the Oregon and Washington economies directly, as regional seafood processors employ additional workers (or, alternatively, employ their current workforce longer hours). In addition, the regional commercial fishing industry and others will indirectly benefit by providing the sardines or other intermediate goods and services to seafood processors. The direct and indirect increases in employment and income enhance overall economy purchasing power, thereby inducing further consumption- and investment- driven stimulus.

The economic modeling framework that best captures these direct, indirect, and induced effects is called input-output modeling. Input-output models provide an empirical representation of the economy and its inter-sectoral relationships, enabling the researcher to trace out the effects (economic impacts) of a change in the demand for goods and services. ECONorthwest used a specially constructed, input-output model of the regional (Oregon and Washington) economy to trace the effects associated with the proposed sardine harvest liberalization. Specifically, ECONorthwest used the IMPLAN modeling software, modified specially for this application.¹ The following impacts are reported in this analysis:

• Personal income includes workers' wages, salaries and other benefits, and proprietary income received by private business owners.

¹ IMPLAN (for IMpact Analysis for PLANning) was developed by the Forest Service of the US Department of Agriculture in cooperation with the Federal Emergency Management Agency and the Bureau of Land Management of the US Department of the Interior to assist federal agencies in their land and resource management planning. ECONorthwest has applied the model to a variety of public and private sector projects including, most recently, an impact evaluation of Oregon's system of higher education and the potential loss of federal matching funds for long-term care services for seniors and persons with disabilities in Oregon and Washington.

- Other income includes payments to individuals in the form of rents received on properties, royalties from contracts, dividends paid by corporations, and profits earned by corporations.
- Jobs include both full- and part-time employment.

Ideally, the input-output model begins with the allocation of local spending by the seafood processing industry to each of the 528 industry sectors contained in the IMPLAN modeling system. ECONorthwest used the production function for the seafood processing industry as contained in the IMPLAN modeling software with modifications using 2001and 2002 production data supplied by Astoria Holdings. These modifications were necessary because, for example, IMPLAN's seafood processing sector include additional, value added production—such as scaling and butchering—that are not part of the processes used to produce frozen sardines for export. Astoria Holdings production data, therefore, better represents the labor and intermediate goods used in this industry. In addition, we know that the sardines supplied to the seafood processing sector will be harvested and acquired from local sources. We adjusted the regional purchase coefficient accordingly.

III. Assumptions from Data Supplied by Astoria Holdings, Inc.

The staff of Astoria Holdings requested that we employ the following assumptions in characterizing the effects of the changes in sardine allocations on Pacific Northwest sardine fishing and processing activity:

- 25 additional days each year for two years at 700 metric tons per day or 17,500 tons annually
- Average retail price of \$688, which corresponds to the average retail price during the 2001 and 2002 harvest periods
- Wages of \$252,000 per \$1 million in output, calculated by ECONorthwest
- Wholesale sardine purchases of \$157,000 per \$1 million in output, calculated by ECONorthwest
- All fish processor have similar production function to Astoria Holdings' production function.

IV. The Modeling Results

The direct personal income impacts were calculated by, first, converting Astoria Holdings' labor costs (reported in their 2001 and 2002 production data) to labor costs per million dollars of output, and then multiplying this by the estimated annual sardine harvest or output of \$12.04 million. ECONorthwest was not provided with employment data, thus the direct job impacts were calculated using average annual wage for workers in this industry, as reported by IMPLAN and the U.S. Bureau of Labor Statistics. This calculation results in an estimate of 10.2 jobs per \$1 million in output. We have assumed that these direct impacts are assumed to be the same for both the coastal model and the regional model.

Astoria Holdings' wholesale purchases of sardines were allocated to the commercial fishing sector.² The direct fishing effects plus indirect effects from other sectors are all counted as the indirect effects of the seafood processing industry. In addition, the direct fishing effects from the coastal model were used in the regional model.

ECONorthwest allocated Astoria Holdings spending on other intermediate goods-such as supplies, utilities, equipment-based on the IMPLAN production function for the seafood processing sector.

Wages were used to calculate the induced spending effects from cannery workers. The induced effects, therefore, include the wages of cannery workers plus the wages associated with the indirect effects (fishing and other intermediate suppliers).

(in current do	ollars)		
Impact Type	Wages and Business Income	Other Income	Jobs
Direct	\$3,217,000	\$4,259,000	133
Indirect Induced	1,694,000 1,832,000	1,621,000 919,000	37 19
Total	\$6,743,000	\$6,799,000	189

Pogional Economia Imposta Table 1.

As seen in Table 1 above, the direct effects of sardine harvest liberalization occur in the seafood processing sector. Approximately 133 jobs and \$3.2 million in personal income will be generated annually for workers in Oregon and Washington during the two-year extended harvest season.³ The direct income impacts were calculated using 2001 and 2002 production data supplied by Astoria Holdings. As mentioned above, ECONorthwest did not have employment estimates, thus the direct employment impacts were estimated using average wage data.

The exact distribution of direct impacts depend on the allocation of activities among seafood processing plants in this region, which is unknown to us at this time. However, because we have assumed identical production functions across processors, the magnitude of the direct effects will remain the same regardless of the amount of processing that occurs among individual production units.

The indirect effects reported in Table 1 are concentrated in the commercial fishing sector. Indeed, approximately 16 of the 37 indirect jobs created regionally are in the commercial fishing industry. Other indirect effects are generated in the utilities, transportation, trade, and services sectors.

² The IMPLAN model's regional purchase coefficient for the commercial fishing sector was set to 1.0 because all sardines are obtained from local (i.e., Oregon and Washington) fishermen.

³ Other income includes Astoria Holdings' estimate of net profits which are assumed to be similar for other seafood processors.
Table 2, below, provides further details on the economic impacts felt by other sectors of the regional Oregon and Washington economy as a result of the sardine harvest liberalization. As this suggests, harvesting and processing activities have an effect on a number of sectors of the economy.

In total, approximately 188 jobs and \$6.7 million in wages and business income are generated from harvest liberalization. These are annual impacts occurring each year during the two year extended harvest period. In addition, ECONorthwest determined that coastal economies are quite suited to handle this production (seafood processing and fishing) activities. Although we do not know the exact allocation of manufacturing activities among the seafood processors in the Pacific Northwest, ECONorthwest estimates a little of 90 percent of the job and income impacts would occur in the coastal regions of the states.

Table 2:	Regional Economic	Impacts,	by Major	Industry	Sector
	(in current dollars)			-	

	Wages and Business	Other	
Aggregate Industry Sector	Income	Income	Jobs
Natural Resources	\$607,000	\$1.097.000	16
Construction	99,000	4.000	1
Manufacturing	3,350,000	4.323.000	134
Transportation, Communication & Utilities	493,000	339.000	9
Wholesale & Retail Trade	923,000	322.000	15
Finance, Insurance & Real Estate	198,000	501.000	2
Services	997,000	183.000	11
Government	77,000	30,000	1
Total	\$6,744,000	\$6,799,000	189

CALIFORNIA WETFISH PRODUCERS ASSOCIATION

2194 SIGNAL PLACE SAN PEDRO, CA 90731

MARCH 13, 2003

ORLANDO AMOROSO S.CA. COMMERCIAL FISHING ASSOC.

SUBJECT: FURTHER COMMENTS ON ALLOCATION OF THE SARDINE RESOURCE

VANESSA DELUCA STATE FISH COMPANY

JOHN CAR TRI-MARINE FISH CO.

PETE GUGLIELMO SOUTHERN CA SEAFOOD

FRANK TOMICH TOMICH BROS. SEAFOOD

PETER DIVONA CRS / STANDARD SEAFOOD

JOE BURCH OCEAN GEM

SEAFOOD

MIKE CARPENTER SUN COAST CALAMARI

JOHN GINGERICH

HUFNEME FISH PROCESSORS INC.

..............

REPRESENTING

29 PURSE SEINE VESSEL OWNERS WHO EMPLOY

232 FISHERMEN AND

8 COMPANIES WITH 1,370 EMPLOYEES DR. HANS RADTKE, CHAIR, DR. DON MCISAAC, EXECUTIVE DIRECTOR AND MEMBERS OF THE PACIFIC FISHERY MANAGEMENT COUNCIL 7700 NE AMBASSADOR PLACE, SUITE 200 PORTLAND, OR 97220

DEAR DR. RADTKE, DR. MCISAAC AND COUNCIL MEMBERS,

THANK YOU FOR THIS OPPORTUNITY TO INTRODUCE FURTHER COMMENTS ON THIS IMPORTANT ISSUE. THE CALIFORNIA WETFISH PRODUCERS ASSOCIATION PRESENTS THESE VIEWS ON BEHALF OF THE SAN PEDRO PURSE SEINE FLEET -- 29 VESSEL OWNERS WHO EMPLOY APPROX. 232 FISHERMEN -- AND THE MAJORITY OF SARDINE PROCESSORS IN SOUTHERN CALIFORNIA, WHO EMPLOY IN AGGREGATE 1,370 PEOPLE . SARDINES ARE THE "BREAD AND BUTTER" STAPLE IN THESE FISHING COMMUNITIES.

AGAIN WE THANK THE COUNCIL, MANAGEMENT TEAM AND THE SSC FOR ACKNOWLEDGING THE IMPORTANCE OF THE SARDINE RESOURCE AND THE CRITICAL NEED FOR EXPANDED SARDINE RESEARCH. WE VERY MUCH APPRECIATE YOUR EFFORTS, AND THE COMMITMENT OF DR. HOGARTH AND NMFS SOUTHWEST REGION TO ACCOMPLISH THIS RESEARCH, BEGINNING THIS YEAR.

THE COUNCIL AND SCIENTIFIC BODY HAVE ALSO ACKNOWLEDGED GREAT UNCERTAINTIES REGARDING NORTHERN SARDINE STOCKS AND THE BIOMASS AS A WHOLE ... **UNCERTAINTIES INCLUDE:**

--MAJOR ASSUMPTIONS THAT THE DATA ENTERED INTO THE MODELS ARE AN ACCURATE REPRESENTATION OF THE BIOLOGY AND DYNAMICS OF THE STOCK;

--OR STOCKS: THE ROLE OF SUB-POPULATIONS IS LARGELY UNKNOWN;

-- THERE ARE PROBLEMS WITH THE BIOMASS ESTIMATES, SAMPLING THE OFFSHORE ADULTS, AND PAINFULLY LITTLE SAMPLING IN THE PACIFIC NORTHWEST TO DATE.

--THE MODEL SIMULATION DOES NOT INCLUDE CHANGES IN GROWTH AND FECUNDITY IN RESPONSE TO CHANGES IN BIOMASS AND ENVIRONMENTAL FACTORS. HOWEVER, AS THE CPS FMP POINTED OUT (B-93) VARIATION IN GROWTH AND FECUNDITY IS DRAMATIC IN SARDINE AND AFFECTS BIOMASS TRENDS.

--CRITICALLY IMPORTANT, THE CURRENT MODEL DOES NOT ACCOUNT FOR FISHING ACTIVITY IN CANADA AND EXPANSION OF ACTIVITY IN MEXICO: CANADA HAS ANNOUNCED A 5,000 MT HARVEST THIS YEAR, AND MEXICO IS ANCHORING A NEW STATE-OF-THE-ART FREEZER SHIP OFF CEDROS ISLAND WITH 125 TON PER DAY CAPACITY AND EXPECTED HARVEST OF 30,000 TONS PER YEAR. AT THE TRI-NATIONAL SARDINE FORUM, MEXICO ANNOUNCED PLANS TO HARVEST A TOTAL 40,000 TONS OF SARDINE IN 2003. BASED ON THE CURRENT STOCK ASSESSMENT AND HARVEST GUIDELINE, IF THE US FISHERY ACHIEVES OY THIS YEAR THE COAST-WIDE HARVEST WILL LIKELY EXCEED THE ACCEPTED BIOLOGICAL CATCH.

THE TRI-NATIONAL FORUM ALSO REVEALED OTHER TIDBITS OF INTEREST AND CONCERN: --OF INTEREST -- DR. NANCY LO PRESENTED DATA ON REGIONAL BIOMASS ESTIMATES. BASED ON BEST AVAILABLE DATA, THE BIOMASS OF SARDINE OFF CALIFORNIA AND MEXICO IS ABOUT 10 TIMES THAT OF SARDINE OFF OREGON TO VANCOUVER CANADA.

IN OTHER WORDS, 10 PERCENT OF THE RESOURCE MIGRATES INTO THE PACIFIC NORTHWEST. --OF SIGNIFICANT CONCERN -- CANADIAN RESEARCHERS NOTED THE VOLUME OF SARDINE STOMACH CONTENTS HAS BEEN DECLINING IN THE PAST FEW YEARS.

EXAMINING S.CA. PORT SAMPLE DATA, DR. KEVIN HILL REPORTED A DECLINE IN BODY WEIGHT FOR ALL AGES AND A DELAY IN MATURITY - PRELIMINARY EVIDENCE THAT SARDINE POPULATION GROWTH AT BOTH ENDS OF THE RANGE MAY BE SLOWING DUE TO DENSITY DEPENDENT PROCESSES.

MOREOVER, WE'RE SEEING INCREASING SIGNS THAT THE OCEAN HAS TURNED THE CORNER. WHATEVER YOU CALL IT - COLD-WATER CYCLE, PACIFIC DECADAL OSCILLATION OR REGIME SHIFT - THE LIKELIHOOD IS THAT IT'S HAPPENING. FISHERMEN KNOW IT.

THE MANAGEMENT TEAM ANALYSIS NOTES THAT THIS ALLOCATION DECISION IS A SHORT-TERM FIX, AND THERE IS NOT A RESOURCE SUSTAINABILITY CONCERN. HOWEVER, AS A TEAM MEMBER COMMENTED TO ME AFTER THE MEETING, THERE IS NO WAY TO MEASURE THE IMPACT OF REALLOCATION SHORT TERM.

THE BOTTOM LINE IS: WE JUST DON'T KNOW!

IN LIGHT OF ALL THE UNKNOWNS, WE AGAIN URGE THE COUNCIL TO TAKE BABY STEPS IN ADOPTING REALLOCATION OPTIONS. THE TRI-NATIONAL MINUTES SUMMARIZED IT SUCCINCTLY:

"GENERALLY, IT WAS FELT THAT WE DO NOT KNOW ENOUGH ABOUT SUBPOPULATION STRUCTURE, AND MIGRATIONS TO CHANGE THE ALLOCATION POLICY."

CONSIDERING ANNOUNCED HARVEST ACTIVITY BEYOND OUR BORDERS, THERE IS NO ROOM FOR FURTHER EXPANSION IN THE SARDINE FISHERY.

THE GOOD NEWS IS WE'RE CLOSE TO FILLING IN SOME OF THE DATA GAPS -- INFORMATION ESSENTIAL FOR SOUND MANAGEMENT DECISIONS. IN THE MEANTIME, PLEASE CONSIDER THAT THE ALLOCATION DECISION THE COUNCIL MAKES, EVEN FOR THE SHORT TERM, SETS A PRECEDENT. THE POLICY ADOPTED MAY ALSO GOVERN THE FISHERY IN 2004. WHAT HAPPENS WHEN THE HARVEST RATE DROPS BELOW THE CURRENT 15 PERCENT? THAT COULD HAPPEN NEXT YEAR.

PLEASE CONSIDER THAT CALIFORNIA OPERATES UNDER A FEDERALLY PERMITTED, LIMITED ENTRY FISHERY WITH A CAPACITY GOAL. ONLY 67 BOATS ARE LICENSED TO FISH. SOME VETERAN FISHERMEN WERE EXCLUDED FROM THIS FISHERY. IN EARLIER COUNCIL MEETINGS WE HEARD TESTIMONY THAT THE EMERGING FISHERY IN THE PACIFIC NORTHWEST DOESN'T WANT TO HURT THE CALIFORNIA FISHERY, YET THEY ASK THE COUNCIL TO APPROVE A REALLOCATION PLAN THAT COULD SHUT DOWN THE FEDERALLY AUTHORIZED LIMITED ENTRY FISHERY DURING PEAK SEASON IN NOVEMBER AND DECEMBER SO THE EMERGING FISHERY CAN HARVEST MORE FISH IN THE SUMMERTIME? THAT'S PAINFUL! IT ALSO BEGS THE QUESTION: WHAT IS THE PURPOSE OF THE LIMITED ENTRY PROGRAM?

PLEASE UNDERSTAND THAT THE SAME ECONOMIC HARDSHIP ARGUMENTS MOUNTED BY PACIFIC NORTHWEST INTERESTS ALSO APPLY IN CALIFORNIA'S LIMITED ENTRY FISHERY. AS I NOTED IN THE BEGINNING, CALIFORNIA'S FISHING COMMUNITIES IN MONTEREY AND SAN PEDRO DEPEND ON SARDINES TO MAKE ENDS MEET.

WE'VE ALSO HEARD THAT THE FISH IN THE NORTH ARE LARGER, MORE VALUABLE AND THEY DON'T COMPETE WITH CALIFORNIA MARKETS.

I'D LIKE TO POINT OUT THAT THIS IS A CYCLICAL RESOURCE: TYPICALLY THE LARGEST FISH DO MIGRATE NORTH IN SUMMERTIME. IN THE PAST SOME OF THOSE LARGER FISH ENTERED THE CALIFORNIA FISHERY IN FALL AND WINTER, WHEN FISHING EFFORT PEAKS. HOWEVER, IN THE PAST FEW YEARS BOTH MONTEREY AND S.CA HAVE SEEN AN INCREASE IN SMALLER FISH AND VIRTUALLY NONE OF THE LARGER FISH. SCIENTISTS SUSPECT THE SE SMALLER FISH MAY BE FROM THE SOUTHERN STOCK MOVING UP FROM MEXICO. THE CATCH AT AGE GRAPHS SHOW A SPIKE OF YOUNG FISH FOLLOWING THE 1998 EL NIÑO. THIS TIME PERIOD COINCIDES WITH THE BEGINNING OF EXTRAPOLATED BIOMASS ESTIMATES AND HARVEST GUIDELINES SET IN THE CPS FMP.

SINCE THE ADVENT OF FEDERAL MANAGEMENT, CALIFORNIA'S SARDINE FISHERY HAS NOT SEEN A "NORMAL" SIZE RANGE IN THE CALIFORNIA CATCH. OUR SARDINE FISHERY SUFFERED A TRIPLE WHAMMY IN 2002 WITH MARKET CLOSURES CAUSED BY DOMOIC ACID AND VHS VIRUS COUPLED WITH AN EXTENDED SHIPPING STRIKE. THE SOUTHERN CA WETFISH INDUSTRY EXERCISED RESTRAINT IN CATCHING THE SMALLER FISH. AS ONE PROCESSOR EXPLAINED, "MARKETS WERE AVAILABLE BUT WE LEFT THE FISH IN THE WATER TO GROW UP". NOW WE'RE BEING PENALIZED FOR LEAVING THOSE SMALL FISH 'ON THE TABLE'." THOSE SMALL FISH ARE THE FUTURE OF THE SARDINE RESOURCE.

DOCK SAMPLES IN JANUARY 2003 INDICATED SOME LARGER FISH IN THE SOUTHERN CATCH—FOR THE FIRST TIME IN RECENT YEARS. ALSO INTERESTING TO NOTE, THE FISH OFF OREGON AND WASHINGTON HAVE GROWN LARGER. IN 2002, IN FACT, MANY FISH WERE TOO LARGE FOR THE JAPANESE LONG-LINE MARKET.

THE REALITY IS THE SARDINE RESOURCE IS SUBJECT TO DRAMATIC CHANGE—AND WE'RE BEGINNING TO SEE SIGNS THAT ANOTHER CHANGE IS OCCURRING.

ANOTHER REALITY, THE MARKETS ARE THE MARKETS. CALIFORNIA'S WETFISH INDUSTRY HAS DEVELOPED MARKETS ALL OVER THE WORLD AND THE PACIFIC NORTHWEST IS NOW COMPETING IN ALL OUR MAJOR MARKETS.

CALIFORNIA SARDINE PROCESSORS- BOTH IN MONTEREY AND IN S.CA. --PRODUCE A VARIETY OF PRODUCTS : LARGER FISH TYPICALLY GO TO JAPAN FOR HUMAN CONSUMPTION AND LONG-LINE BAIT. LARGE AND SMALLER SARDINES ARE CANNED -- BOTH FOR HUMAN CONSUMPTION AND PET FOOD. Some sardines are Individually Quick Frozen; some are headed and gutted for canning overseas. Some sardines are block frozen and exported for canning overseas. Nude blocks are also used for tuna bait, fish and animal feed.

IN RECENT YEARS, ABOUT 80 PERCENT OF CALIFORNIA'S SARDINE HARVEST ON AVERAGE HAS COME FROM SOUTHERN CALIFORNIA.

THE MAJORITY OF FISHERMEN WITH CPS LIMITED-ENTRY PERMITS OPERATE IN SOUTHERN CALIFORNIA.

IN CONCLUSION, PLEASE CONSIDER THAT SARDINES ARE A CYCLICAL RESOURCE THAT MAY WELL BE ENTERING A NATURAL DECLINE. SARDINES ARE NOT A SHORT-TERM REPLACEMENT FISHERY FOR CALIFORNIA – THEY ARE AND ALWAYS HAVE BEEN THE BACKBONE OF CALIFORNIA'S FISHING INDUSTRY.

CALIFORNIA'S WETFISH INDUSTRY HAS PAID A HIGH PRICE FOR SARDINE RECOVERY---MANY MILLIONS OF DOLLARS-- AND WE DO NOT WANT TO REPEAT THE HISTORY OF THIS FISHERY. WE URGE THE COUNCIL TO EXERCISE PRECAUTION IN ITS MANAGEMENT DECISIONS.

As for the specific options presented by the CPS management team for Council consideration, we urge the Council to Eliminate Alternative 2 (Option 3A) from further consideration, as this poses economic hardship on the existing limited entry fishery in California., to encourage further expansion in the Pacific Northwest.

WE REITERATE OUR EARLIER PLEA TO APPROACH REALLOCATION DECISIONS WITH BABY STEPS. PLEASE OBTAIN THE NECESSARY INFORMATION ABOUT THIS RESOURCE BEFORE APPROVING FURTHER EXPANSION OF THE OREGON/WASHINGTON FISHERY. AS WE TESTIFIED IN OCTOBER, IN THE SHORT TERM WHILE RESEARCH IS UNDERWAY, WE COULD SUPPORT MOVING THE AUTOMATIC REALLOCATION DATE UP ONE MONTH, TO SEPTEMBER, TO LESSEN THE IMPACT ON THE TRADITIONAL SARDINE FISHERY IN MONTEREY. IN TRUTH, MONTEREY CONTROLS ITS OWN DESTINY, AS THE TOP THREE VESSELS LANDING SARDINES IN THE OR/WA FISHERY ARE FROM MONTEREY.

WE WILL BE HAPPY TO WORK WITH THE COUNCIL, ADVISORY SUBPANEL AND INDUSTRY TOWARD DEVELOPING AN ALLOCATION FRAMEWORK, HOPEFULLY BASED --AT LEAST IN PART-- ON BASELINE FIELD STUDIES GATHERED IN THE PACIFIC NORTHWEST IN 2003 AND 2004.

ON BEHALF OF CALIFORNIA'S WETFISH INDUSTRY, THANK YOU VERY MUCH FOR YOUR CONSIDERATION.

SINCERELY, and these Strule

DIANE PLESCHNER-STEELE

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For CALIFORNIA WETFISH PRODUCERS ASSOCIATION

C KIINT LO Public Comment

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Dr. Hans Radke, Chair and Council Members Pacific Fishery Management Council 7700 NE Ambassador Place, Suite 200 Portland, OR 97220

March 13, 2003

Dear Dr. Radke and Council Members:

These comments are respectfully submitted on behalf of the West Coast Seafood Processors Association (WCSPA). WCSPA represents shore-side processors in Washington, Oregon and California.

WCSPA recommends the following:

- 1. The Council should adopt the four options proposed by the team and the additional option proposed by the CPSAS as a suitable range of alternatives to go out for public review. The process should not be delayed to be certain that a change is in place during the 2003 season.
- 2. The Council should consider identifying a preferred option from this list. WCSPA would support either Alternative 3 or the additional option recommended by the CPSAS identified as 3aii in the original suite of options.
- 3. The Council should adopt this "interim" plan for two years (2003 and 2004) and plan to implement the long-term allocation scheme for the 2005 season.
- 4. The Council should continue to pursue and support increased research on the sardine stock and economics of the fishery for use in determining the long-term allocation scheme most appropriate for the west coast sardine fishery.

It is critical that this process move forward without delay. In order to prevent a reoccurrence of the premature closures that Northern California, Oregon and Washington faced during the 2002 season, the Council must make a final decision in April to adopt a regulatory change from status quo. You heard testimony from a minority of the CPSAS that Alternative 4 should be embraced as the preferred option. Alternative 4 which moves the reallocation date to September 1st will still result in economic hardships and premature closures to Northern California, Oregon and Washington fisheries. We believe this is unacceptable. A coalition of individuals and organizations including WCSPA are prepared to file a request for another emergency rule reallocating fish if premature closures reoccur in Monterey and the Pacific northwest while significant amounts of fish are left unharvested in Southern California.

Alternative 3 and 3aii both have the greatest chance of achieving utilization of optimum yield.

While you may hear testimony that all options aside from Alternative 4 will hurt Southern California- this is not exactly representative of the facts. First, all options result in a net benefit to the nation. All options actually show an improvement for each sector, based on the fact that the baseline assumptions include an increase of 10% from 2002 landings. The analysis may show slight negative effects to Southern California from alternative 3 and 3aii, however, these are based on the 10% increase assumption of landings. This increase will likely not occur in San Pedro during 2003. The Australian market has cut their orders by 50% due to an increase in the harvest guideline available to them domestically. We heard testimony from fishermen at the CPSAS meeting that the orders have been reduced and they expect continued reductions. February landings data already begin to reflect this change.

It is important that research not be tied directly to allocation. Allocation in this case is an economic not biological issue. The CPS Fishery Management Plan currently calls for a coast-wide harvest guideline. As long as the conservative harvest guideline is not exceeded, the allocation scheme should aim for full utilization of the available resource. Options 3 and 3aii have the best chance of achieving this.

Specific to the Monterey area- included with your briefing book is a letter from several congressmen in California urging no change to the current allocation until research on the stock is completed. Congressman Sam Farr appears to be the lead on this letter. Unfortunately, the congressman's office did not contact his constituents who participate in the sardine fishery in Salinas and Monterey regarding this position and prior to writing this letter. The three sardine processors and the harvesters who supply the product to these processors absolutely do not support this position. This would cause another costly, and most likely longer, interruption in their fishery. This is unacceptable to someone like Sal Tringali who owns a multi-million dollar cannery in Salinas. While everyone supports improving the knowledge of the stock through research, we do not agree that status quo should be maintained until the completion of the research. The good congressman or his staff have not returned telephone calls.

We strongly urge the Council to identify either alternative 3 or 3aii as a preferred alternative for interim management of the sardine fishery. Both options have the greatest chance of achieving optimum yield while mitigating negative impacts to all sectors.

Thank you for your consideration.

Sincerely,

Heather M. Munro For West Coast Seafood Processors Association

UPDATE ON SARDINE STOCK ASSESSMENT REVIEW PROCESS

<u>Situation</u>: In June of 2002, the Council initiated preparation for a Stock Assessment Review (STAR) Workshop for coastal pelagic species (CPS). The CPS STAR Panel is tentatively scheduled for September 2003. The assessment models used for Pacific sardine and Pacific mackerel will be the focus of the 2003 CPS STAR Panel.

The Scientific and Statistical Committee will present draft Terms of Reference for the CPS STAR process. Based upon its review of the Terms of Reference, the Council could consider tentative approval of the Terms of Reference and request they be forwarded to the CPS Management Team and CPS Advisory Subpanel for their review. Final approval of the Terms of Reference could be scheduled for the April 2003 Council meeting.

Council Action:

1. Consider Approving Terms of Reference.

Reference Materials:

1. Exhibit I.3.b, Supplemental SSC Report – Draft CPS STAR Terms of Reference.

Agenda Order:

- a. Agendum Overview
- b. Reports and Comments of Advisory Bodies
- c. Public Comment
- d. **Council Action**: Consider Approving Terms of Reference

PFMC 02/19/03 Dan Waldeck

DRAFT COASTAL PELAGIC SPECIES STOCK ASSESSMENT REVIEW TERMS OF REFERENCE

Dr. Robert Francis updated the Scientific and Statistical Committee (SSC) on the status of the draft terms of reference (TOR) for the planning of a Stock Assessment Review (STAR) workshop for coastal pelagic species (CPS). The draft TOR are complete, with only minor revisions expected. The SSC endorses preliminary approval of the draft TOR at this Council meeting with full approval anticipated at the April meeting.

The SSC discussion about the CPS STAR process focused on three questions:

- 1. Would models and data for the new sardine and mackerel assessments be available in time for the STAR workshop?
- 2. The STAR Panel will include the chair of the SSC CPS Subcommittee; would there be other SSC representatives?
- 3. Would results from the STAR workshop be available in time to inform management decisions?
- Timing of the STAR workshop faces two constraints: use of mackerel assessments at June Council meetings and use of sardine assessments at November Council meetings. The SSC considered two proposals for the timing of the STAR workshop: September 2003 and May 2004, and tentatively accepts the May proposal as being superior. Advantages of a May workshop include having results from both mackerel and sardine assessments available in time for the management process in 2004. Issues about stock status (rebuilding thresholds, for example) and funding for the workshop still need to be resolved.

PFMC 03/13/03

DRAFT DOCUMENT FOR SSC REVIEW

COASTAL PELAGIC SPECIES STOCK ASSESSMENT AND REVIEW PROCESS

Introduction

- The purpose of this document is to help the Council family and others understand the coastal pelagic stock assessment review process (STAR). Parties involved are the National Marine Fisheries Service (NMFS); state agencies; the Council and its advisors, including the Scientific and Statistical Committee (SSC), Coastal Pelagic Species Management Team (CPSMT), Coastal Pelagic Species Advisory Subpanel (CPSAS), Council staff; and interested persons. The STAR process is a key element in an overall process designed to make timely use of new fishery and survey data, to analyze and understand these data as completely as possible, to provide opportunity for public comment, and to assure that the results are as accurate and error-free as possible. The STAR process is designed to assist in balancing these somewhat conflicting goals of timeliness, completeness and openness.
- Stock assessments for Pacific sardine and Pacific mackerel are conducted annually to assess the abundance, trends and appropriate harvest levels for these species.¹ Assessments use statistical population models to analyze and integrate a combination of survey, fishery and biological data. At its November 2001 meeting, the SSC reported that
 - The Coastal Pelagic Species Management Team (CPSMT) has recommended a peer review process for the coastal pelagic species similar to the groundfish STAR process. The CPSMT suggests that full sardine and Pacific mackerel stock assessments and reviews be conducted on a triennial cycle, with a less formal review by the CPSMT and SSC during interim years. Full stock assessment reports would be developed and distributed following each STAR panel review. Details from interim-year assessments could be documented in executive summaries similar to the one produced for this year's (2001) sardine assessment. As entirely new assessments are developed, a STAR panel would be convened to review the assessment prior to implementation of results for setting harvest guidelines. The SSC supports the CPSMT's proposal.
- At its June 2002 meeting, the SSC further noted that the methodology on which the 2002 Pacific mackerel stock assessment was based...
 - is not fully documented in the Stock Assessment and Fishery Evaluation (SAFE) report precluding a detailed review by the SSC at this time. The SSC recommends the methodology be reviewed in detail by a stock assessment review panel in 2003. The CPS subcommittee of the SSC will develop Terms of Reference for such a review if it is supported and funded. The timing of any review needs to be coordinated with the timing of the groundfish Stock Assessment Review (STAR) Panels for 2003.
- Clearly there is a need to develop and implement a stock assessment and review (STAR) process for coastal pelagic species similar to that for groundfish. The first and most pressing candidates are Pacific sardine

¹Stock assessments are conducted for species "actively" managed under the Coastal Pelagic Species Fishery Management Plan (FMP). That is, fisheries for Pacific sardine and Pacific mackerel are actively managed via annual harvest guidelines and management specifications, which are based on current stock assessment information. Jack mackerel, Northern anchovy, and market squid are "monitored" species under the FMP. Annual landings of these species are monitored and reported in the annual Stock Assessment and Fishery Evaluation (SAFE) report, but harvest guidelines are not set for them.

and Pacific mackerel.

- Pacific sardine is now, along with Pacific whiting, the most abundant fish resource off the West Coast; at one time sardine was the largest single-species fishery in the world. Yet the research program for supporting sardine assessment is seriously under funded and under reviewed. The current fishery independent surveys only provide indices of sardine egg abundance and daily egg production. The aerial fish spotter index (used as a measure of sardine recruitment) only covers the nearshore areas of the southern California Bight and, more recently, spotter effort has been at negligible levels as spotter pilots have focused on other non-CPS fisheries. The adult parameters used in recent biomass estimates are computed on the basis of biological data collected in 1994, at a time when the population was one-tenth of the 2002 biomass. The data sources for sardine are limited to geographic areas off Baja California, Mexico, and the State of California (particularly the area from San Diego to Monterey Bay). A migration model parameterized with historical estimates of sardine migration rates is used to extrapolate the stock assessment to the northern areas of the sardine distribution. With the recent expansion of the sardine population off Oregon, Washington, and British Columbia, there is an urgent need to incorporate fishery-dependent data for northern areas into the stock assessment and to initiate resource surveys to establish a fishery-independent time series for those areas.
- The same can be said for Pacific mackerel. The 2002 HG was based on the same stock assessment methodology and harvest control rule used in 2001, with the addition of one additional year's data. Compared with the 2001 assessment, the biomass time series for the 2002 assessment was 14% lower over the last decade, and the July 1, 2001 biomass, a projection in the 2001 assessment, 30% lower. The methodology on which this (current) assessment is based is not fully documented in the Stock Assessment and Fishery Evaluation (SAFE) report precluding a detailed review by the SSC. Therefore, in 2002 the SSC recommended (June 2002 minutes) that the methodology be reviewed in detail by a stock assessment review panel as soon as possible.

STAR Goals and Objectives

The goals and objectives for the CPS assessment and review process² are:

- a. Ensure that CPS stock assessments provide the kinds and quality of information required by all members of the Council family.
- b. Satisfy the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) and other legal requirements.
- c. Provide a well-defined, Council oriented process that helps make CPS stock assessments the "best available" scientific information and facilitates use of the information by the Council. In this context, "well-defined" means with a detailed calendar, explicit responsibilities for all participants, and specified outcomes and reports.
- d. Emphasize external, independent review of CPS stock assessment work.
- e. Increase understanding and acceptance of CPS stock assessment and review work by all members of the Council family.
- f. Identify research needed to improve assessments, reviews and fishery management in the future.

²In this document, the term "stock assessment" includes activities, analyses, and management recommendations, beginning with data collection and continuing through to the development of management recommendations by the Coastal Pelagic Species Management Team and information presented to the Council as a basis for management decisions.

g. Use assessment and review resources effectively and efficiently.

Shared Responsibilities

- All parties have a stake in assuring adequate technical review of stock assessments. NMFS must determine that the best scientific advice has been used when it approves fishery management recommendations made by the Council. The Council uses advice from the SSC to determine whether the information on which it will base its recommendation is the "best available" scientific advice. Fishery managers and scientists providing technical documents to the Council for use in management need to ensure that the work is technically correct. Program reviews, in-depth external reviews, and peer-reviewed scientific publications are used by federal and state agencies to provide quality assurance for the basic scientific methods used to produce stock assessments. However, the time-frame for this sort of review is not suited to the routine examination of assessments that are, generally, the primary basis for a harvest recommendation.
- The review of current stock assessments requires a routine, dedicated effort that simultaneously meets the needs of NMFS, the Council, and others. Leadership, in the context of the stock assessment review process for CPS species, means consulting with all interested parties to plan, prepare terms of reference, and develop a calendar of events and a list of deliverables. Coordination means organizing and carrying out review meetings, distributing documents in a timely fashion, and making sure that assessments and reviews are completed according to plan. Leadership and coordination both involve costs, both monetary and time, which have not been calculated, but are likely substantial.
- The Council and NMFS share primary responsibility to a successful STAR process. The Council will sponsor the process and involve its standing advisory committees, especially the Scientific and Statistical Committee. The chair of the SSC CPS subcommittee will coordinate, oversee and facilitate the process. Together they will consult with all interested parties to plan, prepare terms of reference, and develop a calendar of events and a list of deliverables. NMFS and the Council will share fiscal and logistical responsibilities.
- The CPS STAR process is sponsored by the Council because the Federal Advisory Committee Act (FACA) limits the ability of NMFS to establish advisory committees. FACA specifies a procedure for convening advisory committees that provide consensus recommendations to the federal government. The intent of FACA was to limit the number of advisory committees; ensure that advisory committees fairly represent affected parties; and insure that advisory committee meetings, discussions, and reports are carried out and prepared in full public view. Under FACA, advisory committees must be chartered by the Department of Commerce through a rather cumbersome process. However, the Magnuson-Stevens Act exempts the Council from FACA per se, but requires public notice and open meetings similar to those under FACA.

CPS STAR Coordination

- The SSC CPS subcommittee chair will work with the Council, Council staff, other agencies, groups or interested persons that carry out assessment work to coordinate and organize STAT Teams and STAR Panels, and make sure that work is carried out in a timely fashion according to the calendar and terms of reference.
- The SSC CPS subcommittee chair, in consultation with the SSC, will select STAR Panel chairs, and will coordinate the selection of external reviewers following criteria for reviewer qualifications, nomination, and selection. The public is welcome to nominate qualified reviewers. Following any modifications to the stock assessments resulting from STAR panel reviews and prior to distribution of stock assessment documents and STAR panel reports, the coordinator will review the stock assessments and panel reports for consistency with the terms of reference, especially completeness. Inconsistencies will be identified.

Authors will be requested to make appropriate revisions in time to meet the deadline for distributing documents for the CPSMT meeting at which harvest guideline (HG) recommendations are developed.

Individuals (employed by NMFS, state agencies, or other entities) that conduct assessments or technical work in connection with CPS stock assessments are responsible for ensuring their work is technically sound and complete. The Council's review process is the principal means for review of complete stock assessments, although additional in-depth technical review of methods and data is desirable. Stock assessments conducted by NMFS, state agencies, or other entities must be completed and reviewed in full accordance with the terms of reference, at times specified in the calendar.

CPSMT Responsibilities

The CPSMT is responsible for identifying and evaluating potential management actions based on the best available scientific information. In particular, the CPSMT makes HG recommendations to the Council based on agreed control rules. The CPSMT will use stock assessments, STAR Panel reports, and other information in making their HG recommendations. Preliminary HG recommendations will be developed by the CPSMT according to the management process defined in Council Operating Procedures (COP-9). A representative of the CPSMT will serve as a liaison to each STAR Panel, but will not serve as a member of the Panel. The CPSMT will not seek revision or additional review of the stock assessments after they have been reviewed by the STAR Panel. The CPSMT chair will communicate any unresolved issues to the SSC for consideration. Successful separation of scientific (i.e.; STAT Team and STAR Panels) from management (i.e.; CPSMT) work depends on stock assessment documents and STAR reviews being completed by the time the CPSMT meets to discuss preliminary HG levels. However, the CPSMT can request additional model projections, based on reviewed model scenarios, in order to develop a full evaluation of potential management actions.

CPSAS Responsibilities

- The chair of the CPSAS will appoint a representative to participate at the STAR Panel meeting. The CPSAS representative will participate in review discussions as an advisor to the STAR Panel, in the same capacity as the CPSMT advisor.
- The CPSAS representative will attend the CPSMT meeting at which preliminary HG recommendations are developed. The CPSAS representative will also attend subsequent CPSMT, Council, and other necessary meetings.
- The CPSAS representative will provide appropriate data and advice to the STAR Panel and CPSMT and will report to the CPSAS on STAR Panel and CPSMT meeting proceedings.

SSC Responsibilities

The Scientific and Statistical Committee (SSC) will participate in the stock assessment review process and provide the CPSMT and Council with technical advice related to the stock assessments and the review process. The SSC will assign one member from its CPS Subcommittee to each STAR Panel. This member is expected to attend the assigned STAR Panel meeting, the CPSMT meeting at which HG recommendations are made, and the Council meetings when CPS stock assessment agenda items are discussed. The SSC representative on the STAR Panel will present the STAR Panel report at CPSMT, SSC and Council meetings. The SSC representative will communicate SSC comments or questions to the CPSMT and STAR Panel chair. The SSC will review any additional analytical work on any of the stock assessments required or carried out by the CPSMT after the stock assessments have been reviewed by the STAR Panels. In addition, the SSC will review and advise the CPSMT and Council on harvest guideline recommendations.

The SSC, during their normally scheduled meetings, will serve as arbitrator to resolve disagreements between

the STAT Team, STAR Panel, or CPSMT. The STAT Team and the STAR Panel may disagree on technical issues regarding an assessment. In this case, a complete stock assessment must include a point-by-point response by the STAT Team to each of the STAR Panel recommendations. Estimates and projections representing all sides of the disagreement need to be presented, reviewed, and commented on by the SSC.

Council Staff Responsibilities

Council Staff will prepare meeting notices and distribute stock assessment documents, stock summaries, meeting minutes, and other appropriate documents. Council Staff will assist in coordination of the STAR process. Staff will also publish or maintain file copies of reports from each STAR Panel (containing items specified in the STAR Panel's term of reference), the outline for CPS stock assessment documents, comments from external reviewers, SSC, CPSMT, and CPSAS, letters from the public, and any other relevant information. At a minimum, the stock assessments (STAT Team reports, STAR Panel reports, and stock summaries) should be published and distributed in the Council's annual CPS SAFE document.

Terms of Reference for STAR Panels and Their Meetings

- The principal responsibility of the STAR Panel is to carry out the following terms of reference. The STAR Panel's work includes:
 - 1. reviewing draft stock assessment documents and any other pertinent information (e.g.; previous assessments and STAR Panel reports, if available);
 - 2. working with STAT Teams to ensure assessments are reviewed as needed;
 - 3. documenting meeting discussions; and
 - 4. reviewing summaries of stock status (prepared by STAT Teams) for inclusion in the SAFE document.
- STAR Panels normally include a chair, at least one "external" member (i.e.; outside the Council family and not involved in management or assessment of West Coast CPS), and one SSC member. The total number of STAR members should be at least "n+2" where n is the number of stock assessments and "2" counts the chair and external reviewer. In addition to Panel members, STAR meetings will include CPSMT and CPSAS advisory representatives with responsibilities laid out in their terms of reference.
- STAR Panels normally meet for one week.

The number of assessments reviewed per Panel should not exceed two.

- The STAR Panel is responsible for determining if a stock assessment document is sufficiently complete. It is the Panel's responsibility to identify assessments that cannot be reviewed or completed for any reason. The Panel's decision that an assessment is complete should be made by consensus. If a Panel cannot reach agreement, then the nature of the disagreement must be described in the Panel's report.
- The STAR Panel's terms of reference concern technical aspects of stock assessment work. The STAR Panel should strive for a risk neutral approach in its reports and deliberations. Confidence intervals of indices and model outputs, as well as other measures of uncertainty that could affect management decisions, should be provided in completed stock assessments and the reports prepared by STAR Panels. The STAR Panel should identify scenarios that are unlikely or have a flawed technical basis.
- Recommendations and requests to the STAT Team for additional or revised analyses must be clear, explicit and in writing. A written summary of discussion on significant technical points and lists of all STAR Panel recommendations and requests to the STAT Team are required in the STAR Panel's report. This should be completed (at least in draft form) prior to the end of the meeting. It is the chair and Panel's responsibility to carry out any follow-up review work that is required.

- Additional analyses required in the stock assessment should be completed during the STAR Panel meeting. If follow-up work by the STAT Team is required after the review meeting, then it is the Panel's responsibility to track STAT Team progress. In particular, the chair is responsible for communicating with all Panel members (by phone, e-mail, or any convenient means) to determine if the revised stock assessment and documents are complete and ready to be used by managers in the Council family. If stock assessments and reviews are not complete at the end of the STAR Panel meeting, then the work must be completed prior to the CPSMT meeting where the assessments and preliminary HG levels are discussed.
- The STAR Panel, STAT Team, and all interested parties are legitimate meeting participants that must be accommodated in discussions. It is the STAR Panel chair's responsibility to manage discussions and public comment so that work can be completed.
- STAT Teams and STAR Panels may disagree on technical issues. If the STAR Panel and STAT Team disagree, the STAR Panel must document the areas of disagreement in its report. The STAR Panel may request additional analysis based on alternative approaches. Estimates and projections representing all sides of the disagreement need to be presented in the assessment document, reviewed, and commented on by the SSC. It is expected that the STAT Team will make a good faith effort to complete these analyses.
- The SSC representative on the STAR Panel is expected to attend CPSMT and Council meetings where stock assessments and harvest projections are discussed to explain the reviews and provide other technical information and advice.
- The chair is responsible for providing Council staff with a camera ready and suitable electronic version of the Panel's report for inclusion in the annual SAFE report.

Suggested Template for STAR Panel Report

- Minutes of the STAR Panel meeting, including name and affiliation of STAR Panel members;
- List of analyses requested by the STAR Panel;
- Comments on the technical merits and/or deficiencies in the assessment and recommendations for remedies;
 - Explanation of areas of disagreement regarding STAR Panel recommendations:
 - ° among STAR Panel members (majority and minority reports), and
 - between the STAR Panel and STAT Team;
- Unresolved problems and major uncertainties, e.g.; any special issues that complicate scientific assessment, questions about the best model scenario; and
- Prioritized recommendations for future research and data collection.

Terms of Reference for CPS_STAT Teams

The STAT Team will carry out its work according to these terms of reference.

- Each STAT Team will appoint a representative to coordinate work with the STAR Panel and attend the STAR Panel meeting.
- Each STAT Team will appoint a representative who will attend the CPSMT, CPSAS, and Council meetings where preliminary harvest levels are discussed. In addition, a representative of the STAT Team should attend the CPSMT and Council meeting where final HG recommendations are developed, if requested or necessary. At these meetings, the STAT Team member shall be available to answer questions about the STAT Team report.

The STAT Team is responsible for preparing three versions of the stock assessment document: 1) a "draft" for

discussion at the stock assessment review meeting; 2) a revised "complete draft" for distribution to the CPSMT, CPSAS, SSC, and Council for discussions about preliminary harvest levels; 3) a "final" version published in the SAFE report. Other than authorized changes, only editorial and other minor changes should be made between the "complete draft" and "final" versions. The STAT Team will distribute "draft" assessment documents to the STAR Panel, Council, and CPSMT and CPSAS representatives at least two weeks prior to the STAR Panel meeting.

- The STAT Team is responsible for bringing computerized data and working assessment models to the review meeting in a form that can be analyzed on site. STAT Teams should take the initiative in building and selecting candidate models. If possible, the STAT Team should have several complete models and be prepared to justify model recommendations.
- The STAT Team is responsible for producing the complete draft by the end of the STAR Panel meeting. In the event that the complete draft is not completed, the Team is responsible for completing the work as soon as possible and to the satisfaction of the STAR Panel at least one week before the CPSMT meeting.
- The STAT Team and the STAR Panel may disagree on technical issues regarding an assessment, but a complete stock assessment must include a point-by-point response by the STAT Team to each of the STAR Panel recommendations. Estimates and projections representing all sides of the disagreement need to be presented, reviewed, and commented on by the SSC.
- Electronic versions of final assessment documents, parameter files, data files, and key output files will be provided to Council staff.

Appendix A: Outline for CPS Stock Assessment Documents

- This is an outline of items that should be included in stock assessment reports for CPS managed by the Pacific Fishery Management Council. The outline is a working document meant to provide assessment authors with flexible guidelines about how to organize and communicate their work. All items listed in the outline may not be appropriate or available for each assessment. In the interest of clarity and uniformity of presentation, stock assessment authors and reviewers are encouraged (but not required) to use the same organization and section names as in the outline. It is important that time trends of catch, abundance, harvest rates, recruitment and other key quantities be presented in tabular form to facilitate full understanding and followup work.
 - 1. <u>Title page and list of preparers</u> (the names and affiliations of the stock assessment team (STAT) either alphabetically or as first and secondary authors)
 - 2. <u>Executive Summary</u> (this also serves as the STAT summary included in the SAFE)
 - 3. Introduction
 - a. Scientific name, distribution, stock structure, management units
 - b. Important features of life history that affect management (e.g.; migration, sexual dimorphism, bathymetric demography)
 - c. Important features of current fishery and relevant history of fishery
 - d. Management history (e.g. changes in management measures, harvest guidelines)
 - e. Management performance a table or tables comparing annual biomass, harvest guidelines, and landings for each management subarea and year
 - 4. Assessment
 - a. Data
 - i. Landings by year and fishery, catch-at-age, weight-at-age, survey and CPUE data, data used to estimate biological parameters (e.g.; growth rates, maturity schedules, and natural mortality) with coefficients of variances (CVs) or variances if available. Include complete tables and figures if practical
 - ii. Sample size information for length and age composition data by area, year, etc.
 - b. History of modeling approaches used for this stock changes between current and previous assessment models
 - c. Model description
 - i. Complete description of any new modeling approaches
 - ii. Assessment program with last revision date (i.e.; date executable program file was compiled)
 - iii. List and description of all likelihood components in the model
 - iv. Constraints on parameters, selectivity assumptions, natural mortality, assumed level of age reader agreement or assumed ageing error (if applicable), and other assumed parameters
 - v. Description of stock-recruitment constraint or components
 - vi. Critical assumptions and consequences of assumption failures
 - vii. Convergence criteria
 - d. Model selection and evaluation
 - i. Evidence of search for balance between realistic (but possibly over-parameterized) and simpler (but not realistic) models
 - ii. Use hierarchical approach where possible (e.g.; asymptotic vs. domed selectivities, constant vs. time varying selectivities)
 - iii. Do parameter estimates make sense, are they credible?

- iv. Residual analysis (e.g.; residual plots, time series plots of observed and predicted values, or other approach)
- v. Convergence status and convergence criteria for "base-run(s)"
- vi. Randomization run results or other evidence of search for global best estimates
- e. Base-run(s) results
 - i. Table listing all parameters in the stock assessment model used for base runs, their purpose (e.g.; recruitment parameter, selectivity parameter) and whether or not the parameter was actually estimated in the stock assessment model
 - ii. Time-series of total and spawning biomass, recruitment and fishing mortality or exploitation rate estimates (table and figures)
 - iii. Selectivity estimates (if not included elsewhere)
 - iv. Stock-recruitment relationship
- f. Uncertainty and sensitivity analyses
 - i. The best approach for describing uncertainty and range of probable biomass estimates in CPS assessments may depend on the situation. Possible approaches include:
 - A. Sensitivity analyses (tables or figures) that show ending biomass levels or likelihood component values obtained while systematically varying emphasis factors for each type of data in the model
 - B. Likelihood profiles for parameters or biomass levels may also be used
 - C. CVs for biomass estimated by bootstrap, implicit autodifferentiation, or the delta method
 - D. Subjective appraisal of magnitude and sources of uncertainty
 - E. Comparison of alternate models
 - F. Comparison of alternate assumptions about recent recruitment
 - ii. If a range of model runs (e.g.; based on CV's or alternate assumptions about model structure or recruitment) is used to depict uncertainty, then it is important that some qualitative or quantitative information about relative probability be included. If no statements about relative probability can be made, then it is important to state that all scenarios (or all scenarios between the bounds depicted by the runs) are equally likely
 - iii. If possible, ranges depicting uncertainty should include at least three runs: (a) one judged most probable; (b) at least one that depicts the range of uncertainty in the direction of lower current biomass levels; and (c) one that depicts the range of uncertainty in the direction of higher current biomass levels. The entire range of uncertainty should be carried through stock projections and decision table analyses
 - iv. Retrospective analysis (retrospective bias in base model or models for each area)
 - v. Historic analysis (plot of actual estimates from current and previous assessments for each area)
 - vi Simulation results (if available)
- 5. <u>Rebuilding Parameters</u> (may need to be tailored to CPS)
 - a. Determine B_o as the product of spawners per recruit (SPR) in unfished state multiplied by the average recruitment expected while the stock is unfished. This typically is estimated as the average recruitment during early years of fishery;
 - **b.** $B_{MSY} = 0.4 B_{o}$; (check if applicable to CPS)
 - c. Mean generation time; and
 - d. Forward projection using a Monte Carlo re-sampling of recruitments expected to occur as the stock rebuilds. These future recruitments typically are taken from the recent time series of estimated recruitments or recruits per spawner
- 6. <u>Target Fishing Mortality Rates</u> (if changes are proposed)

- 7. Harvest Projections and Decision Tables
 - a. Harvest projections and decision tables should cover the plausible range of uncertainty about current biomass and the full range of candidate fishing mortality targets used for the stock or requested by the CPSMT. Ideally, the alternatives described in the decision table will be drawn from a probability distribution which describes the pattern of uncertainty regarding the status of the stock and the consequences of alternative future management actions. Where alternatives are not formally associated with a probability distribution, the document needs to present sufficient information to guide assignment of approximate probabilities to each alternative
 - b. Information presented should include biomass and yield projections for at least three years into the future, beginning with the first year for which management action could be based upon the assessment
- 8. Management Recommendations
- 9. <u>Research Needs</u> (prioritized)
- 10. <u>Acknowledgments</u> (include STAR Panel members and affiliations as well as names and affiliations of persons who contributed data, advice or information but were not part of the assessment team)
- 11. Literature Cited
- 12. Complete Parameter Files and Results for Base Runs