PROPOSED 2003 PACIFIC HALIBUT CATCH SHARING PLAN FOR AREA 2A

(a) FRAMEWORK

This Plan constitutes a framework that shall be applied to the annual Area 2A total allowable catch (TAC) approved by the International Pacific Halibut Commission (IPHC) each January. The framework shall be implemented in both IPHC regulations and domestic regulations (implemented by NMFS) as published in the *Federal Register*.

(b) ALLOCATIONS

(1) Except as provided below under (b)(2), this Plan allocates 35 percent of the Area 2A TAC to U.S. treaty Indian tribes in the State of Washington in subarea 2A-1, and 65 percent to non-Indian fisheries in Area 2A. The allocation to non-Indian fisheries is divided into three shares, with the Washington sport fishery (north of the Columbia River) receiving 36.6 percent, the Oregon/California sport fishery receiving 31.7 percent, and the commercial fishery receiving 31.7 percent. Allocations within the non-Indian commercial and sport fisheries are described in sections (e) and (f) of this Plan. These allocations may be changed if new information becomes available that indicates a change is necessary and/or the Pacific Fishery Management Council takes action to reconsider its allocation recommendations. Such changes will be made after appropriate rulemaking is completed and published in the *Federal Register*.

(2) To meet the requirements of U.S. District Court Stipulation and Order (*U.S., et al. v. State of Washington, et al.* Case No. 9213 Phase I, Subproceeding No. 92-1, Stipulation and Order, July 7, 1999), 25,000 lb (11.3 mt) dressed weight of halibut will be transferred from the non-treaty Area 2A halibut allocation to the treaty allocation in Area 2A-1 each year for eight years commencing in the year 2000 and ending in the year 2007, for a total transfer of 200,000 lb (90.7 mt). To accelerate the total transfer, more than 25,000 lb (11.3 mt) may be transferred in any year upon prior written agreement of the parties to the stipulation.

(c) SUBQUOTAS

The allocations in this Plan are distributed as subquotas to ensure that any overage or underage by any one group will not affect achievement of an allocation set aside for another group. The specific allocative measures in the treaty Indian, non-Indian commercial, and non-Indian sport fisheries in Area 2A are described in paragraphs (d) through (f) of this Plan.

(d) TREATY INDIAN FISHERIES

Except as provided above in (b)(2), thirty-five percent of the Area 2A TAC is allocated to 12 treaty Indian tribes in subarea 2A-1, which includes that portion of Area 2A north of Point Chehalis, WA (46°53'18" N. lat.) and east of 125°44'00" W. long. The treaty Indian allocation is

to provide for a tribal commercial fishery and a ceremonial and subsistence fishery. These two fisheries are managed separately; any overages in the commercial fishery do not affect the ceremonial and subsistence fishery. The commercial fishery is managed to achieve an established subquota, while the ceremonial and subsistence fishery is managed for a year-round season. The tribes will estimate the ceremonial and subsistence harvest expectations in January of each year, and the remainder of the allocation will be for the tribal commercial fishery.

(1) The tribal ceremonial and subsistence fishery begins on January 1 and continues through December 31. No size or bag limits will apply to the ceremonial and subsistence fishery, except that when the tribal commercial fishery is closed, treaty Indians may take and retain not more than two halibut per day per person for subsistence purposes. Ceremonial fisheries shall be managed by tribal regulations promulgated inseason to meet the needs of specific ceremonial events. Halibut taken for ceremonial and subsistence purposes may not be offered for sale or sold.

(2) The tribal commercial fishery begins between March 1 and April 1 and continues through November 15 or until the tribal commercial subquota is taken, whichever is earlier. Any halibut sold by treaty Indians during the commercial fishing season must comply with IPHC regulations on size limits for the non-Indian fishery.

(e) NON-INDIAN COMMERCIAL FISHERIES

The non-Indian commercial fishery is allocated 31.7 percent of the non-Indian share of the Area 2A TAC for a directed halibut fishery and an incidental catch fishery during the salmon troll fishery. The non-Indian commercial allocation is approximately 20.6 percent of the Area 2A TAC. Incidental catch of halibut in the primary directed sablefish fishery north of Point Chehalis, WA will be authorized if the Washington sport allocation exceeds 224,110 lb (101.7 mt) as described in section (e)(3) of this Plan. The structuring and management of these three fisheries is as follows.

(1) Incidental halibut catch in the salmon troll fishery.

Fifteen percent of the non-Indian commercial fishery allocation is allocated to the salmon troll fishery in Area 2A as an incidental catch during salmon fisheries. The quota for this incidental catch fishery is approximately 3.1 percent of the Area 2A TAC. The primary management objective for this fishery is to harvest the troll quota as an incidental catch during the May/June salmon troll fishery. The secondary management objective is to harvest the remaining troll quota as an incidental catch during the July through September salmon troll fishery.

(i) The Council will recommend landing restrictions at its spring public meeting each year to control the amount of halibut caught incidentally in the troll fishery. The landing restrictions will be based on the number of incidental harvest license applications submitted to the IPHC, halibut catch rates, the amount of allocation, and other pertinent factors, and may include catch or landing ratios, landing limits,

or other means to control the rate of halibut harvest. NMFS will publish the landing restrictions annually in the *Federal Register*, along with the salmon management measures.

(ii) Inseason adjustments to the incidental halibut catch fishery.

(A) NMFS may make inseason adjustments to the landing restrictions, if requested by the Council Chairman, as necessary to assure that the incidental harvest rate is appropriate for salmon and halibut availability, does not encourage target fishing on halibut, and does not increase the likelihood of exceeding the quota for this fishery. In determining whether to make such inseason adjustments, NMFS will consult with the applicable state representative(s), a representative of the Council's Salmon Advisory Sub-Panel, and Council staff.

(B) Notice and effectiveness of inseason adjustments will be made by NMFS in accordance with paragraph (f)(5) of this Plan.

(iii) If the overall quota for the non-Indian, incidental commercial troll fishery has not been harvested by salmon trollers during the May/June fishery, additional landings of halibut caught incidentally during salmon troll fisheries will be allowed in July and will continue until the amount of halibut that was initially available as quota for the troll fishery is taken or the overall non-Indian commercial quota is estimated to have been achieved by the IPHC. Landing restrictions implemented for the May/June salmon troll fishery will apply for as long as this fishery is open. Notice of the July opening of this fishery will be announced on the NMFS hotline (206) 526-6667 or (800) 662-9825. No halibut retention in the salmon troll fishery will be allowed in July unless the July opening has been announced on the NMFS hotline.

(iv) A salmon troller may participate in this fishery or in the directed commercial fishery targeting halibut, but not in both.

(2) Directed fishery targeting halibut.

Eighty-five percent of the non-Indian commercial fishery allocation is allocated to the directed fishery targeting halibut (e.g., longline fishery) in southern Washington, Oregon, and California. The allocation for this directed catch fishery is approximately 17.5 percent of the Area 2A TAC. This fishery is confined to the area south of Subarea 2A-1 (south of Point Chehalis, WA; 46°53'18" N. lat.). This fishery may also managed with closed areas designed to protect overfished groundfish species. Any such closed areas will be described annually in federal halibut regulations and published in the Federal Register. The commercial fishery opening date(s), duration, and vessel trip limits, as necessary to ensure that the quota for the non-Indian commercial fisheries is not exceeded, will be determined by the IPHC and implemented in IPHC regulations. If the IPHC determines that poundage remaining in the quota for the non-Indian commercial

fisheries is insufficient to allow an additional day of directed halibut fishing, the remaining halibut will be made available for incidental catch of halibut in the fall salmon troll fisheries (independent of the incidental harvest allocation).

(3) Incidental catch in the sablefish fishery north of Point Chehalis.

If the Area 2A TAC is greater than 900,000 lb (408.2 mt), the primary directed sablefish fishery north of Point Chehalis will be allocated the Washington sport allocation that is in excess of 214,110 lb (97.1 mt), provided a minimum of 10,000 lb (4.5 mt) is available (i.e., the Washington sport allocation is 224,110 lb (101.7 mt) or greater). If the amount above 214,110 lb (97.1 mt) is less than 10,000 lb (4.5 mt), then the excess will be allocated to the Washington sport subareas according to section (f) of this Plan. The amount of halibut allocated to the sablefish fishery will be shared as follows: up to 70,000 lb of halibut to the primary sablefish fishery north of Pt. Chehalis. Any remaining allocation will be distributed to the Washington sport fishery among the four subareas according to the sharing described in the Plan, Section (f)(1).

The Council will recommend landing restrictions at its spring public meeting each year to control the amount of halibut caught incidentally in this fishery. The landing restrictions will be based on the amount of the allocation and other pertinent factors, and may include catch or landing ratios, landing limits, or other means to control the rate of halibut landings. NMFS will publish the landing restrictions annually in the Federal Register.

(4) Commercial license restrictions/declarations.

Commercial fishers must choose either (1) to operate in the directed commercial fishery in Area 2A and/or retain halibut caught incidentally in the primary directed sablefish fishery north of Point Chehalis, WA or (2) to retain halibut caught incidentally during the salmon troll fishery. Commercial fishers operating in the directed halibut fishery and/or retaining halibut incidentally caught in the primary directed sablefish fishery must send their license application to the IPHC postmarked no later than April 30, or the first weekday in May, if April 30 falls on a weekend, in order to obtain a license to fish for halibut in Area 2A. Commercial fishers operating in the salmon troll fishery who seek to retain incidentally caught halibut must send their application for a license to the IPHC for the incidental catch of halibut in Area 2A postmarked no later than March 31, or the first weekday in April, if March 31 falls on a weekend. Fishing vessels licensed by IPHC to fish commercially in Area 2A are prohibited from operating in the sport fisheries in Area 2A.

(f) SPORT FISHERIES

The non-Indian sport fisheries are allocated 68.3 percent of the non-Indian share, which is approximately 44.4 percent of the Area 2A TAC. The allocation is further divided as subquotas among seven geographic subareas.

(1) Subarea management. The sport fishery is divided into seven sport fishery subareas, each having separate allocations and management measures as follows.

(i) Washington inside waters (Puget Sound) subarea.

This sport fishery subarea is allocated 23.5 percent of the first 130,845 lb (59.4 mt) allocated to the Washington sport fishery, and 32 percent of the Washington sport allocation between 130,845 lb (59.4 mt) and 224,110 lb (101.7 mt) (except as provided in section (e)(3) of this Plan). This subarea is defined as all U.S. waters east of the mouth of the Sekiu River, as defined by a line extending from 48°17'30" N. lat., 124°23'70" W. long. north to 48°24'10" N. lat., 124°23'70" W. long., including Puget Sound. The structuring objective for this subarea is to provide a stable sport fishing opportunity and maximize the season length. To that end, the Puget Sound subarea may be divided into two regions with separate seasons to achieve a fair harvest opportunity within the subarea. Due to inability to monitor the catch in this area inseason, fixed seasons, which may vary and apply to different regions within the subarea, will be established preseason based on projected catch per day and number of days to achievement of the quota. Inseason adjustments may be made, and estimates of actual catch will be made postseason. The fishery will open in April or May and continue until a dates established preseason (and published in the sport fishery regulations) when the quota is predicted to be taken, or until September 30, whichever is earlier. The Washington Department of Fish and Wildlife will sponsor a public workshop shortly after the IPHC annual meeting to develop recommendations to NMFS on the opening date and weekly structure of the fishery each year. The daily bag limit is one fish per person, with no size limit.

(ii) Washington north coast subarea.

This sport fishery subarea is allocated 62.2 percent of the first 130,845 lb (59.4 mt) allocated to the Washington sport fishery, and 32 percent of the Washington sport allocation between 130,845 lb (59.4 mt) and 224,110 lb (101.7 mt) (except as provided in section (e)(3) of this Plan). This subarea is defined as all U.S. waters west of the mouth of the Sekiu River, as defined above in paragraph (f)(1)(i), and north of the Queets River (47°31'42" N. lat.). The management objective for this subarea is to provide a quality recreational fishing opportunity during May and the latter part of June. To meet this objective, the north coast subarea quota will be allocated as follows: 72% for the month of May and 28% for the latter part of June. The fishery will open on May 1, and continue 5 days per week (Tuesday through Saturday) until the May allocation is projected to be taken. If May 1 falls on a Sunday or Monday, the fishery will open on the following Tuesday. The fishery will then reopen on the third Wednesday in June and continue until the remaining quota is projected to be taken, 5 days per week (Tuesday through Saturday.) No sport fishing for halibut is allowed after September 30. The daily bag limit in all fisheries is one halibut per person with no size limit. A "C-shaped" yelloweye rockfish conservation area that is closed to recreational groundfish and halibut fishing is defined by the following coordinates in the order listed:

48°18' N. lat.; 125°18' W. long.;
48°18' N. lat.; 124°59' W. long.;
48°11' N. lat.; 124°59' W. long.;
48°11' N. lat.; 125°11' W. long.;
48°04' N. lat.; 125°11' W. long.;
48°04' N. lat.; 124°59' W. long.;
48°00' N. lat.; 124°59' W. long.;
48°00' N. lat.; 125°18' W. long.;
and connecting back to 48°18' N. lat.; 125°18' W. long.

(iii) Washington south coast subarea.

This sport fishery is allocated 12.3 percent of the first 130,845 lb (59.4 mt) allocated to the Washington sport fishery, and 32 percent of the Washington sport allocation between 130,845 lb (59.4 mt) and 224,110 lb (101.7 mt) (except as provided in section (e)(3) of this Plan). This subarea is defined as waters south of the Queets River (47°31'42" N. lat.) and north of Leadbetter Point (46°38'10" N. lat.). The structuring objective for this subarea is to maximize the season length, while maintaining a quality fishing experience. The fishery will open on May 1. If May 1 falls on a Friday or Saturday, the fishery will open on the following Sunday. The fishery will be open Sunday through Thursday in all areas, except where prohibited, and the fishery will be open 7 days per week in the area from Queets River south to 47°00'00" N. lat. and east of 124°40'00". The fishery will continue until September 30, or until the quota is achieved, whichever occurs first. Subsequent to this closure, if any remaining quota is insufficient for an offshore fishery, but is sufficient for a nearshore fishery, the area from the Queets River south to 47°00'00" N. lat. and east of 124°40'00" W. long. will reopen for 7 days per week until either the remaining subarea quota is estimated to have been taken and the season is closed by the IPHC, or until September 30, whichever occurs first. The daily bag limit is one halibut per person, with no size limit.

(iv) Columbia River subarea.

This sport fishery subarea is allocated 2.0 percent of the first 130,845 lb (59.4 mt) allocated to the Washington sport fishery, and 4 percent of the Washington sport allocation between 130,845 lb (59.4 mt) and 224,110 lb (101.7 mt) (except as provided in section (e)(3) of this Plan). This subarea also is allocated 2.0 percent of the Oregon/California sport allocation. This subarea is defined as waters south of Leadbetter Point, WA (46°38'10" N. lat.) and north of Cape Falcon, OR (45°46'00" N. lat.). The fishery will open on May 1, and continue 7 days per week until the subquota is estimated to have been taken, or September 30, whichever is earlier. The daily bag limit is the first halibut taken, per person, of 32 inches (81.3 cm) or greater in length.

(v) Oregon north central coast subarea.

If the Area 2A TAC is 388,350 lb (176.2 mt) and greater, this subarea extends from Cape

Falcon to the Siuslaw River at the Florence north jetty (44°01'08" N. lat.) and is allocated 88.03 percent of the Oregon/California sport allocation, which is approximately 18.13 percent of the Area 2A TAC. If the Area 2A TAC is less than 388,350 lb (176.2 mt), this subarea extends from Cape Falcon to the Humbug Mountain, Oregon (42°40'30" N. lat.) and is allocated 95.0 percent of the Oregon/California sport allocation. The structuring objectives for this subarea are to provide two periods of fishing opportunity in Spring and in Summer in productive deeper water areas along the coast, principally for charterboat and larger private boat anglers, and provide a period of fishing opportunity in the summer for nearshore waters for small boat anglers. Fixed season dates will be established preseason for the Spring and Summer openings and will not be modified inseason except that the Summer openings may be modified inseason if the combined Oregon all-depth quotas are estimated to be achieved. Recent year catch rates will be used as a guideline for estimating the catch rate for the Spring and Summer fisheries each year. The number of fixed season days established will be based on the projected catch per day with the intent of not exceeding the subarea season subquotas. ODFW will monitor landings and provide a post-season estimate of catch within 2 weeks of the end of the fixed season. If sufficient catch remains for an additional day of fishing after the Spring season or the Summer season, openings will be provided if possible in May - July and August -October respectively. Potential additional open dates for both the Spring and Summer seasons will be announced preseason. If a decision is made inseason to allow fishing on one or more additional days, notice of the opening will be announced on the NMFS hotline (206) 526-6667 or (800) 662-9825. No all-depth halibut fishing will be allowed on the additional dates unless the opening date has been announced on the NMFS hotline. If pre-season catch and effort estimates determine catch rates and quotas allocated to the Oregon North Coast and South Coast subareas will result in Spring seasons of differing durations, quota may be shifted pre-season to ensure that the two subareas have the same number of fixed season days. Any poundage remaining unharvested in the Spring all-depth subquota will be added to the Summer all-depth sub-quota. Any poundage that is not needed to extend the inside 30-fathom fishery through to October 31 will be added to the Summer all-depth season if it can be used, and any poundage remaining unharvested from the Summer all-depth fishery will be added to the inside 30-fathom fishery subquotas. The daily bag limit for all seasons is the first halibut taken, per person, of 32 inches (81.3 cm) or greater in length. ODFW will sponsor a public workshop shortly after the IPHC annual meeting to develop recommendations to NMFS on the open dates for each season each year. The three seasons for this subarea are as follows.

A. The first season opens on May 1, only in waters inside the 30-fathom (55 m) curve, and continues daily until the combined subquotas for the north central and south central inside 30-fathom fisheries (7 percent of the north central subarea quota plus 20 percent of the south central subarea quota) are taken, or until October 31, whichever is earlier. Poundage that is estimated to be above the amount needed to keep this season open through October 31 will be transferred to the Summer all-depth fishery if it can be used. Any overage in the all-depth fisheries would not affect achievement of allocation set aside for the inside 30-fathom curve fishery.

B. The second season is an all-depth fishery that begins on the second Thursday in May and is allocated 68 percent of the subarea quota. Fixed season dates will be established preseason based on projected catch per day and number of days to achievement of the subquota for this season. No inseason adjustments will be made, except that additional opening days (established preseason) may be allowed if any quota for this season remains unharvested. The fishery will be structured for 2 days per week (Friday and Saturday) if the season is for 4 or fewer fishing days. The fishery will be structured for 3 days per week (Thursday through Saturday) if the season is for 5 or more fishing days.

C. The last season is a coastwide (Cape Falcon, Oregon to Humbug Mountain, Oregon) all-depth fishery that begins on the first Friday in August and is allocated 25 percent of the subarea quota. Fixed season dates will be established preseason based on projected catch per day and number of days to achievement of the combined Oregon all-depth quotas for the Central and South Oregon Coast subareas. The fishery will be structured for 2 days per week (Friday and Saturday). No inseason adjustments will be made (unless the combined Oregon all-depth quotas are estimated to be achieved), except that additional opening days may be allowed if quota remains unharvested. If quota remains unharvested, but is insufficient for one day of an all-depth fishery, that additional quota will be transferred to the fisheries inside the 30-fathom (55 m) curve.

(vi) Oregon south central coast subarea.

If the Area 2A TAC is 388,350 lb (176.2 mt) and greater, this subarea extends from the Siuslaw River at the Florence north jetty (44°01'08" N. lat.) to Humbug Mountain, Oregon (42°40'30" N. lat.) and is allocated 6.97 percent of the Oregon/California sport allocation, which is approximately 1.43 percent of the Area 2A TAC. If the Area 2A TAC is less than 388,350 lb (176.2 mt), this subarea will be included in the Oregon Central Coast subarea. The structuring objective for this subarea is to create a south coast management zone that has the same objectives as the Oregon central coast subarea and is designed to accommodate the needs of both charterboat and private boat anglers in the south coast subarea where weather and bar crossing conditions very often do not allow scheduled fishing trips. Fixed season dates will be established preseason for the Spring and Summer openings and will not be modified inseason except that the Summer openings may be modified inseason if the combined Oregon all-depth quotas are estimated to be achieved. Recent year catch rates will be used as a guideline for estimating the catch rate for the Spring and Summer fishery each year. The number of fixed season days established will be based on the projected catch per day with the intent of not exceeding the subarea season subquotas. ODFW will monitor landings and provide a post-season estimate of catch within 2 weeks of the end of the fixed season. If sufficient quota remains for an additional day of fishing after the Spring season or the Summer season, openings will be provided if possible in May - July and August -October respectively. Potential

additional open dates for both the Spring and Summer seasons will be announced preseason. If a decision is made inseason to allow fishing on one or more additional days, notice of the opening will be announced on the NMFS hotline (206) 526-6667 or (800) 662-9825. No all-depth halibut fishing will be allowed on the additional dates unless the opening date has been announced on the NMFS hotline. If pre-season catch and effort estimates determine catch rates and quotas allocated to the Oregon North Coast and South Coast subareas will result in Spring seasons of differing durations, quota may be shifted pre- season to ensure that the two subareas have the same number of fixed season days. Any poundage remaining unharvested in the Spring all-depth subquota will be added to the Summer all-depth sub-quota. Any poundage that is not needed to extend the inside 30-fathom fishery through to October 31 will be added to the Summer all-depth season if it can be used, and any poundage remaining unharvested from the August all-depth fishery will be added to the inside 30-fathom fishery subquotas. The daily bag limit for all seasons is the first halibut taken, per person, of 32 inches (81.3 cm) or greater in length. ODFW will sponsor a public workshop shortly after the IPHC annual meeting to develop recommendations to NMFS on the open dates for each season each year. The three seasons for this subarea are as follows.

A. The first season opens on May 1, only in waters inside the 30-fathom (55 m) curve, and continues daily until the combined subquotas for the north central and south central inside 30-fathom fisheries (7 percent of the north central subarea quota plus 20 percent of the south central subarea quota) are taken, or until October 31, whichever is earlier. Poundage that is estimated to be above the amount needed to keep this season open through October 31 will be transferred to the Summer all-depth fishery if it can be utilized. Any overage in the all-depth fisheries would not affect achievement of allocation set aside for the inside 30-fathom curve fishery.

B. The second season is an all-depth fishery that begins on the second Thursday in May and is allocated 80 percent of the subarea quota. Fixed season dates will be established preseason based on projected catch per day and number of days to achievement of the subquota for this season. No inseason adjustments will be made, except that additional opening days (established preseason) may be allowed if any quota for this season remains unharvested. The fishery will be structured for 2 days per week (Friday and Saturday) if the season is for 4 or fewer fishing days. The fishery will be structured for 3 days per week (Thursday through Saturday) if the season is for 5 or more fishing days.

C. The last season is a coastwide (Cape Falcon, OR to Humbug Mountain, OR) all-depth fishery that begins on the first Friday in August. Fixed season dates will be established preseason based on projected catch per day and number of days to achievement of the combined Oregon all-depth quotas for the Central and South Oregon Coast subareas. The fishery will be structured for 2 days per week (Friday

and Saturday). No inseason adjustments will be made (unless the combined Oregon all-depth quotas are estimated to be achieved), except that additional opening days may be allowed if quota remains unharvested. If quota remains unharvested, but is insufficient for one day of an all-depth fishery, that additional quota will be transferred to the fisheries inside the 30 fathom (55 m) curve.

(vii) South of Humbug Mountain subarea.

This sport fishery subarea is allocated 3.0 percent of the Oregon/California subquota, which is approximately 0.62 percent of the Area 2A TAC. This area is defined as the area south of Humbug Mountain, OR (42°40'30" N. lat.), including California waters. The structuring objective for this subarea is to provide anglers the opportunity to fish in a continuous, fixed season that is open from May 1 through September 30. The daily bag limit is the first halibut taken, per person, of 32 inches (81.3 cm) or greater in length. Due to inability to monitor the catch in this area inseason, a fixed season will be established preseason by NMFS based on projected catch per day and number of days to achievement of the subquota; no inseason adjustments will be made, and estimates of actual catch will be made post season.

(2) Port of landing management. All sport fishing in Area 2A will be managed on a "port of landing" basis, whereby any halibut landed into a port will count toward the quota for the subarea in which that port is located, and the regulations governing the subarea of landing apply, regardless of the specific area of catch.

(3) Possession limits. The sport possession limit on land is two daily bag limits, regardless of condition, but only one daily bag limit may be possessed on the vessel.

(4) Ban on sport vessels in the commercial fishery. Vessels operating in the sport fishery for halibut in Area 2A are prohibited from operating in the commercial halibut fishery in Area 2A. Sport fishers and charterboat operators must determine, prior to May 1 of each year, whether they will operate in the commercial halibut fisheries in Area 2A which requires a commercial fishing license from the IPHC. Sport fishing for halibut in Area 2A is prohibited from a vessel licensed to fish commercially for halibut in Area 2A.

(5) Flexible inseason management provisions.

(i) The Regional Administrator, NMFS Northwest Region, after consultation with the Chairman of the Pacific Fishery Management Council, the IPHC Executive Director, and the Fisheries Director(s) of the affected state(s), or their designees, is authorized to modify regulations during the season after making the following determinations.

(A) The action is necessary to allow allocation objectives to be met.

(B) The action will not result in exceeding the catch limit for the area.

additional open dates for both the Spring and Summer seasons will be announced preseason. If a decision is made inseason to allow fishing on one or more additional days, notice of the opening will be announced on the NMFS hotline (206) 526-6667 or (800) 662-9825. No all-depth halibut fishing will be allowed on the additional dates unless the opening date has been announced on the NMFS hotline. If pre-season catch and effort estimates determine catch rates and quotas allocated to the Oregon North Coast and South Coast subareas will result in Spring seasons of differing durations, quota may be shifted pre- season to ensure that the two subareas have the same number of fixed season days. Any poundage remaining unharvested in the Spring all-depth subquota will be added to the Summer all-depth sub-quota. Any poundage that is not needed to extend the inside 30-fathom fishery through to October 31 will be added to the Summer all-depth season if it can be used, and any poundage remaining unharvested from the August all-depth fishery will be added to the inside 30-fathom fishery subquotas. The daily bag limit for all seasons is the first halibut taken, per person, of 32 inches (81.3 cm) or greater in length. ODFW will sponsor a public workshop shortly after the IPHC annual meeting to develop recommendations to NMFS on the open dates for each season each year. The three seasons for this subarea are as follows.

A. The first season opens on May 1, only in waters inside the 30-fathom (55 m) curve, and continues daily until the combined subquotas for the north central and south central inside 30-fathom fisheries (7 percent of the north central subarea quota plus 20 percent of the south central subarea quota) are taken, or until October 31, whichever is earlier. Poundage that is estimated to be above the amount needed to keep this season open through October 31 will be transferred to the Summer all-depth fishery if it can be utilized. Any overage in the all-depth fisheries would not affect achievement of allocation set aside for the inside 30-fathom curve fishery.

B. The second season is an all-depth fishery that begins on the second Thursday in May and is allocated 80 percent of the subarea quota. Fixed season dates will be established preseason based on projected catch per day and number of days to achievement of the subquota for this season. No inseason adjustments will be made, except that additional opening days (established preseason) may be allowed if any quota for this season remains unharvested. The fishery will be structured for 2 days per week (Friday and Saturday) if the season is for 4 or fewer fishing days. The fishery will be structured for 3 days per week (Thursday through Saturday) if the season is for 5 or more fishing days.

C. The last season is a coastwide (Cape Falcon, OR to Humbug Mountain, OR) all-depth fishery that begins on the first Friday in August. Fixed season dates will be established preseason based on projected catch per day and number of days to achievement of the combined Oregon all-depth quotas for the Central and South Oregon Coast subareas. The fishery will be structured for 2 days per week (Friday

and Saturday). No inseason adjustments will be made (unless the combined Oregon all-depth quotas are estimated to be achieved), except that additional opening days may be allowed if quota remains unharvested. If quota remains unharvested, but is insufficient for one day of an all-depth fishery, that additional quota will be transferred to the fisheries inside the 30 fathom (55 m) curve.

(vii) South of Humbug Mountain subarea.

This sport fishery subarea is allocated 3.0 percent of the Oregon/California subquota, which is approximately 0.62 percent of the Area 2A TAC. This area is defined as the area south of Humbug Mountain, OR (42°40'30" N. lat.), including California waters. The structuring objective for this subarea is to provide anglers the opportunity to fish in a continuous, fixed season that is open from May 1 through September 30. The daily bag limit is the first halibut taken, per person, of 32 inches (81.3 cm) or greater in length. Due to inability to monitor the catch in this area inseason, a fixed season will be established preseason by NMFS based on projected catch per day and number of days to achievement of the subquota; no inseason adjustments will be made, and estimates of actual catch will be made post season.

(2) Port of landing management. All sport fishing in Area 2A will be managed on a "port of landing" basis, whereby any halibut landed into a port will count toward the quota for the subarea in which that port is located, and the regulations governing the subarea of landing apply, regardless of the specific area of catch.

(3) Possession limits. The sport possession limit on land is two daily bag limits, regardless of condition, but only one daily bag limit may be possessed on the vessel.

(4) Ban on sport vessels in the commercial fishery. Vessels operating in the sport fishery for halibut in Area 2A are prohibited from operating in the commercial halibut fishery in Area 2A. Sport fishers and charterboat operators must determine, prior to May 1 of each year, whether they will operate in the commercial halibut fisheries in Area 2A which requires a commercial fishing license from the IPHC. Sport fishing for halibut in Area 2A is prohibited from a vessel licensed to fish commercially for halibut in Area 2A.

(5) Flexible inseason management provisions.

(i) The Regional Administrator, NMFS Northwest Region, after consultation with the Chairman of the Pacific Fishery Management Council, the IPHC Executive Director, and the Fisheries Director(s) of the affected state(s), or their designees, is authorized to modify regulations during the season after making the following determinations.

(A) The action is necessary to allow allocation objectives to be met.

(B) The action will not result in exceeding the catch limit for the area.

(C) If any of the sport fishery subareas north of Cape Falcon, OR are not projected to utilize their respective quotas by September 30, NMFS may take inseason action to transfer any projected unused quota to another Washington sport subarea.

(D) If any of the sport fishery subareas south of Leadbetter Point, WA are not projected to utilize their respective quotas by their season ending dates, NMFS may take inseason action to transfer any projected unused quota to another Oregon sport subarea.

(ii) Flexible inseason management provisions include, but are not limited to, the following:

(A) Modification of sport fishing periods;

(B) Modification of sport fishing bag limits;

(C) Modification of sport fishing size limits;

(D) Modification of sport fishing days per calendar week; and

(E) Modification of subarea quotas north of Cape Falcon, OR.

(iii) Notice procedures.

(A) Inseason actions taken by NMFS will be published in the *Federal Register.*

(B) Actual notice of inseason management actions will be provided by a telephone hotline administered by the Northwest Region, NMFS, at 800-662-9825 (May through September) and by U.S. Coast Guard broadcasts. These broadcasts are announced on Channel 16 VHF-FM and 2182 kHz at frequent intervals. The announcements designate the channel or frequency over which the notice to mariners will be immediately broadcast. Since provisions of these regulations may be altered by inseason actions, sport fishermen should monitor either the telephone hotline or U.S. Coast Guard broadcasts for current information for the area in which they are fishing.

(iv) Effective dates.

(A) Inseason actions will be effective on the date specified in the Federal Register notice or at the time that the action is filed for public inspection with the Office of the Federal Register, whichever is later.

(B) If time allows, NMFS will invite public comment prior to the effective

date of any inseason action filed with the *Federal Register*. If the Regional Administrator determines, for good cause, that an inseason action must be filed without affording a prior opportunity for public comment, public comments will be received for a period of 15 days after of the action in the *Federal Register*.

(C) Inseason actions will remain in effect until the stated expiration date or until rescinded, modified, or superseded. However, no inseason action has any effect beyond the end of the calendar year in which it is issued.

(v) Availability of data. The Regional Administrator will compile, in aggregate form, all data and other information relevant to the action being taken and will make them available for public review during normal office hours at the Northwest Regional Office, NMFS, Sustainable Fisheries Division, 7600 Sand Point Way NE, Seattle, WA.

(6) Sport fishery closure provisions.

The IPHC shall determine and announce closing dates to the public for any subarea in which a subquota is estimated to have been taken. When the IPHC has determined that a subquota has been taken, and has announced a date on which the season will close, no person shall sport fish for halibut in that area after that date for the rest of the year, unless a reopening of that area for sport halibut fishing is scheduled by NMFS as an inseason action, or announced by the IPHC.

(g) PROCEDURES FOR IMPLEMENTATION

Each year, NMFS will publish a proposed rule with any regulatory modifications necessary to implement the Plan for the following year, with a request for public comments. The comment period will extend until after the IPHC annual meeting, so that the public will have the opportunity to consider the final Area 2A TAC before submitting comments. After the Area 2A TAC is known, and after NMFS reviews public comments, NMFS will implement final rules governing the sport fisheries. The final ratio of halibut to chinook to be allowed as incidental catch in the salmon troll fishery will be published with the annual salmon management measures.

Sources:

68 FR ##### (March ##, 2003)
67 FR 12885 (March 20, 2002)
66 FR 15801 (March 21, 2001)
65 FR 14909 (March 20, 2000)
64 FR 13519 (March 19, 1999)
63 FR 13000 (March 17, 1998)
62 FR 12759 (March 18 , 1997)
61 FR 11337 (March 20, 1996)
60 FR 14651 (March 20, 1995)
59 FR 22522 (May 2, 1994)
58 FR 17791 (April 6, 1993)

NMFS UPDATE ON 2003 PACIFIC HALIBUT MANAGEMENT

The International Pacific Halibut Commission (IPHC) held its annual meeting January 21-24, 2003, in Victoria, British Columbia. At that meeting, the IPHC set an Area 2A (waters off Washington, Oregon, and California) total allowable catch (TAC) of 1,310,000 lb, which is the same as the 2002 TAC for Area 2A. On February 6, 2003 (68 FR 6103), NMFS published a proposed rule to implement the 2003 TAC and the Council's recommended changes to the Catch Sharing Plan (Exhibit F.1, Attachment 2). In November 2002, the Council recommended: allocating catch in the North Washington Coast subarea such that 72% of the allocation for that sub-area is available to a May fishery and 28% to a late June fishery; allowing more flexible inseason management for both Oregon and Washington sport halibut fisheries; prohibiting recreational fishing within the Yelloweye Rockfish Conservation area; and prohibiting directed non-treaty halibut fishing within the non-trawl Rockfish Conservation Area. NMFS expects that rule to be finalized by March 1, 2003, the start of the Area 2A treaty tribes commercial fisheries and the commercial fisheries off Canada and Alaska.

Area 2A TAC Comparison, 2002 & 2003 (in pounds)		
	2002	**2003**
Treaty Tribes	483,500	483,500
Commercial	467,500	456,500
Ceremonial & Subsistence	16,000	27,000
Non-Treaty	826,500	826,500
Commercial	350,389	332,000
Salmon Troll Incidental	39,300	39,300
Directed	222,700	222,700
Sablefish Incidental	88,389	70,000
Recreational	476,110	494,500
WA Sport	214,110	232,499
OR/CA Sport	262,000	262,000
WA Inside Waters	57,393	63,278
WA North Coast	108,030	113,915
WA South Coast	42,739	48,623
Columbia River	11,188	11,923
OR Central, Inside 30 ftm	19,797	19,797
OR North Central (May)	156,835	156,835
OR South Central (May)	14,609	14,609
OR Central, August	57,660	57,660
South of Humbug Mt.	7,860	7,860
TOTAL	1,310,000	1,310,000

NATIONAL MARINE FISHERIES SERVICE REPORT

Situation: The National Marine Fisheries Service (NMFS) will report on the proposed rule implementing the Council's changes to the 2003 Area 2A halibut catch sharing plan (CSP) and recreational fishery regulations. There were three primary issues addressed: 1) catch division and season dates for the Washington North Coast sport fishery; 2) reconfiguration of the halibut hotspot/yelloweye rockfish conservation area in the Washington North Coast sport fishery; and 3) depth based management for the directed nontribal commercial halibut fishery. In addition, three minor revisions were made to the CSP involving: 1) incidental halibut retention in the primary sablefish fishery; 2) extension of the North Central and South Central Oregon inside-30-fathom season end date; and 3) editorial review of terminology in the Oregon All-Depth fisheries.

Council Task:

1. Receive information for discussion.

Reference Materials:

1. NMFS Update on 2003 Pacific Halibut Management (Exhibit F.1, Attachment 1).
2. Proposed 2003 Pacific Halibut Catch Sharing Plan for Area 2a (Exhibit F.1, Attachment 2).

Agenda Order:

a. Status of Council Management Measure Recommendations for 2003 — Bill Robinson
b. Reports and Comments of Advisory Bodies
c. Public Comment
d. Council Discussion

PFMC
02/20/03

REPORT ON
INTERNATIONAL PACIFIC HALIBUT COMMISSION ANNUAL MEETING
VICTORIA, BRITISH COLUMBIA
JANUARY 21 - 24, 2003

January 21nd was primarily devoted to International Pacific Halibut Commission (IPHC) staff presentations to the Commissioners and the public on the following items:

- The Pacific halibut fishery in 2002
- Review of 2002 research projects and proposals for 2003 research
- Summary of the 2002 stock assessment
- Staff regulatory proposals for 2003

The afternoon of January 21nd and the day of January 22rd included meetings of the Conference Board (Exhibit F.2, Attachment 2) and Processor Advisory Group (Exhibit F.2, Attachment 3). Additionally, Area 2A participants had an opportunity to provide information to the Commissioners in the administrative sessions.

The 2003 catch limits were set at the same levels as 2002 catch limits, and several new regulatory measures were adopted (Exhibit F.2, Attachment 4). Among the new regulations is one that will move the opening date for commercial fisheries up two weeks, from March 15 to March 1. The only Area 2A fishery affected by this regulation will be the tribal commercial fishery. There is an interest in establishing a year round commercial halibut fishery to compete with farmed halibut and to provide flexibility for fishers pursuing other species (especially Pacific cod) during times currently closed to halibut retention.

An additional important element of the annual meeting was the IPHC staff recommendation to investigate of a change in harvest policy from a constant harvest rate policy to a conditional constant catch policy at some point in the future (Exhibit F.2, Attachment 5). Although the constant harvest rate policy has been successful, it is thought that a constant harvest policy would help stabilize yields, and dampen changes in catch limits associated with changes in stock assessment methodology. Because the stock assessment model and input parameters change from year to year, the estimated population abundance changes, sometimes dramatically. With a constant harvest rate policy, the annual catch limits should also change to reflect the abundance estimate. In reality, when dramatic changes in abundance estimates occur that are likely due to methodology changes and not actual stock size, the IPHC has adopted catch limits intermediate between the old and new abundance estimates. A constant catch policy would also provide better planning for IFQ fisheries.

PFMC
02/21/03

DRAFT

Exhibit F.2
Attachment 2
March 2003

Conference Board Report
80th IPHC Annual Meeting
January 21 – 24, 2003
Victoria, B.C.

United States	Canada
Area 3B/4A False Pass	Annieville Halibut Association
Atka Fishermen's Association	Canadian Sablefish Association
Bristol Bay Drift Net Association	Diddaht First Nations
Bristol Bay Economic Development Corp	Halibut Advisory Board
Central Bering Sea Fishermen's Association	Hesquiat First Nation
Deep Sea Fishermen's Union of the Pacific	Northern Halibut Producers Association
Fishing Vessel Owners Association	North Pacific Halibut Fisherman's Association
Kodiak Vessel Owners Association	Nuu-Chah-Nulth Tribal Council
North Pacific Fisheries Association	Pacific Coast Fishing Vessel Owners Guild
Petersburg Vessel Owners Association	Stevenston Halibut Association
St George Fishermen's Association	Ucluelet First Nation
St Paul Fishermen's Association	Northern Trollers Association
Seafood Producers Coop	Pacific Trollers Association
United Fishermen's Marketing Association	Gulf Trollers Association
Washington Recreational Fishing Industry Association	Tla-o-qui-aht First Nations
Washington Treaty Tribes	Pacific Halibut Management Association
Westport Charter Boat Association	
Washington Trollers Association	
Yukon Delta Fisheries Development Association	
Alaska Longline Fishermen's Association	
Quinault Indian Nation	
Makah Fisheries Management	
Tribal Government of St Paul	
Seikiu Sportsmen's Association	

REVIEW CONFERENCE BOARD VOTING ROSTER

Three new organizations were accredited. The Pacific Management Association was accredited for Canada. The Quinault Indian Nation and Seikiu Sportsman's Association were accredited for the United States.

SELECT CHAIRPERSONS FROM CANADA AND THE UNITED STATES

On the Canadian side, Chris Sporer was selected as chairman
On the United States side, Robert Alverson was selected as co-chair

CONFERENCE BOARD RECOMMENDATIONS TO IPHC

A. REVIEW AREAS

The Conference Board has no recommendations for new or altered IPHC areas.

B. SEASON DATE RECOMMENDATIONS FOR ALL AREAS

A March 1st opening for the 2003 season was unanimously supported by the Conference Board.

In order to address a year round fishery the following action was proposed:

- The Conference Board recommends the IPHC Commissioners request the NPFMC and DFO initiate an analysis of alternatives to allow for annual IFQ permitting and Canadian IVQ and halibut license issuance;
- The Conference Board further requests the Commissioners form a multi-agency and industry task force to address extended season issues and make recommendations on implementation; and,
- The Conference Board submits the following names for consideration to this task force:

  Western Alaska – Greg Elwood and Eric Olson
  Kodiak/Homer – Drew Scalzi and Walter Sargent
  Southeast Alaska – Arnie Fuglvog and Dan Falvey
  Seattle – Tim Hinkle and Bob Alverson
  Canada – Gary Williamson and Herb van Grootel

The above considerations were made after significant deliberations of the Conference Board and input from NMFS, DFO and IPHC.

The Conference Board urges the IPHC staff to continue looking at the issue of trans-boundary halibut migrations in and out of all regulatory areas.

No change was recommended for the sports fishing seasons.

A. CATCH LIMIT RECOMMENDATIONS - ALL AREAS

The Conference Board supported the IPHC staff recommendations for 2003.

2A	1.31 million pounds
2B	11.75 million pounds
2C	8.50 million pounds
3A	22.63 million pounds
3B	17.13 million pounds
4A	4.97 million pounds
4B	4.18 million pounds
4CDE	4.45 million pounds
Total	**74.92 million pounds**

Conference Board comments:

The Conference Board entertained motions to reduce the proposed harvest limits in Area 3B and 4A of up to 10% below IPHC staff recommendations. The Conference Board also entertained a motion to reduce Area 4B by 15% below staff recommended levels. This was based on the IPHC action of 2002 where there was a decision to reduce the catch limit by 30% in 4B over a 2 year period, with a fifteen percent reduction taken in 2002. However, all these proposals, when put to a vote, failed to pass.

The support for these reductions ranged from 3 to 11 Conference Board members and the opposition ranged from 14 to 23. The request for lower quotas in these areas were made by fishermen who principally fished in western Alaska. They cited declining survey and commercial CPUE indexes as well as their own fishing experience.

Those who spoke in favor of the IPHC staff recommendations pointed out that the staff recommendations were based on conservative assumptions and therefore did not feel a reduction for these areas was warranted. They also expressed that the commercial CPUE rates better reflected the resource abundance in those areas.

The Conference Board debated a proposal to increase Area 3A by 10% due to a CEY listed at 34.22 million pounds and rising CPUE numbers. This action failed by 11 in favor and 19 against with 3 abstentions.

B. STAFF AND INDUSTRY PROPOSALS FOR CHANGES TO IPHC REGULATIONS

Catch sharing plans: Areas 2A and 4CDE

The Conference Board on separate motions moved unanimously to endorse the Pacific and North Pacific Fishery Management Council's respective catch sharing plans.

Possession of fillets aboard vessels

The Conference Board unanimously supported the staff recommendation.

Vessel monitoring system for Area 4

The Conference Board unanimously supported the staff recommendation on the understanding that this regulation is on a trip by trip basis.

Definition of landing

The Conference Board unanimously supported the staff recommendation.

Access to fish for sampling

The Conference Board unanimously supported the staff recommendation.

Permit required to tag fish or retain halibut for research purposes

The Conference Board unanimously supported the staff recommendation but included the wording "possess, transport, and release live fish and/or eggs or in any way mark live fish"

Cape Spencer Light

The Conference Board unanimously supported the staff recommendation.

C. INDUSTRY PROPOSALS FOR CHANGES TO IPHC REGULATIONS

RSW fish delivery

It was the Conference Board understanding that this was not an IPHC regulation and therefore should be taken up with the NPFMC.

Extension of halibut season and winter halibut fisheries

The Conference Board felt these two proposals had been adequately addressed under the season date recommendations.

Buoy markings (Jeff Hochstein)

Conference Board recommended that Paragraph 4 of the IPHC regulations be amended to reflect that only those buoys used in fishing and deployment of gear be required to be marked (e.g., strike "carried on board" from the regulations).

This change is requested as Enforcement is citing commercial vessels that have buoys that are not used with the gear that is set. Buoys are often used as guards to the boat when docking and these buoys are not usually marked. Additionally, buoys that are picked up on the beach that are not marked are often carried on a transiting vessel. It is the fleet's opinion that only the gear that is set

needs to have the proper markings. This resolution was originally put into place during the derby fisheries and is currently obsolete.

D. BY-CATCH

The by-catch of halibut continues to be an issue of serious concern to the Conference Board. Delegates are particularly concerned about by-catch levels and the loss of habitat from bottom trawling. By unanimous consent the Conference Board recommends that a strongly worded letter be sent from IPHC to the US agencies requesting that there be a 50% reduction in halibut mortality with a 10% reduction per year over a five year period.

It is the understanding of the Conference Board that the United States government is considering rationalizing the groundfish fisheries in the Gulf of Alaska and the Bering Sea with IFQ formats. Under such programs the by-catch of halibut should be easier to manage and control, and a 50% reduction coupled with IFQ rationalization should be achievable. Based on the success of the Canadian model to address by-catch mortality by the trawl fleet, the Conference Board supports a similar initiative for Alaska.

Specific concerns were expressed by the participants from 4C that an increasing amount of the allotted halibut by-catch caps are occurring near that area.

The Conference Board also recommends the IPHC request DFO permanently cap trawl by-catch in Area 2B at a limit that reflects the recent trawl by-catch moralities (legal and sub-legal).

G. LOCAL DEPLETION

The Nuu-chah-nulth Tribal Council expressed concern about near shore halibut stocks that appear to have been hit hard and never recovered, even when the overall halibut stock became healthy. The Conference Board felt this was an issue that may best be addressed by Canada. For example, a similar situation occurred in areas around Sitka and was dealt with by local management. There was some question of how IPHC staff could deal with such a matter. However, the Conference Board requests IPHC staff work with Nuu-chah-nulth Tribal Council and First Nations to investigate local depletions along the west coast of Vancouver Island.

In a similar matter the Conference Board also requests the IPHC investigate recent sharp declines in the 4C halibut fishery.

OTHER BUSINESS

Area 2B recreational fishery average weights

There appears to be a discrepancy with the average weights used to calculate Area 2B recreational halibut catches. The Conference Board requests the IPHC use the average weights for sports caught halibut from 2002 (the previous year) until the apparent discrepancy over actual average weights can be resolved.

PROCESSOR ADVISORY GROUP

January 22, 2003

EIGHTH ANNUAL MEETING REPORT

CHAIR: Blake Tipton, S.M. Products, Canada
VICE CHAIR: John Woodruff, Icicle Seafoods, Inc., U.S.

The Processors Advisory Group meeting was called to order at 2:30 p.m. by John Woodruff, who temporarily chaired the meeting in Blake Tipton's absence on Monday. Blake Tipton, the official chair, led the proceedings through the remainder of the agenda.

CATCH LIMITS

Area 2A	1.31
Area 2B	11.75
Area 2C	8.50
Area 3A	24.89
Area 3B	17.13
Area 4A	4.97
Area 4B	4.18
Area 4CDE	4.65
TOTAL	**77.38**

The PAG voted to support the staff's recommendations for the 2003 catch limits with the exception of their recommendations for increases in Area 3A and 4CDE. Given the IPHC staff's expectation that the models will be up and running next year for Areas 3B and 4A and 4B, the PAG voted to accept the catch limit proposals for 2003.

For Area 3A, however, we believe the IPHC has developed a good data set for producing model estimates. The commercial and set- line CPUEs in their surveys indicate increases of between ten and twenty percent. Given the staff's uncertainty in that area about maintaining the status quo, and without interfering with the conservative estimates, the PAG agreed that the increase is unlikely to adversely affect the biomass. Finally, an additional 2 million pounds is not likely to generate a market issue.

For Area 4 CDE, the PAG voted to increase the catch limit by 200,000 pounds with the understanding that the increase would be allocated to Area 4E for a total of 590,000 pounds and that Areas 4 CD remain the same as in 2002. The increase is a conservative number and past catch histories indicate the fishermen there have the capacity to land the increased quota. Therefore, since the data shows the biomass can handle the conservative increase, and the harvest largely came from Area 4E anyway, and because the halibut fishery has a huge impact on the economy there, the PAG believes the increase is justified, providing there is no detrimental impact on Areas 4C and 4D..

The PAG heard a report from representatives of St. Paul Island about the concerns they have with Area 4C halibut and some of the possible causes for the low catch. PAG recommends that the IPHC staff work with St. Paul to help them investigate the causes and determine if the problems are short or long term, and the steps that can be taken to mitigate the situation.

REGULATORY PROPOSALS

IPHC

A. CATCH SHARING PLAN

The PAG understands the Catch Sharing Plan is set by the NPFMC, but wants to see Area 4E increased by 200,000 pounds for the benefit of the coastal communities there without detrimentally impacting Areas 4C and 4D.

B. POSSESSION OF FILLETS ABOARD VESSELS

PAG has no comment and prefers to leave it as a staff matter.

C. VESSEL MONITORING SYSTEM FOR AREA 4

PAG has no comment and prefers to leave the matter to the Enforcement staff.

D. DEFINITION OF LANDING

The PAG has no comment.

E. ACCESS TO FISH FOR SAMPLING

The PAG supports the staff's recommendations for access to halibut for tagging purposes.

F. PERMITS REQUIRED TO TAG FISH OR RETAIN HALIBUT FOR RESEARCH PURPOSES.

The PAG concurs with the staff recommendation to impose some controls over tagging halibut.

G. CAPE SPENCER LIGHT

The PAG concurs with the staff recommendation to update the coordinates consistent with the U.S. Coast Guard Light List.

INDUSTRY PROPOSALS

A. RSW FISH DELIVERY

PAG supports the current system of deducting ten percent for heads on and zero percent for RSW fish and does not support the proposal that was submitted.

B. SEASON DATES

By a vote of eight to six, the PAG agreed to support opening the halibut fishery March 1 and closing it November 15. The majority of PAG's members agreed that plants are already operating by then and an early opening will not present problems for most of them. An earlier opening helps the p-cod fishermen who are largely fishing small boats in early January. The larger boat Seattle schooner fleet will mostly not be fishing in the Central Gulf until later in the season, so the local small boat fleet are the ones most likely to fish early and they will have to consider for themselves unfavorable weather conditions and then make their own decisions about whether or not to go out and fish.

The PAG agrees with harvesters that a longer season will act as a hedge against the farmed product. However PAG members differ from the predominant view of harvesters that farmed halibut will enter the marketplace soon in large volumes.

If the IPHC votes for opening the season on March 1, the PAG request the staff to analyze the first two-week harvest totals for removals for weights per fish by area to determine if there was a shift in the size of halibut harvested two weeks earlier than usual.

PAG considers it important for extensions of the season to occur at the front end of the season only and closures should continue to occur on November 15. In all cases, season openings and closures should occur in Canada and the U.S. simultaneously.

Another important comment from processors is their preference for openings to take place on Sundays unless, for religious reasons an alternative day must be chosen, in which case PAG's second choice is Saturday openings, and Monday openings would be their third choice.

C. WINTER HALIBUT FISHERY

The PAG does not support this proposal for conservation reasons and the regulatory structure is currently not in place to support it.

ADDITIONAL COMMENTS

IFQ ENFORCEMENT LEVELS

The PAG notes that the level of landings that are fully observed by the NMFS enforcement division was 1.4%. We are given to understand that the NMFS committed to fully observing a minimum of 20% of all halibut landings. As a point of interest, is the IPHC staff satisfied that the shortfall is not threatening the integrity of the resource?

ATTENDANCE

Aero Trading Company Ltd.
Coastal Villages Seafood, LLC
Dana Besecker Company
Empress International
Halibut Association of North America
Icicle Seafoods, Inc.
North Pacific Processors, Inc./Sitka Sound Seafoods
Pribilof Alaska Seafood Company
Pure Pacific Seafoods
Peter Pan Seafoods, Inc.
S.M. Products (B.C.) Ltd.

MINORITY REPORT

The minority that voted against the motion to open the fishery March 1, 2003 did so for several reasons. Foremost, we are concerned about conservation and healthy sustainable stocks for the future. There is a feeling amongst the delegates that the actual size of fish harvested would be much smaller than normal as the bigger fish will not have moved onto the continental shelf and therefore the fishermen would be handling more pieces in order to achieve the same overall poundage.

Weather and the safety issues it brings are another important consideration. Another issue is that the frozen product landed in 2002 may not have fully moved in the marketplace by March 1; thus, the opportunity is taken away from those companies who only handle frozen product and, in effect, would have a shortened marketing period. Some companies also noted that they have conflicting seasons with other fisheries. Furthermore, the questions of migration between different areas, i.e. 2A, 2B, 2C, could become an issue as the patterns are not yet fully understood at this point in time.

The minority cautions the commissioners that should they decide to open the season earlier as voted by the Conference Board and PAG, and if there is doubt as to the safety and viability of this extension, perhaps a compromise to Saturday March 8 would be in order. This would also be a good test to see if the marketplace can accept fresh halibut in volume prior to the traditional March 15 opening.

INTERNATIONAL PACIFIC HALIBUT COMMISSION

News Release

January 27, 2003

HALIBUT COMMISSION COMPLETES 2003 ANNUAL MEETING

The International Pacific Halibut Commission completed its 79th Annual Meeting in Victoria, British Columbia, with Dr. Richard Beamish of Nanaimo, British Columbia presiding as Chairman. The Commission is recommending to the governments of Canada and the United States catch limits for 2003 totaling 74,920,000 pounds, identical to the regulatory area catch limits in 2002.

The Commission staff reported on the assessment of the Pacific halibut stock in 2002. There were some significant changes in the assessment as a result of changes in the underlying data being analyzed and the persistence of smaller sizes at age in the central part of the halibut range. These changes created some uncertainty about differences in the biomass of the stock estimated from the current and the previous assessment. Analyses were conducted for the 2002 assessment to ensure that the stock is not in any danger of being overharvested. However, the staff needs to resolve these technical issues of the assessment over the next year. In addition, Commission staff is investigating a new harvest policy that may result in greater stability in the yield from the fishery and insulate the process of setting catch limits from technological changes in the assessment. This harvest policy will also need to be reviewed by the Commission. The resolution of the technical issues of the assessment may indicate a larger estimate of biomass in the central region of the stock distribution but application of the proposed harvest policy might dictate slightly lower yields. Since these two processes may be somewhat counterbalancing, the staff wishes to complete its investigations before recommending any changes to present catch limits or the harvest policy. While the trajectory of the halibut stock biomass is downward, the biomass is still above the long-term average level and is expected to remain above this level for the next several years.

Seasons and Catch Limits

The Commission received regulatory proposals for 2003 from the scientific staff, Canadian and United States harvesters and processors, and other fishery agencies. The Commission will recommend to the governments the following catch limits for 2003 in Area 2A (California, Oregon, and Washington), Area 2B (British Columbia), Area 2C (southeastern Alaska), Area 3A (central Gulf), Area 3B (western Gulf), Area 4A (eastern Aleutians), Area 4B (western Aleutians), Area 4C (Pribilof Islands), Area 4D (northwestern Bering Sea), and Area 4E (Bering Sea flats):

2003 Catch Limits

Area	Catch Limit (pounds)
2A Non-treaty directed commercial (south of Point Chehalis)	222,700
2A Non-treaty incidental catch in salmon troll	39,300
2A Non-treaty incidental catch in sablefish longline fishery (north of Point Chehalis)	70,000
2A Treaty Indian commercial	456,500
2A Treaty Indian ceremonial and subsistence (year-round)	27,000
2A Sport - North of Columbia River	232,499
2A Sport - South of Columbia River	262,001
Area 2A total	1,310,000
2B	11,750,000
2C	8,500,000
3A	22,630,000
3B	17,130,000
4A	4,970,000
4B	4,180,000
4C	2,030,000
4D	2,030,000
4E	390,000
Area 4 total	13,600,000
Total	**74,920,000**

The catch limits for Regulatory Areas 4C, 4D, and 4E reflect the catch-sharing plan implemented by the North Pacific Fishery Management Council (NPFMC). The NPFMC catch-sharing plan in Area 4 allows the Commission to set biologically-based catch limits for Areas 4A, 4B, and a combined Area 4C-D-E. The catch-sharing plan allows Area 4D Community Development Quota (CDQ) harvest to be taken in Area 4E. The requirements for fishing Area 4D CDQ in Area 4E will be part of regulations promulgated by the U.S. National Marine Fisheries Service (NMFS) and will be reflected in the IPHC regulations.

The catch-sharing plan implemented by the Pacific Fishery Management Council (PFMC) for Area 2A was adopted by the Commission and is reflected in the catch limits adopted for the Area 2A fisheries.

Fishing dates for an incidental commercial halibut fishery concurrent with salmon troll fishing seasons in Area 2A and the incidental commercial halibut fishery during the sablefish fishery north of Point Chehalis will be established under United States domestic regulations established by NMFS. The remainder of the Area 2A catch-sharing plan, including sport fishing seasons and depth restrictions, will be determined under regulations promulgated by NMFS. For further information of the depth restrictions in the commercial directed halibut fishery, incidental halibut during the sablefish fishery, and the sport fisheries, call the NMFS hotline (1-800-662-9825).

In Area 2A, seven 10-hour fishing periods for the non-treaty directed commercial fishery are recommended: June 25, July 9, July 23, August 6, August 20, September 3, and September 17. All fishing periods will begin at 8:00 a.m. and end at 6:00 p.m. local time, and will be further restricted by fishing period limits announced at a later date.

The staff reported to the Commission on its further investigation of the issues associated with an extended halibut fishing season. The Commission conducted extensive discussions on the season extension issue and received several industry proposals and public testimony. After reviewing staff information and proposals from the harvesting sector, the Commission voted to extend the season by two weeks at the beginning of the season. Therefore, the treaty Indian commercial fishery in Area 2A, the Canadian Individual Vessel Quota (IVQ) fishery in Area 2B, and the United States Individual Fishing Quota (IFQ) and CDQ fisheries in Areas 2C, 3A, 3B, 4A, 4B, 4C, 4D, and 4E will all commence at 12 noon local time on March 1 st and terminate at 12 noon local time on November 15 th , 2003.

In addition, the Commission directed the staff to form an industry-agency task force and provide a report and recommendations on how a season of up to 12 months could be accommodated. The task force report will be presented to the Commission at its 2003 Interim Meeting in November.

Regulatory Changes and Issues

The Commission approved several minor clarifications to the regulations. The regulation allowing fillets from legally landed and retained fish to be possessed only aboard a vessel, in port, up to 1800 hours local time on the calendar day following the offload was revised to state "harvesting" vessel. The requirement of vessel operators for retaining records was revised to reflect the defined term of landed rather than delivered halibut.

The Commission agreed to amend its regulations concerning clearances into and out of Area 4 to accommodate a NOAA Fisheries Office for Enforcement request that vessels equipped with Vessel Monitoring Systems (VMS) be exempted from clearance requirements. The exemption would only apply if VMS systems are installed and operated according to Enforcement's standards and conditions. Full details on the requirements will be published in IPHC regulations and will be available on the NOAA Enforcement website (http://www.nmfs.noaa.gov) or by phone at (907) 586-7200.

The coordinates for the Cape Spencer light used for the Area 2C-3A boundary were updated (58°11'54" N, 136°38'24" W) to agree with the U.S. Coast Guard light list.

Other Actions

The regulations were not changed to require IPHC permits for tagging halibut and retaining halibut for research, or defining access for IPHC sampling, as requested by staff. The Commission agreed with the intent of recommended changes but wished to consider the impacts of these regulations on other agency activities. The Commission asked staff to monitor issues of access to fish for sampling and advise of any difficulties, while the potential regulation was being evaluated.

The Commission reviewed the request for changing the regulation from having all buoys onboard the vessel marked with vessel identifiers, to having only the setline buoys or the buoys in the water marked. The regulation was not changed but different enforcement agencies will review various buoy marking requirements and report to the Commission on potential standardization of marking, at the next Annual Meeting.

The Commission noted the concerns of local depletion by several groups. The staff will cooperate through DFO with the West Coast Vancouver Island Aquatic Management Board to investigate whether depletion of halibut off Vancouver Island has occurred and, if so, what mitigative measures might be possible. IPHC research projects in Area 4C, in conjunction with Central Bering Sea Fishermen's Association, will be continued in 2003. This research is examining oceanographic influences on halibut distribution.

The Commission honoured Ms. Elise Pletnikoff of Kodiak, Alaska as the first recipient of the IPHC Merit Scholarship. Ms. Pletnikoff attended the meeting and was presented with a certificate and plaque, as well as the scholarship of $2,000 (U.S.). The Commissioners expressed their continued support for the scholarship program and commended the Scholarship Committee for their efforts in assessing the candidates.

The Commission notes that halibut bycatch mortality in non-target fisheries was reduced slightly in 2002, continuing the trend initiated by the 1991 Commission agreement to achieve lower bycatch mortality levels. However, the Commission believes that progress on further reductions on bycatch mortality is desirable and that current levels of mortality reduce yield to the directed halibut fisheries. The Commission will continue to work with agencies of the two governments to achieve reductions in halibut bycatch mortality.

The Commission received statements of concern from industry about the level of NOAA Enforcement oversight of IFQ deliveries in Alaska. Commissioners discussed this issue with Enforcement staff and expressed their concern that Enforcement positions be fully staffed and that IFQ oversight be adequate.

The Commission acknowledged comments concerning aquaculture received in its public sessions. Recognizing that aquaculture development occurs in both countries, the Commission is concerned that all such developments incorporate monitoring and evaluation programs, such that wild Pacific halibut stocks will not be harmed. Staff was instructed to obtain present guidelines and standards for aquaculture licensing and operation in each country, for presentation to the Commission.

The Commissioners and staff will conduct a strategic consultation in the summer of 2003. This meeting will concentrate on Commission approaches to bycatch mortality in non-target fisheries, risk assessment and the presentation of uncertainty, harvest policy, and a strategic plan for Commission activities over the next decade.

The recommended regulations for the 2003 halibut fishery will become official as soon as they are approved by the Canadian and United States Governments. The Commission will publish and distribute regulation pamphlets.

The next Annual Meeting of the Commission is planned for Juneau, Alaska from January 20 to 23, 2004. The United States Government commissioner, Dr. James Balsiger, was elected Chairman for the coming year. The Canadian Government commissioner, Dr. Richard Beamish, was elected as Vice Chairman. Other Canadian commissioners are Clifford Atleo and John Secord. The other United States commissioners are Ralph Hoard and Andrew Scalzi. Dr. Bruce Leaman is the Executive Director of the Commission.

- END -

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Issues and tradeoffs in the implementation of a conditional constant catch harvest policy

Steven R. Hare and William G. Clark

Abstract

A new harvest policy, termed a conditional constant catch (CCC) policy, has been proposed as a means of setting annual quotas. The policy has the attractive potential of allowing for relatively constant yields over multi-year periods. A CCC policy requires that a maximum catch limit and maximum harvest rate be established. There are a number of issues and considerations that need to be addressed to implement this policy on an area specific basis. Performance of the CCC policy is investigated via simulation. A range of maximum catch limits and harvest rates are explored for IPHC Areas 2B, 2C and 3A. Incorporating minimum biomass thresholds and limits in the CCC policy is explored and adoption of such measures recommended. Due to a general lack of information regarding Areas 3B and 4, we will be required to continue setting catch levels in these areas in an alternate manner.

Introduction

Since 1985, the IPHC has followed a constant harvest rate (CHR) policy to determine annual catch limits, termed the Constant Exploitation Yield (CEY). The harvest rate, which is the fraction of the exploitable biomass allowed to be harvested, has changed over time, from 0.35 in 1985 to 0.30 in 1993 to the present value of 0.20 set in 1996. A constant harvest rate policy has a number of attractive features. The CEY rises and falls smoothly with the biomass; catches are automatically scaled down at lower biomasses and increased during periods of high biomass levels. Yields near the theoretical maximum sustained yield can be taken across a broad range of harvest rates. In a number of simulation studies, a CHR policy has been shown to be quite robust to climate induced variability in productivity of the stock.

In practice, the quotas set each year by the Commission have differed – often substantially – from the CEY. This is primarily due to the nature of the stock assessment process. The halibut assessment model is continually under development, with changes to both the model and input parameters occurring almost annually. The impact of these changes is to sometimes abruptly shift upwards or downwards the estimate of the current exploitable biomass. The actual halibut biomass, composed of many year classes, does not vary in such a manner; it is simply our estimate of the biomass that changes. However, since a CHR policy stipulates setting yield at a predefined fraction of the current estimate of exploitable biomass, annual estimates of the CEY have also moved around abruptly. When the CEY has changed dramatically from one year to the next, the Commission has generally not adopted the CEY, usually selecting a yield somewhere intermediate between the previous year's yield and the new CEY.

Both the industry and the Commission have expressed interest in developing a more stable harvest policy, particularly one more robust to technological changes to the assessment. One example of a technological change occurred in this year's assessment as the model now assumes constant length-specific survey selectivity instead of constant age-specific survey selectivity (Clark and Hare 2003). For the fishers, comprised of Individual Transferable Quotas holders, more stable, reliable quotas are highly desirable from a planning perspective. From the Commission's perspective, insulating the harvest policy from the assessment process reduces the annual controversy over setting the CEY, and makes it more of a mechanical procedure.

A new harvest policy

A new harvest policy, termed a "conditional constant catch" (CCC) policy has been proposed as a means of stabilizing annual yields (Clark and Hare, in review). This policy is a hybrid of a constant catch policy and constant harvest rate policy. To implement the policy, two limits need to be established: a maximum constant harvest rate and a maximum constant catch limit. When exploitable biomass is high, the yield is equal to the catch limit. As the biomass drops, the policy reverts to a constant harvest rate much as in the past. The point at which the policy shifts from a constant catch to a constant harvest rate depends on the catch limit and the current size of the exploitable biomass.

In this paper, the CCC harvest policy was evaluated through simulation. The simulations were very similar to those conducted for last year's harvest policy analysis (Hare and Clark 2002). The same parameter values were used for this year's analysis. The harvest policy evaluations were based on the average of 100 Monte Carlo runs of 500 year-long simulations. A combined area stock, representing Areas 2B/2C/3A, was used for the simulations.

As summarized in Clark and Hare (in review), based on our current understanding of stock dynamics, the range of reasonable candidate harvest rates was 0.20 to 0.40 and the range of reasonable yield caps was 50-60 million pounds (M lbs.). Within these ranges there was essentially a zero probability of the spawning biomass dropping to the observed historical minimum of 80 M lbs., a reference point adopted by the Commission. As a basis for comparison with alternatives presented later in this analysis, summaries (from Clark and Hare, in review) are presented here for expected annual yield, standard deviation of yield, average spawning biomass, and percentage of years in which 90+% of the yield cap is taken for various combinations of maximum harvest rate and catch cap (Table 1).

As can be seen, the most stable option here is a "40-50" combination, i.e., a maximum harvest rate of 0.40 and a maximum constant catch cap of 50 M lbs. Under this scenario, variability in yield (reflected in its standard deviation) is the lowest of the investigated combinations of harvest rate and catch cap. Predicted average yield is 75% of the theoretical maximum (50/67 M lbs.) and average spawning biomass remains quite healthy, averaging 44% of the unfished biomass (232/532 M lbs.). The tradeoff for the 40-50 policy is that harvest is capped at a relatively low level during periods of high abundance and, as there is no biomass threshold, harvest rates remain high even at the lowest biomass levels. An extreme alternative to the 40-50 policy would be the 20-60 policy that sets a maximum harvest rate of 0.20 and a maximum yield cap of 60 million lbs. This policy sounds attractive in that it has a high cap for periods of high abundance and a low harvest rate for periods of low abundance. Predicted average spawning biomass and average yield are the same as

the 40-50 policy but variability of yield is much greater (catch standard deviation of 8 vs. 1 M lbs.). In effect, the 20-60 option would generally operate as a constant harvest rate policy.

There are a number of theoretical and practical issues to consider in implementing a new harvest policy. The CCC policy was developed based on a single set of productivity estimates for the halibut stock in Areas 2B/2C/3A. While these estimates represent our current understanding of how recruitment and growth currently operate, it is possible that future dynamics may differ. One goal is to find a policy, and policy parameters, that are robust to such uncertainties. The CCC policy as defined so far has no minimum biomass threshold triggering more conservative harvests and this may be something the Commission wishes to adopt. Yields are set on an individual area basis. During times when yields are limited by the global cap, some method of partitioning the cap by area must be established for the policy presented here. It is also possible to model each area separately and establish area-specific maximum harvest rates and maximum harvest caps. There is no provision in the proposed policy for setting annual yields in Areas 3B and 4 – those areas will continue to require some alternate method of yield determination. These issues are explored in detail in this report with the purpose of establishing the risks and benefits of adopting a CCC policy and selecting appropriate harvest controls.

The influence of productivity estimates

With 70 years of historical data, we have observed the halibut population through one and a half cycles of population variability, i.e., two high periods and one low period. Analysis of the historical data has led to our current estimates of halibut productivity. Recruitment, for areas 2B/2C/3A combined, has alternated in 15-30 year regimes between a low regime average of 3.6 million age-six recruits per year and a high-regime average of 7.7 million age-six recruits. Growth rates of individual fish have varied, in what appears to be a density dependent manner, according to how many other halibut are currently in the stock. Thus, for example, in times of high population biomass, an age-10 fish weighed an average of 14 pounds. When the population biomass dropped to a level near the historical minimum, an age-10 fish weighed 25 pounds, on average. Both the assumed level of future recruitment and the density dependent response in growth are important determinants in estimating optimal harvest rates and potential sustainable catch levels.

We can term the two-regime recruitment and density dependent growth modeling results the "Most Likely" scenario of halibut population dynamics. By making different assumptions about recruitment and growth, different scenarios can be generated and the performance of the CCC harvest policy examined under alternative "states of nature". A "Worst Case" scenario would be characterized by permanent low-regime recruitment (3.6 M age-six recruits annually) and no density dependent response in growth, i.e., weights at age remain at the low values seen during the last few years. A "Best Case" scenario involves continuous high regime recruitment (7.7 M recruits) and density dependent growth. Under the Best Case scenario, the stock can handle much higher harvest rates and constant catches than those being explored here, and therefore those results are not shown. The same four tables that were shown above to evaluate parameters of the CCC harvest policy are shown next for the Worst Case scenario (Table 2).

Under simulations based on this scenario, there was no difference in yield or yield variability across the catch caps: this is because catch limits even as low as 50 M lbs. could never be taken if the stock were this unproductive. With an unproductive stock, the CCC harvest policy is identi-

cally a constant harvest rate policy. Average catch is maximized (at 30 millions pounds) at a harvest rate of 0.35. Spawning biomass drops sharply with increased harvest rate. The unfished biomass was 332 M lbs. in this scenario compared to 532 M lbs. under the Most Likely scenario. At a harvest rate of 0.30, the average spawning biomass would be equal to the observed historical minimum of 80 M lbs. Compared to a productive stock, an unproductive stock is relatively less resilient to effect of fishing. At a harvest rate of 0.20, average spawning biomass was reduced to 34% of the unfished biomass (112/332 M lbs.). This compares to 47% for the productive stock (251/532 M lbs.). This difference becomes even more pronounced when the stocks are fished harder: at a harvest rate of 0.40 an unproductive stock is reduced to 19% of unfished compared to 44% for the productive stock.

Another scenario to consider is one that is intermediate between the Most Likely and Worst Case scenarios. If we assume that recruitment will continue to alternate between high and low regimes but that growth of halibut will not respond to decreased numbers in the population we get a "No Growth" scenario (Table 3). In this scenario, recruitment appears to be an environmentally driven process while growth is regulated by ecological factors.

The results of the No Growth scenario simulations show that yield would be substantially higher than the Worst Case scenario and within 80-85% of the Most Likely scenario. The biggest difference is the very high yield variability; without the buffering influence of density dependent growth, biomass tends to follow the up and downs of recruitment. The reduction in spawning biomass with increased fishing pressure is intermediate between the Most Likely and Worst Case scenarios.

The range of candidate harvest rates and constant catch limits explored in our original analysis (Clark and Hare, in review), and also used here, were selected such that there was zero probability of reducing the spawning biomass to the observed historical minimum (80 M lbs.) at any time. In the Worst Case scenario, however, the average spawning biomass does drop to 80 M lbs. within the proposed limits. What is of more immediate interest regarding these alternate scenarios is the probability that the spawning biomass declines to the historic minimum in the near future. We computed the probability of the spawning biomass dropping to 80 M lbs. in the next 20 years. These probabilities were computed for each scenario by projecting forward from the current estimated biomass (Table 4). Recruitment is assumed to be in a low regime since 1999. A switch to a high recruitment regime is possible starting in year 2013 (since the minimum regime duration is 15 years). Under the two alternative scenarios, the probability of dropping to the historical minimum increases substantially. The difference between the two scenarios is that the Worst Case scenario does not allow for a potential shift back to high-regime recruitment after 15 years.

Without the buffer of density dependent growth the probability of spawning biomass dropping below the historical minimum of 80 M lbs. becomes greater than 50% for both scenarios at a harvest rate of 0.30. At higher harvest rates, it is virtually certain that the historical minimum will be reached. At the current rate of 0.20 there appears to be virtually no chance the spawning biomass will drop as low as 80 M lbs. even if growth rates remain as low as they have been recently.

Consideration of a minimum biomass threshold and limit

The IPHC has never had a formal statement of precautionary actions to be taken when the biomass declines to a low level. The terms "threshold" and "limit" have come into use in fisheries

management to define levels at which extra conservation measures are implemented. There is no universally accepted definition for the terms and they are often used interchangeably. For the purposes of the Pacific halibut harvest policy, a threshold is a level at which more conservative harvest rates begin to apply, and a limit is a biomass level at which all fishing on the stock ceases. The CCC policy outlined in Clark and Hare (in review) allows for specification of both a maximum harvest rate as well as a maximum catch, however no provision is made for changing the harvest rate (or catch) at low biomass. With halibut abundance at such high levels currently, it will likely be several years before there are concerns about needing to protect a small spawning stock. Nevertheless, there is a growing movement in fisheries management to formally define precautionary measures to be taken when biomass is reduced to some low level. The purpose of this section is to review U.S. policy on biomass thresholds, propose a minimum biomass threshold and limit for the Pacific halibut fishery, and examine the performance of the CCC harvest policy with these minimum biomass safeguards.

Within the fisheries under U.S. federal jurisdiction, status determination criteria (SDC) are required in order to determine whether a fishery is overfished or if fishing mortality is at an overfishing level. These SDCs are required to be, to the extent possible, "objective and measurable". The SDCs must specify both a "maximum fishing mortality threshold" and a "minimum stock size threshold". In practice, these SDCs are established as part of a Maximum Sustained Yield (MSY) control rule. The maximum fishing mortality rate is applied until the stock biomass has dropped to a prespecified stock size threshold. Fishing mortality begins to be scaled down once the stock has reached the minimum stock size threshold. Overfishing is defined as fishing at a rate above the defined maximum. A stock is declared overfished when it falls below the minimum stock size limit. The relationship of the MSY control rule and SDCs is illustrated in Figure 1.

There has been considerable debate and controversy over the definitions of overfished and overfishing (as depicted in Fig. 1). This controversy stems from at least a couple of definitions. First, a stock is declared overfished when it reaches some semi-arbitrarily defined level, regardless of circumstances. Of course, many stocks are naturally cyclical and would reach the threshold or limit even in the absence of fishing. Second, the threshold is defined using estimates of stock productivity. The parameter estimates of stock productivity are based on the current understanding of the population dynamics including recruitment and growth. As these parameter estimates change so too do the biological reference points on which SDCs are based. Thus a stock could move between a non-overfished and overfished status simply on the basis of shifting reference points.

The reason for establishing a minimum biomass threshold and limit is principally one of common sense. The Pacific halibut population has been shown to fluctuate on an interdecadal time scale (Clark and Hare 2002). With or without fishing, the current high biomass will decline as recruitment drops during an unfavorable regime (as it is believed we have now entered). By scaling down fishing as the biomass cycles downward, we ensure that we avoid reaching the historic minimum and maintain the stock within the range for which we have an understanding of the population dynamics. We have experienced one low productivity regime (1947-1976) and observed subsequent recruitment from the spawning biomasses during that period. It is sensible to take measures to ensure that the spawning biomass not drop below that seen historically as there may be unforeseeable impacts on recruitment. Stated differently, recruitment appears to be environmentally determined provided that adequate spawning stock is available for egg production. Therefore, the minimum biomass threshold and limit proposed here is not intended to define a level of overfish-

ing, it is simply a precautionary measure to maintain spawning stock within levels that we have already observed during times of lowered productivity.

A number of thresholds and limits were investigated for the Pacific halibut fishery. In these simulations, we explored placing thresholds and limits on spawning biomass (SBio) and exploitable biomass (EBio). The logic for enacting conservation measures on the basis of SBio is simple. Placing the limits on EBio allows for consistency and simplicity in the harvest policy. Under the CCC harvest policy, the harvest rate and catch limits are defined on the basis of the EBio. A CCC policy that institutes a minimum biomass threshold and limit on the basis of EBio is straightforward to understand and implement. Under present conditions of maturity, selectivity and the size limit, the simulations showed that a policy that conserves EBio generally conserves SBio to the same extent. In other words, a policy that works to prevent EBio from dropping to its historical minimum had the effect of also preventing SBio from dropping to its historic minimum. This will generally hold true as long as the fishery selectivity and the maturity ogives are roughly similar, as they are presently. Nevertheless, conditions may change and to maintain focus on SBio as the property to be conserved, we decided to pursue only minimum SBio thresholds and limits.

There are at least two rationales for establishing reasonable minimum biomass safeguards. The NMFS method is to set the limits and thresholds based on some estimate of the maximum sustained yield (MSY) of a stock. A fairly common threshold is B_{MSY} i.e., the equilibrium biomass when fishing at the MSY rate. A common limit associated with this threshold is 0.5 B_{MSY}. We earlier noted the problems associated with thresholds and limits based on productivity estimates of the stock. A second rationale for selecting a limit and threshold has to do with what has historically been observed for the stock. If a stock has been monitored long enough to observe a descent to, and recovery from, a low point then that low point may be a "safe" minimum limit. We followed this second rationale in establishing a minimum biomass threshold and limit for Pacific halibut.

The minimum observed spawning biomass for halibut in the eastern portion of the stock (Areas 2B/2C/3A combined) was 80 M lbs. Avoiding reaching this minimum has been an integral part of the harvest policy rationale in recent years. The minimum SBio was reached near the end of the 1947-76 unproductive regime and the large year classes that began in 1977 were produced from SBios near the minimum. A SBio level of 80 M lbs., the point at which the catch quota is set to zero, is therefore a logical limit. We tested several thresholds, ranging from 100 to 160 M lbs. A reasonable threshold appears to be 120 M lbs., or 1.5 times the limit. In general, results were quite similar over the range of thresholds investigated and a somewhat higher or lower threshold could be chosen without a substantial effect on either average yield or yield variability.

A demonstration of how a CCC policy would operate with the proposed minimum biomass threshold and limit is illustrated in Figure 2. With a low maximum harvest rate and a high constant catch cap, the harvest rate has a plateau shape across much of the range of SBio. The harvest rate is zero at the SBio limit of 80 M lbs., ramps up linearly to the full harvest rate at the SBio threshold of 120 M lbs., remains constant until the constant catch cap is reached, and then declines with larger stock biomass. Under a high maximum harvest rate and low constant catch cap the shape of the harvest rate curve is closer to a peak. At levels lower than the threshold the harvest rate increases linearly. The constant catch limit comes into effect shortly after the maximum harvest rate is achieved, and at the point where the constant catch limit is reached, the harvest rate declines with increasing SBio. The results of running the same harvest simulations for a CCC harvest policy with this set of limits and thresholds are reported in Table 5.

Comparison with the results from the Most Likely scenario without a SBio limit and threshold shows that the effect of limiting the harvest rate at these levels is relatively minor. For most maximum harvest rate and maximum constant catch combinations the average annual yield is at most 1-2% lower. Yield variability decreases at lower harvest rates and increases slightly at higher harvest rates. There is little impact on average spawning biomass. One other benefit of having a threshold and limit is that the fraction of time the yield is within 90% of the constant catch cap actually increases slightly. Presumably the reason this occurs is that by slightly reducing yield when the biomass first drops near the threshold, the biomass is prevented from dropping low enough to start a string of years with yields less than 90% of the cap. These results for the Most Likely scenario generally hold for the No Growth scenario as well (Table 6).

Average annual yields for the No Growth scenario range from 2-6% lower when an SBio threshold and limit are included. Variability in yield also increases, particularly at the higher harvest rates. The effect on the spawning biomass is to increase the average by as much as 20% at the highest harvest rate/catch limit combinations. The fraction of times the yield was within 90% of the cap was slightly greater for all of the potential harvest rate and constant catch combinations. In the No Growth Scenario without a limit and threshold, the probability of depressing the spawning biomass as low as the historical minimum was quite substantial for harvest rates greater than 0.30. With the proposed limit and threshold, the probability of reaching the historical minimum is zero at all harvest rate and constant catch combinations.

The other SBio limits and thresholds that were examined tended to perform in the same manner. As the threshold is increased beyond 120 M lbs., the effect was to slightly decrease average yields, increase yield variability and provide slightly larger average spawning biomass. In general, the results were determined by the assumptions about growth (we did not explore further the possibility of continuous poor recruitment). As long as growth was fully density dependent, a CCC policy that had a lower constant catch cap and a high harvest rate gave the greatest consistency in annual yields without threat of causing low spawning biomass. Under the assumption of no density dependent growth, however, there was a better than 50% chance of dropping the spawning biomass to the historical minimum of 80 M lbs. in the next 20 years at a harvest rate of 0.25 and considerably higher probability at higher harvest rates. The two ways of preventing this happening were to maintain a harvest rate no higher than 0.25, or to institute an SBio threshold and limit that scaled down the harvest rate. If the limit was set to zero at the minimum observed SBio, then SBio would not drop below the historical minimum. The threshold can be set anywhere higher. By setting it at 1.5 times the limit in these simulations, the decline in harvest rate was gradual and should act to prevent the rapid changes in yield that would likely occur if the threshold was set very close to the limit.

Area specific harvest rates, catch limits and minimum biomasses

The practical issue of adopting a CCC policy is that constant catch limits must be established for each regulatory area. To determine reasonable area-specific limits, consideration was made of historic catch (Figure 3) and recruitment patterns (Figure 4). Between 1935 and 2001, total removals averaged 14.1 M lbs. in Area 2B, 9.5 M lbs. in Area 2C and 24.0 M lbs. in Area 3A. Removals have gone through one and a half cycles with high levels of removals from the 1930s to 1960s and again from the 1980s to present. However, the recent period of high removals differs from the

earlier period. In the 1930s, removals from Area 2B ranged from 15 to 20 M lbs. but have ranged from 10 to 15 M lbs. during the current high biomass era. In Area 2C, removals during both high periods were around 10 to 12 M lbs. In Area 3A, removals during the early period were around 20 M lbs. while in the current era, removals have ranged from 25 to 35 M lbs.

It appears, therefore, that while all areas have returned to a productive regime, there has been a shift in the relative fortunes of the areas. Area 2B is not supporting as large removals as previously, Area 2C remains equally productive as before, while Area 3A supports a larger biomass and larger removals. The cause of this shift can be traced to a change in recruitment patterns. With the exception of the 1987 and 1988 year classes, annual recruitment in Area 2B has been around 2 million fish since the climate regime shift of 1976-77 (Francis and Hare 1994). This compares with average recruitment around 3 million fish in the earlier productive regime of the 1930's and 1940's. In Area 3, recruitment has averaged 5 million fish in the current regime compared to less than 3 million earlier. The reason for the shift in recruitment patterns is unknown but it has been speculated to be related to the influence of global warming in the northeast Pacific (Clark and Hare 2002).

To examine the performance of an area-specific CCC policy, an assumption must be made about future recruitment. To estimate total recruitment to Areas 2B/2C/3A combined, the same model was used as in the combined area analysis. For an area-specific analysis, this total recruitment then had to be partitioned among areas. As we noted, recruitment has changed over time. Table 7 shows the fraction of total recruitment observed by area for different time periods.

To bracket the range of possibilities, two recruitment distributions (hereafter, RDs) were examined. One distribution (RD1) reflected current conditions and the percentage of total recruitment among areas 2B:2C:3A was 25:20:55. Recruitment distribution 2 (RD2) had the following percentages by area: 35:20:45. Performance of the CCC policy was also dependent upon the assumptions made for weight at age. Area-specific growth models were developed in the harvest policy analysis in 2001 (Hare and Clark 2002) and those same models and model estimates were used to examine the CCC policy under the scenarios invoking density dependent growth. For the No Growth scenarios, observed weights at age in 2001 were used for all forward simulations. To establish area-specific thresholds and limits we used the same rationale as for the combined area limit. In Table 8, the minimum observed SBio (in M lbs.) in each area is listed along with the current estimated SBio.

As with the combined area analysis, a range of constant catch caps was investigated for each area. The range selected for each area reflected historical removals and the desire to have zero probability of depressing biomass to the observed historical minimum in any area under the Most Likely scenario conditions. The range of combined area constant catch limits was 50-60 M lbs. The sum of the area-specific minimum limits was 47.5 M lbs., while the sum of the maximum limits was 62.5 M lbs. (Table 9).

Presenting the results for the area-specific simulations in as much detail as was done for the combined area simulations requires a large number of tables. For the sake of completeness those tables are included in an appendix, but are not generally directly cited in the text. The tables contain summaries of expected yield (Appendices 1a, 2a, 3a), standard deviation of yield (Appendices 1b, 2b, 3b), average spawning biomass (Appendices 1c, 2c, 3c), percent of time yield is within 90% of constant catch (Appendices 1d, 2d, 3d), and probability that spawning biomass drops to the historical minimum in the next 20 years without a SBio limit and threshold (Appendices 1e, 2e, 3e). In the interest of clarity and brevity the results are presented on an area by area basis, verbally summa-

rized and key concerns highlighted. For each area, four sets of simulations were conducted. The first set of simulations expanded the Most Likely scenario, i.e., area-specific density dependent growth and two-regime recruitment distributed to the sub areas. For all area specific simulations, results were computed for both recruitment distributions (however, Area 2C has the same results under both recruitment distributions). The assumption of density dependent growth was then dropped and results computed for an area-specific No Growth scenario. The Most Likely and No Growth scenarios were then repeated using the proposed minimum SBio thresholds and limits.

Area 2B

The three constant catch levels explored for Area 2B were 12.5, 15.0 and 17.5 M lbs. Average yield expected under a CCC policy in Area 2B varied both between the two RDs and the two growth scenarios. Under RD2, average yields are 10-30% greater across the range of harvest rates and constant catch limits than under RD1. The No Growth scenario resulted in yields 10-20% less than under density dependent growth. This was a smaller difference than was seen in the combined area analysis and this was derived from the smaller variability in size at age seen in Area 2B relative to the combined areas.

Under both RDs, the low constant catch cap of 12.5 M lbs. was attainable a large majority of years even under the No Growth scenario. Yield variability declined with increasing maximum harvest rate and was predicted to be zero (i.e., catch limit reached 100% of the time) at a harvest rate of 0.30 under RD2. As the constant catch limit was set higher, the percentage of time that yield would be at least 90% of the limit declined steadily and yield variability also grew correspondingly. Under the optimistic RD2 and assuming density dependent growth, yield greater than 90% of the maximum catch limit of 17.5 M lbs. could be taken 75% of the time at a maximum harvest rate of 0.40. Under RD1 with the same CCC policy parameters, 90% of the limit would be taken 49% of the time.

The historical minimum spawning biomass observed in Area 2B was 18 M lbs. while the current estimated biomass is 66 M lbs. Under the Most Likely scenario and RD1, there was essentially zero probability of the spawning biomass declining that low within 20 years under any of the policy options except at a harvest rate greater than 0.35 in combination with a high constant catch limit. Under RD2, the spawning biomass remained above the historical minimum under all CCC options. The picture was quite different under the No Growth scenario. The probability of reaching the historical minimum was greater than 50% at harvest rates greater than 0.20 for RD1 and greater than 0.35 for RD2.

The CCC policy for Area 2B with several constant catch/harvest rate combinations and incorporating the proposed SBio threshold (27 M lbs.) and limit (18 M lbs.) is illustrated in Figure 5. Implementing this threshold and limit reduced the probability of declining to the historical minimum spawning biomass to essentially zero. Impacts on average annual yield were minimal – ranging from 0-6%. Yield variability increased slightly while average spawning biomass was as much as 20% higher at the highest harvest rates.

Area 2C

The three constant catch levels explored for Area 2C were 10.0, 12.5 and 15.0 M lbs. The two different recruitment distributions did not affect Area 2C so only the single set of results is discussed. As with Area 2B, there were moderate differences between the Most Likely and No Growth scenario. Across the range of CCC policy options, the difference in average yield was between 15

and 20%. At a catch limit of 10.0 M lbs., yield variability steadily decreased with increasing harvest rate while at the catch limit of 15.0 M lbs., variability increased with harvest rate. At a harvest rate of 0.30 and higher, 90+% of the constant catch limit could be taken a large majority of the time at catch limits of 10.0 or 12.5 M lbs. The catch limit of 15.0 M lbs. was too high to be obtained very often, even with a very high companion harvest rate, and this is particularly true in the No Growth scenario.

The historical minimum spawning biomass in Area 2C was 16 M lbs. while the current estimated biomass is 59 M lbs. In the Most Likely scenario, there was a substantial probability of reaching the historic minimum only at a harvest rate of 0.40 combined with a constant catch limit of 15.0 or 17.5 M lbs.. Under the No Growth scenario, the probability of reaching the historic minimum exceeded 0.5 at harvest rates greater than 0.25 in combination with any of the proposed catch limits. The proposed minimum SBio limit and threshold are 16 and 24 M lbs., respectively. Implementing these minimum biomass measures had little measurable effect on average annual yield but did lead to a slight increase in yield variability in the simulations. The increase in yield variability was much larger under the No Growth scenario than under the Most Likely scenario. The CCC policy for Area 2B with several constant catch/harvest rate combinations and incorporating the proposed SBio thresholds and limits is illustrated in Figure 6.

Area 3A

The three constant catch levels explored for Area 3A were 25.0, 27.5 and 30.0 M lbs. As with Area 2B, results were computed for two different recruitment distributions (RD). RD1 had higher Area 3A recruitment than RD2. Unlike Area2B, expected average yields were not much different between the two RDs – this was due to the fact that the proportional change in recruitment was much less for Area 3A than Area 2B. The No Growth scenario produced expected yields approximately 20% lower than the Most Likely scenario.

In the Most Likely scenario, 90+% of the constant catch limit could be taken more than 70% of the time across most of the constant catch/harvest rate combinations under both RDs. Under RD1, the lower constant catch limits had a yield variability of zero meaning that the limit, in theory, could be taken every year. Under the alternative recruitment assumption (RD2) the fraction of years in which 90+% of the catch limit can be taken is was also near 1.0. Under all three catch limits, catch variability declined with increasing harvest rate, thus the low limit/high harvest rate combination had the lowest variability and the high limit/low harvest rate had the highest variability. Variability in yield was substantially higher in the No Growth scenario. These last two situations both derived from the strong density dependent response modeled for Area 3A.

The historical minimum spawning biomass observed in Area 3A was 44 M lbs. and the current estimated biomass is 150+ M lbs. Under the Most Likely scenario, there was zero probability of reaching the minimum spawning biomass for any investigated combination of catch limit and harvest rate under either RD. Under the No Growth scenario, the probability of reaching the historical minimum approached 1.0 at harvest rates greater than or equal to 0.30 (RD1) or 0.25 (RD2). This again was due to the strong density dependent growth response in Area 3A.

The proposed minimum SBio threshold and limit for Area 3A are 66 and 44 M lbs., respectively. As in the other areas, implementing this threshold and limit had little effect on average yield or yield variability in the simulations under the Most Likely scenario. However, there was a larger effect on yield variability than in the other areas in the No Growth scenario, particularly at the high

harvest rates. Spawning biomass was the same with and without the minimum SBio measures under the Most Likely scenario but as much as 20% higher under the No Growth scenario.

Treatment of Areas 3B and 4

It is difficult to make good estimates of the long-term potential of Areas 3B and 4 because we do not have a long history of production at even moderate levels of exploitation. Still, the performance of the stocks in Areas 2 and 3A should provide a reasonable indication. If we take 65 M lbs. as an estimate of MSY for Areas 2 and 3A and distribute that total in proportion to the exploitable biomass estimates from the 2001 assessment, we obtain area-specific estimates which are very consistent with the historical production of those areas (Table 10).

Area 3B is about 60% of the size of 3A and we believe MSY in 3B will turn out to be about 60% of the 3A value, or around 20 M lbs. The conditional constant catch should be less, perhaps 15-20 M lbs., or about the same as the present catch limit.

Area 4A is about 60% of the size of 3B. If equally productive it would have an MSY of 12 M lbs. However, part of the area is the southeast edge of the Bering Sea shelf which appears to be less well occupied than the Gulf and Aleutian sectors, so around 10 M lbs. might be a closer estimate of MSY for the area. A lower constant catch of 7-9 M lbs. would be appropriate, higher than the present catch limit of 5 million but not by a great deal.

Area 4B is about the same size as 4A but with a spottier distribution and lower overall population density. If productivity is more like that of 2B than 3A, then MSY is 7-8 M lbs. and an appropriate constant catch would be 5-6 M lbs., compared with the present catch limit of 4 M lbs.

Area 4CDE, consisting mostly of the Bering Sea shelf, is so different from other areas that estimating productivity by analogy is impossible. Even if an overall MSY estimate were possible, there remains the question of how much of the stock is actually exploited by the fisheries. Setting a constant catch limit is therefore problematic.

Discussion

There are several reasons for wanting to modify the present constant harvest rate policy. A CHR policy, while robust to changes in productivity, can lead to highly variable catches. This variability derives not only from natural variability in the exploitable stock but also due to assessment model changes, which can abruptly alter our estimates of exploitable stock from one year to the next. The industry is particularly interested in pursuing a harvest policy that produces more stable, predictable quotas. The CHR policy used by the Commission for 17 years has not been strictly followed during years when sharp changes in the estimate of EBio occurred. The new conditional constant catch policy is more flexible than the old harvest policy and should serve to reduce the large year to year fluctuations in yield that have characterized the halibut fishery in recent years. To implement the policy, a number of decisions need to be made. A treatment of these decisions is included in the following sections.

Maximum constant catch and maximum harvest rate

For each regulatory area, a maximum constant catch and maximum harvest rate need to be selected. As was illustrated in the analysis, the greatest consistency occurs with a low catch limit and a high companion harvest rate. The tradeoff is that higher yields are sacrificed in times of high

biomass. With a high harvest rate, there is also greatly increased risk of reaching low spawning biomasses if growth is not a fully density dependent process. There is no requirement that the same harvest rate be selected for each area and this is a departure from previous policy. A range of catch limits has been proposed for each area. Since 1985, when halibut stocks were declared "rebuilt", area specific yields have averaged 13 M lbs. in Area 2B, 12 M lbs. in Area 2C and 32 M lbs. in Area 3, for a total of 57 M lbs. The simulations performed here show that setting maximum catch limits near these levels should result in long term averages near these levels as well.

Selecting an optimal maximum harvest rate is more dependent upon the stock dynamics than is the selection of maximum catch. A harvest rate of 0.20 appears to be very conservative, even if growth rates do not increase with decreasing biomass. A harvest rate of 0.25 appears reasonable and safe, particularly if implemented with a minimum biomass threshold. A higher harvest rate would not be unprecedented since 0.35 was selected when a constant harvest rate policy was first implemented in 1985. If the principal aim is to stabilize yield as much as possible then the optimal combination is a low constant catch and high harvest rate.

Minimum biomass threshold and limit

Inclusion of a minimum threshold limit with a conditional constant catch would give the IPHC an extremely robust harvest policy. The policy guards against removing an unprecedented amount of fish in times of high abundance (such as currently), automatically reduces harvest rates in time of low abundance (by limiting removals) and continues to ensure a more stable, predictable yield. The levels suggested – using minimum observed spawning biomass as the limit and 1.5 times that as a threshold – are somewhat arbitrary. However, the stock has recovered completely from those levels before and expectations are that it would do so again in a productive regime. This is a strong argument for basing the limit on a biomass level that we have experienced before. The more common method of basing the limit on an estimation of the MSY of the stock has the disadvantage that the limit would shift every time new estimates of stock productivity were made. A higher threshold could be considered; the proposed threshold had relatively minor impacts on average catch and catch variability. A somewhat higher threshold would incrementally reduce catches sooner, and increase variability, but also result in somewhat higher average spawning biomass.

Future work

Over the next year, the CCC harvest policy will be further refined and tested. It is anticipated that the halibut stock assessment will become sex-specific in the next year. Consequently, the harvest policy will also be examined in a sex-specific context. A developing concern with the current harvest policy is the potential impact on females. The decline in size at age has been especially pronounced in males and the lower selectivity of males means that females are disproportionately represented in the catches. The impact of differential selectivity between the sexes needs to be investigated and perhaps a minimum female spawning biomass limit reference points established.

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Table 1. Most Likely scenario (2 regime recruitment, density dependent growth).

Average annual yield (million lbs)

Max. HR	Constant catch 50	55	60	No limit
0.00	0	0	0	0
0.20	47	49	50	50
0.25	48	51	54	56
0.30	49	53	55	61
0.35	50	53	56	65
0.40	50	54	57	67

Standard deviation of yield (million lbs)

Max. HR	Constant catch 50	55	60	No limit
0.00	0	0	0	0
0.20	5	7	8	9
0.25	3	6	8	11
0.30	2	5	7	13
0.35	2	4	6	15
0.40	1	3	6	17

Average spawning biomass (million lbs)

Max. HR	Constant catch 50	55	60	No limit
0.00	532	532	532	532
0.20	251	241	236	233
0.25	241	226	216	205
0.30	235	218	205	183
0.35	233	212	197	165
0.40	232	209	192	149

Yield ≥ 90% of Constant catch (percent of years)

Max. HR	Constant catch 50	55	60	No limit
0.00	0	0	0	0
0.20	70	56	42	0
0.25	86	70	58	0
0.30	93	80	67	0
0.35	96	87	74	0
0.40	98	91	79	0

Table 2. Worst Case scenario (low recruitment, no growth).

Average annual yield (million lbs)

	Constant catch			
Max. HR	50	55	60	No limit
0.00	0	0	0	0
0.20	25	25	25	25
0.25	27	27	27	27
0.30	29	29	29	29
0.35	30	30	30	30
0.40	30	30	30	30

Standard deviation of yield (million lbs)

	Constant catch			
Max. HR	50	55	60	No limit
0.00	0	0	0	0
0.20	3	3	3	3
0.25	3	3	3	3
0.30	4	4	4	4
0.35	4	4	4	4
0.40	4	4	4	4

Average spawning biomass (million lbs)

	Constant catch			
Max. HR	50	55	60	No limit
0.00	332	332	332	332
0.20	112	112	112	112
0.25	94	94	94	94
0.30	80	80	80	80
0.35	70	70	70	70
0.40	62	62	62	62

Yield ≥ 90% of Constant catch (percent of years)

	Constant catch			
Max. HR	50	55	60	No limit
0.00	0	0	0	0
0.20	0	0	0	0
0.25	0	0	0	0
0.30	0	0	0	0
0.35	0	0	0	0
0.40	0	0	0	0

Table 3. No Growth scenario (2 regime recruitment, no growth).

Average annual yield (million lbs)

Max. HR	Constant catch 50	55	60	No limit
0.00	0	0	0	0
0.20	39	40	40	40
0.25	41	42	42	43
0.30	42	43	44	45
0.35	43	44	45	47
0.40	43	45	46	48

Standard deviation of yield (million lbs)

Max. HR	Constant catch 50	55	60	No limit
0.00	0	0	0	0
0.20	11	12	13	13
0.25	10	12	13	14
0.30	10	12	14	15
0.35	9	12	14	16
0.40	9	11	14	17

Average spawning biomass (million lbs)

Max. HR	Constant catch 50	55	60	No limit
0.00	521	521	521	521
0.20	187	179	176	175
0.25	169	157	151	147
0.30	157	143	133	126
0.35	149	133	121	110
0.40	143	125	112	97

Yield ≥ 90% of Constant catch (percent of years)

Max. HR	Constant catch 50	55	60	No limit
0.00	0	0	0	0
0.20	43	30	17	0
0.25	50	41	29	0
0.30	55	47	37	0
0.35	58	51	42	0
0.40	61	53	45	0

Table 4. Probability of spawning biomass dropping below historical minimum.

Worst Case scenario

Max. HR	Constant catch 50	55	60	No limit
0.00	0	0	0	0
0.20	0	0	0	0
0.25	14	14	14	14
0.30	52	58	64	70
0.35	94	96	96	96
0.40	98	100	100	100

No Growth scenario

Max. HR	Constant catch 50	55	60	No limit
0.00	0	0	0	0
0.20	0	0	0	0
0.25	8	12	12	12
0.30	46	48	50	52
0.35	88	92	94	96
0.40	98	98	98	100

Table 5. Most Likely Scenario with minimum SBio threshold of 120 M lbs. and limit of 80 M lbs.

Average annual yield (million lbs)

	Constant catch			
Max. HR	50	55	60	No limit
0.00	0	0	0	0
0.20	47	50	51	51
0.25	49	52	54	57
0.30	50	53	56	61
0.35	50	54	56	65
0.40	50	54	57	67

Standard deviation of yield (million lbs)

	Constant catch			
Max. HR	50	55	60	No limit
0.00	0	0	0	0
0.20	4	6	7	8
0.25	3	5	8	10
0.30	2	4	6	13
0.35	1	3	6	15
0.40	1	3	6	17

Average spawning biomass (million lbs)

	Constant catch			
Max. HR	50	55	60	No limit
0.00	532	532	532	532
0.20	249	238	234	232
0.25	241	225	214	205
0.30	237	218	204	183
0.35	236	214	198	165
0.40	235	212	194	151

Yield ≥ 90% of Constant catch (percent of years)

	Constant catch			
Max. HR	50	55	60	No limit
0.00	0	0	0	0
0.20	75	59	43	0
0.25	90	74	61	0
0.30	96	84	70	0
0.35	99	90	77	0
0.40	99	93	83	0

Table 6. No Growth scenario with minimum SBio threshold of 120 M lbs. and limit of 80 M lbs.

Average annual yield (million lbs)

Max. HR	Constant catch 50	55	60	No limit
0.00	0	0	0	0
0.20	38	39	40	40
0.25	40	41	42	42
0.30	41	42	43	44
0.35	41	43	44	45
0.40	41	43	44	46

Standard deviation of yield (million lbs)

Max. HR	Constant catch 50	55	60	No limit
0.00	0	0	0	0
0.20	11	12	13	13
0.25	12	13	14	15
0.30	12	14	15	17
0.35	12	14	16	18
0.40	12	14	16	19

Average spawning biomass (million lbs)

Max. HR	Constant catch 50	55	60	No limit
0.00	521	521	521	521
0.20	189	182	179	177
0.25	176	164	157	154
0.30	168	154	145	137
0.35	165	149	137	126
0.40	161	145	133	117

Yield ≥ 90% of Constant catch (percent of years)

Max. HR	Constant catch 50	55	60	No limit
0.00	0	0	0	0
0.20	43	30	18	0
0.25	51	41	29	0
0.30	57	48	38	0
0.35	60	54	44	0
0.40	66	56	48	0

Table 7. Fraction of total (i.e., Areas 2B/2C/3A combined) recruitment to individual IPHC Areas for different periods of time. Year indicates brood year and recruitment is estimated at age-six.

	Recruitment (% of total)		
Area	1935-1995	1935-1976	1977-1995
2B	32	35	24
2C	21	22	19
3A	48	43	57
Combined	100	100	100

Table 8. Proposed spawning biomass limits and threshold for IPHC Areas 2B, 2C, and 3A, along with current estimated spawning biomasses (in M lbs.)

Area	Limit	Threshold	Current
2B	16	24	66
2C	16	24	59
3A	44	66	150+
Combined	80	120	270+

Table 9. Proposed maximum constant catch limits (in M lbs.) for IPHC Areas 2B, 2C, and 3A.

	Constant Catch limit		
Area	Min.	Mid.	Max.
2B	12.5	15.0	17.5
2C	10.0	12.5	15.0
3A	25.0	27.5	30.0

Table 10. Estimate of productivity for IPHC Areas 2A, 2B, 2C, and 3A. MSY is an estimate of the maximum sustained yield (in M lbs.) and bottom area is in thousand square nautical miles)

Area	Percentage of Area 2+3A biomass	MSY	Bottom area 0-300 fm	MSY/area
2A	3	2	12	0.17
2B	23	15	28	0.54
2C	19	12	15	0.80
3A	55	36	50	0.72

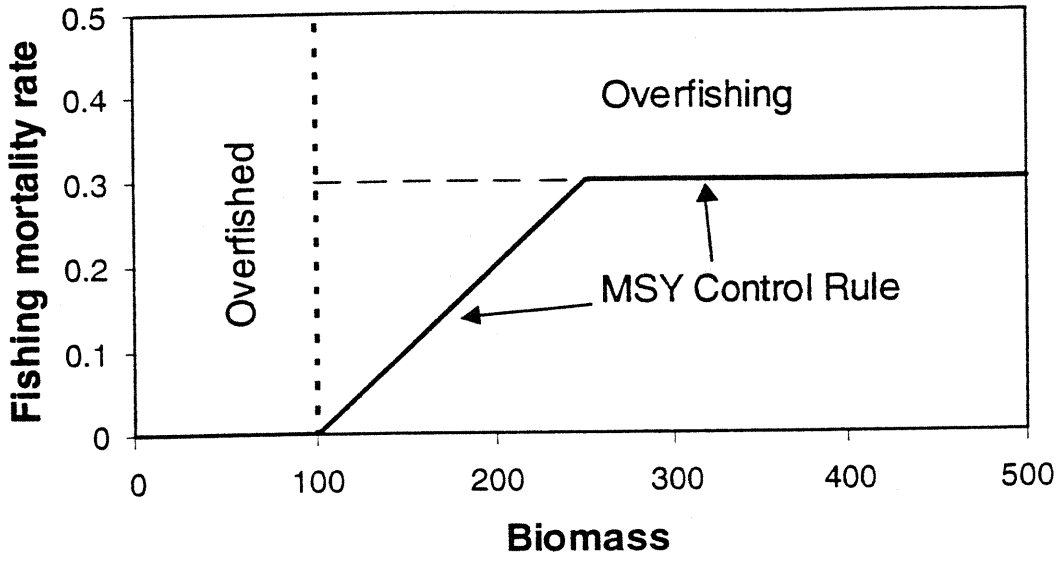

Figure 1. Illustration of a NMFS MSY control rule.

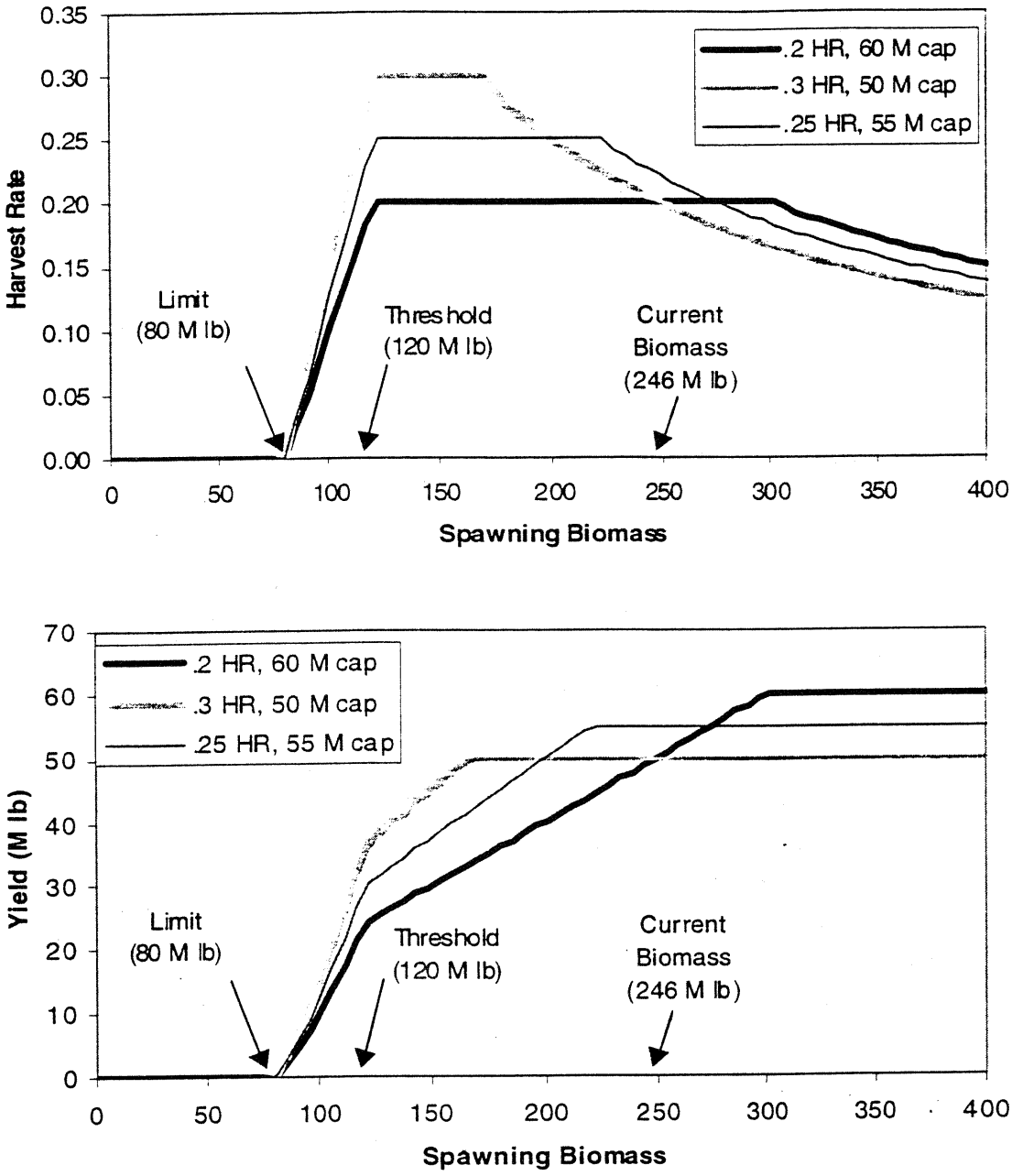

Figure 2. Illustation of a conditional constant catch (CCC) policy with a minimum spawning biomass (SBio) limit and threshold. The upper panel shows how the harvest rate varies with SBio, the lower panel shows how the yield varies with SBio. Three different combinations of a maximum harvest rate (HR) and constant catch (cap) are shown.

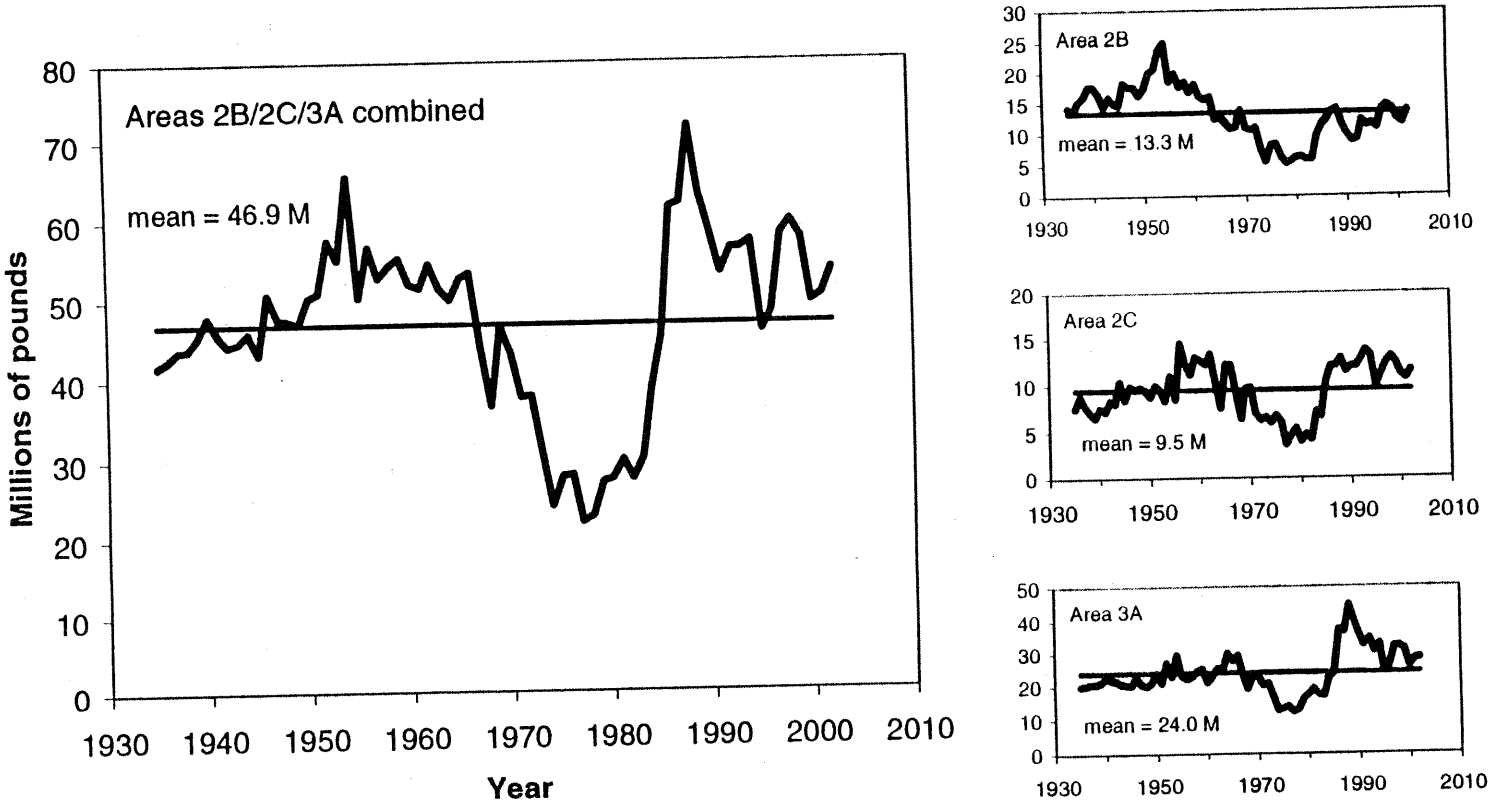

Figure 3. Historic removals from IPHC Areas 2B, 2C, and 3A.

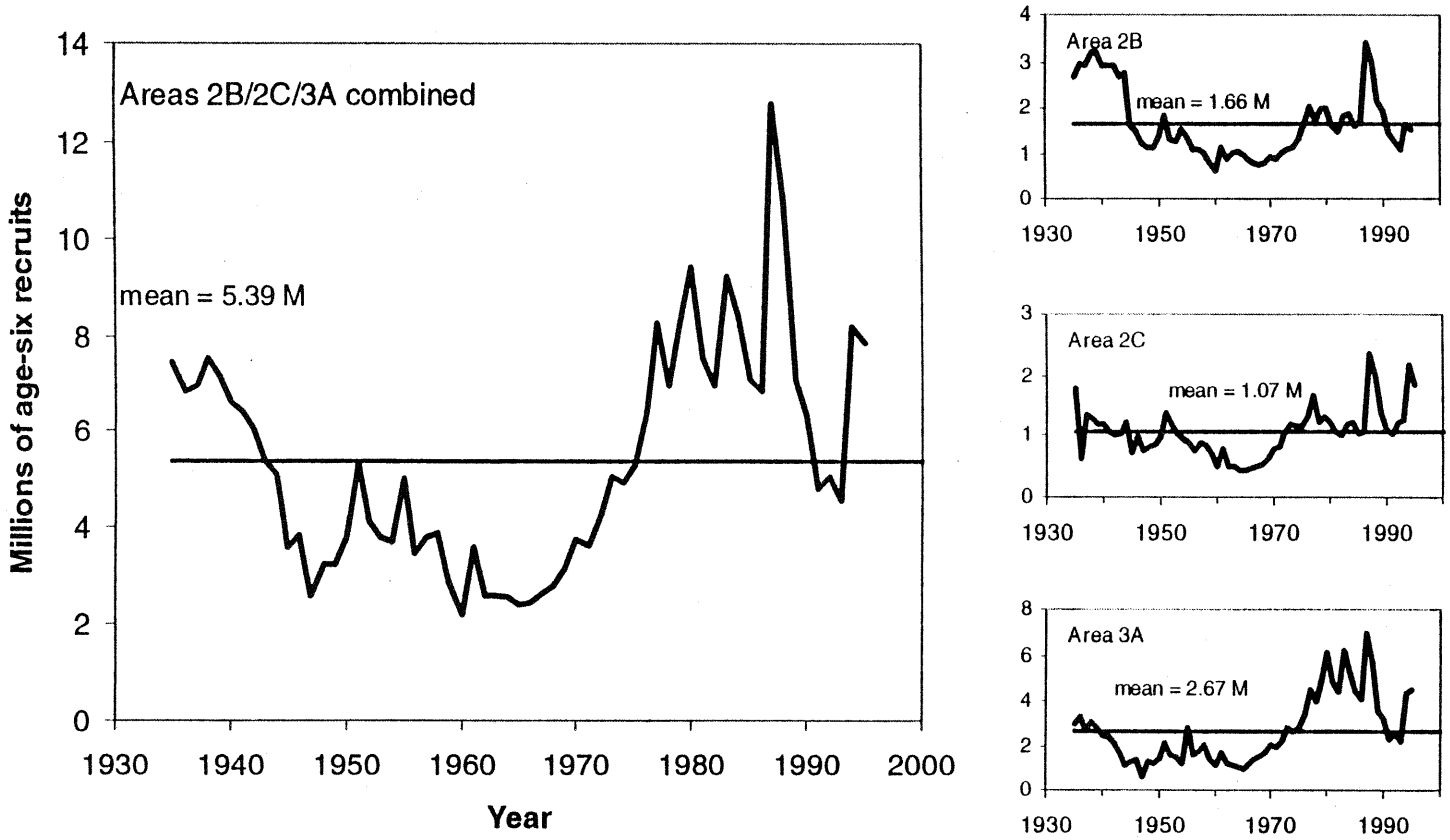

Figure 4. Historical recruitment of age-six halibut to IPHC Areas 2B, 2C, and 3A.

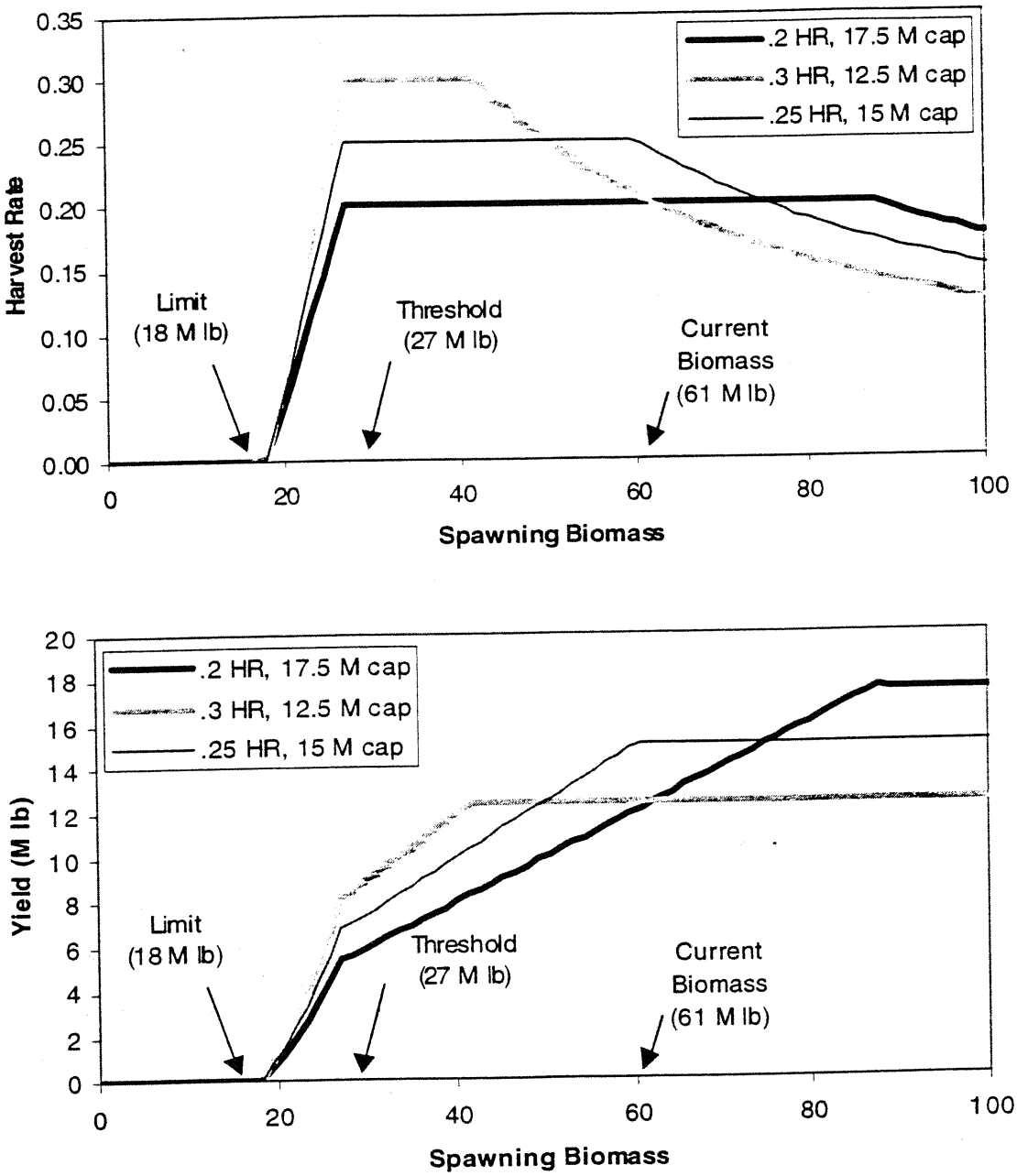

Figure 5. Same as Figure 2, but for IPHC Area 2B.

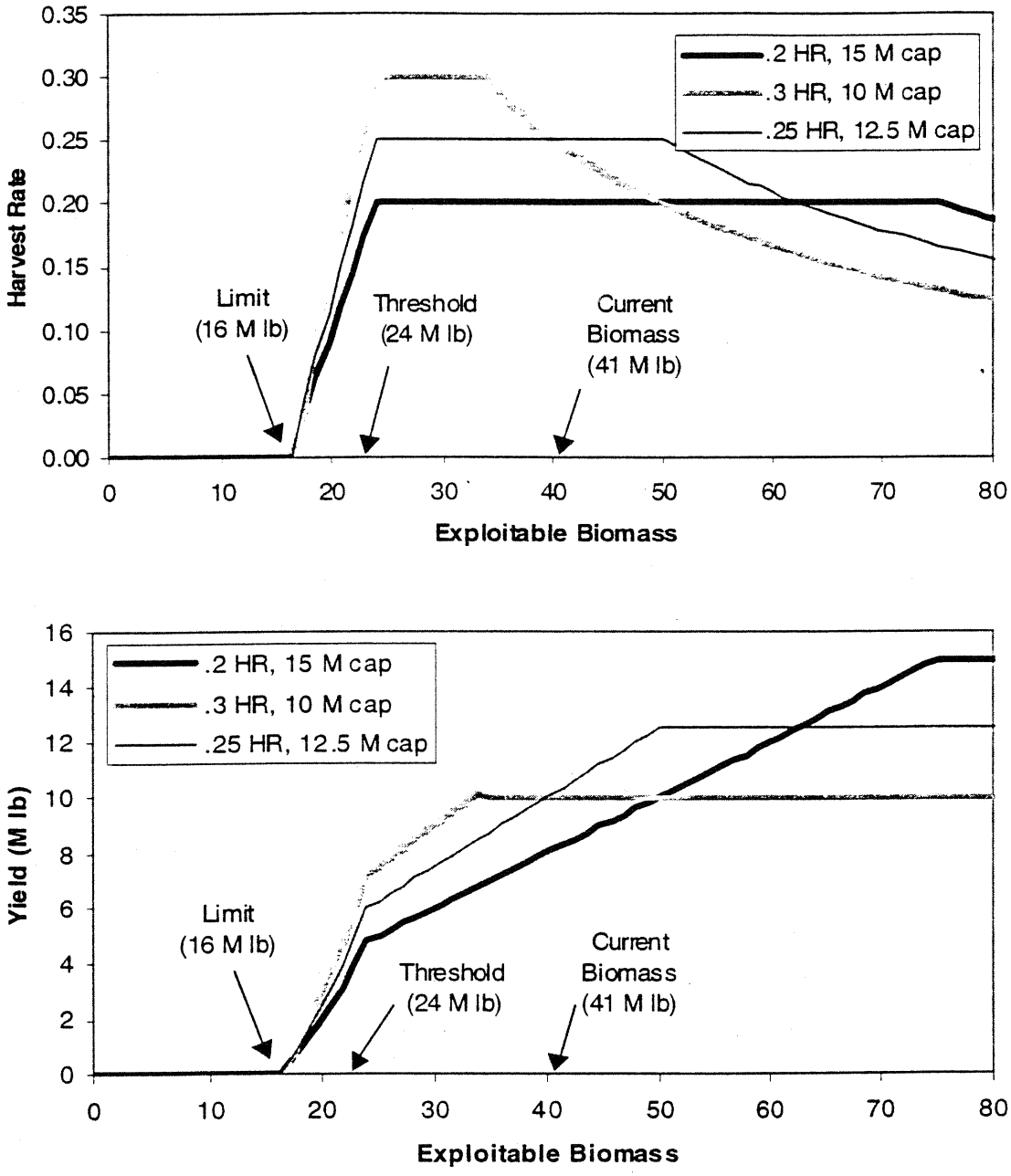

Figure 6. Same as Figure 2, but for IPHC Area 2C

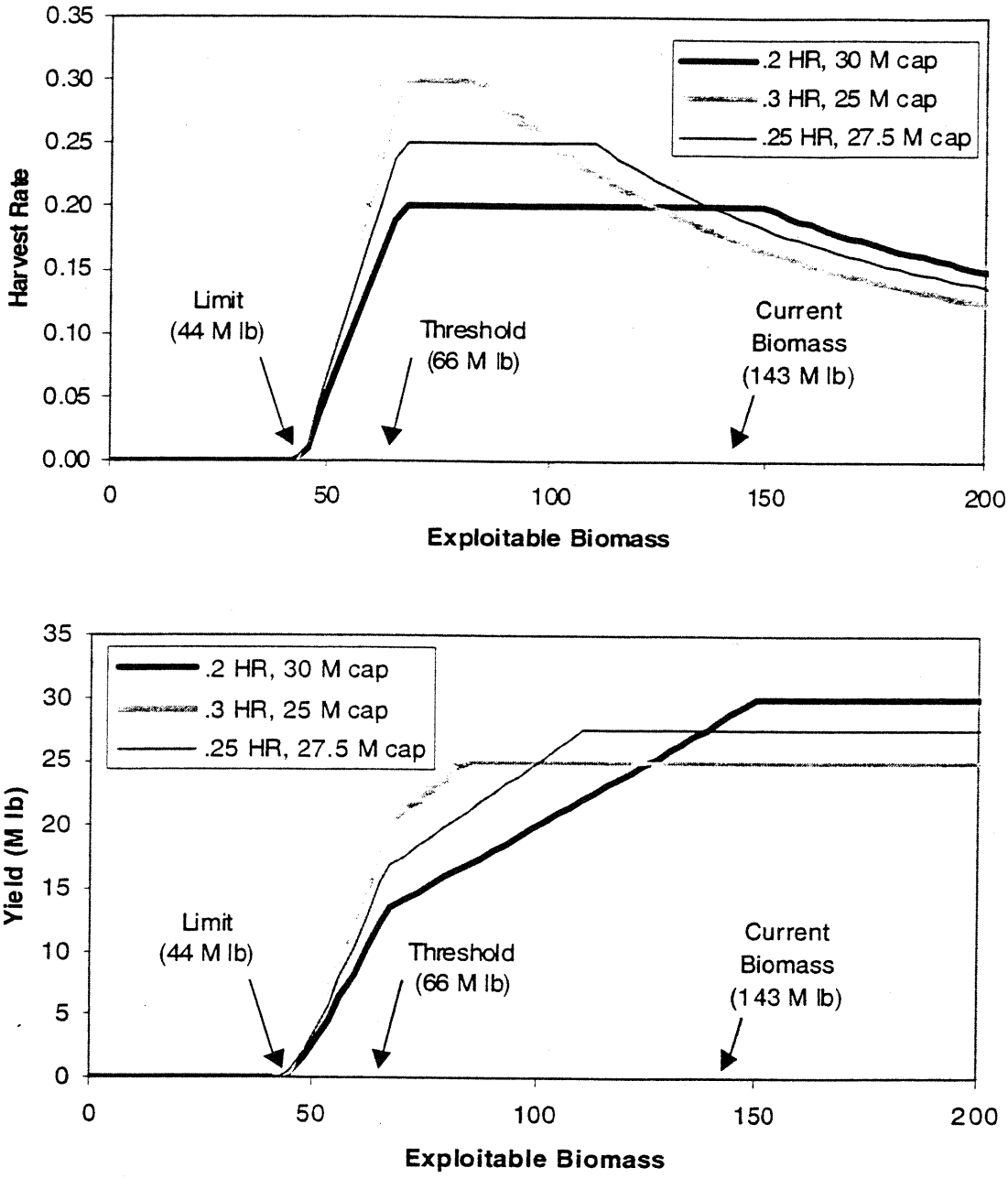

Figure 7. Same as Figure 2, but for IPHC Area 3A

Appendix 1a. Average annual yields (in millions of pounds) expected for Area 2B under a CCC harvest policy under two different growth scenarios and with and without a minimum biomass threshold and limit.

Most Likely Scenario

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	12.5	15.0	17.5	No limit	Max. HR	12.5	15.0	17.5	No limit
0.00	0	0	0	0	0.00	0	0	0	0
0.20	11.0	11.4	11.6	11.6	0.20	12.2	13.6	14.2	14.5
0.25	11.5	12.3	12.7	12.7	0.25	12.4	14.2	15.2	15.8
0.30	11.7	12.8	13.5	13.6	0.30	12.5	14.5	15.8	16.9
0.35	11.9	13.1	14.0	14.2	0.35	12.5	14.7	16.2	17.8
0.40	12.1	13.3	14.3	14.7	0.40	12.5	14.8	16.4	18.6

No Growth Scenario

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	12.5	15.0	17.5	No limit	Max. HR	12.5	15.0	17.5	No limit
0.00	0	0	0	0	0.00	0	0	0	0
0.20	9.3	9.4	9.4	9.4	0.20	11.4	12.4	13.0	13.2
0.25	9.8	10.1	10.1	10.1	0.25	11.7	12.9	13.7	14.1
0.30	10.1	10.5	10.6	10.6	0.30	11.9	13.2	14.1	14.8
0.35	10.3	10.8	11.0	11.0	0.35	12.1	13.5	14.4	15.4
0.40	10.5	11.1	11.3	11.3	0.40	12.2	13.6	14.7	15.8

Most Likely Scenario including minimum biomass threshold and limit

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	12.5	15.0	17.5	No limit	Max. HR	12.5	15.0	17.5	No limit
0.00	0	0	0	0	0.00	0	0	0	0
0.20	11.0	11.4	11.4	11.4	0.20	12.2	13.6	14.2	14.5
0.25	11.5	12.3	12.5	12.5	0.25	12.4	14.2	15.2	15.8
0.30	11.7	12.8	13.3	13.4	0.30	12.5	14.5	15.8	16.9
0.35	11.9	13.1	13.8	14.0	0.35	12.5	14.7	16.2	17.8
0.40	12.0	13.3	14.1	14.5	0.40	12.5	14.8	16.4	18.6

No Growth Scenario including minimum biomass threshold and limit

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	12.5	15.0	17.5	No limit	Max. HR	12.5	15.0	17.5	No limit
0.00	0	0	0	0	0.00	0	0	0	0
0.20	9.3	9.4	9.4	9.4	0.20	11.4	12.4	13.0	13.2
0.25	9.7	10.0	10.1	10.1	0.25	11.7	12.9	13.7	14.1
0.30	10.0	10.4	10.5	10.5	0.30	11.9	13.2	14.1	14.8
0.35	10.1	10.7	10.8	10.8	0.35	12.1	13.4	14.4	15.3
0.40	10.2	10.8	11.0	11.0	0.40	12.1	13.6	14.6	15.7

Appendix 1b. Standard deviation of yield (in millions of pounds) expected for Area 2B under a CCC harvest policy under two different growth scenarios and with and without a minimum biomass threshold and limit.

Most Likely Scenario

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	12.5	15.0	17.5	No limit	Max. HR	12.5	15.0	17.5	No limit
0.00	0	0	0	0	0.00	0	0	0	0
0.20	1.7	2.3	2.3	2.3	0.20	0.6	1.7	2.6	3.1
0.25	1.5	2.5	2.8	2.9	0.25	0.3	1.3	2.4	3.4
0.30	1.3	2.4	3.2	3.3	0.30	0.1	1.0	2.2	3.8
0.35	1.1	2.3	3.3	3.7	0.35	0.0	0.8	2.0	4.2
0.40	1.0	2.3	3.4	4.0	0.40	0.0	0.6	1.8	4.6

No Growth Scenario

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	12.5	15.0	17.5	No limit	Max. HR	12.5	15.0	17.5	No limit
0.00	0	0	0	0	0.00	0	0	0	0
0.20	2.7	3.0	3.0	3.0	0.20	1.7	2.9	3.8	4.2
0.25	2.7	3.2	3.3	3.3	0.25	1.4	2.6	3.7	4.7
0.30	2.6	3.3	3.5	3.6	0.30	1.2	2.4	3.6	5.0
0.35	2.5	3.4	3.7	3.8	0.35	1.0	2.3	3.5	5.3
0.40	2.4	3.4	3.8	3.9	0.40	0.9	2.1	3.4	5.5

Most Likely Scenario including minimum biomass threshold and limit

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	12.5	15.0	17.5	No limit	Max. HR	12.5	15.0	17.5	No limit
0.00	0	0	0	0	0.00	0	0	0	0
0.20	1.7	2.3	2.3	2.3	0.20	0.6	1.7	2.6	3.1
0.25	1.5	2.5	2.8	2.9	0.25	0.3	1.3	2.4	3.4
0.30	1.3	2.5	3.2	3.3	0.30	0.1	1.0	2.2	3.8
0.35	1.1	2.4	3.3	3.7	0.35	0.0	0.8	2.0	4.2
0.40	1.1	2.3	3.4	4.1	0.40	0.0	0.6	1.8	4.6

No Growth Scenario including minimum biomass threshold and limit

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	12.5	15.0	17.5	No limit	Max. HR	12.5	15.0	17.5	No limit
0.00	0	0	0	0	0.00	0	0	0	0
0.20	2.7	3.0	3.0	3.0	0.20	1.7	2.9	3.8	4.2
0.25	2.7	3.3	3.4	3.4	0.25	1.4	2.6	3.7	4.7
0.30	2.8	3.5	3.7	3.7	0.30	1.2	2.4	3.6	5.0
0.35	2.8	3.7	4.0	4.0	0.35	1.1	2.3	3.6	5.3
0.40	2.9	3.8	4.2	4.3	0.40	1.1	2.3	3.6	5.6

Appendix 1c. Average spawning biomass (in millions of pounds) expected for Area 2B under a CCC harvest policy under two different growth scenarios and with and without a minimum biomass threshold and limit.

Most Likely Scenario

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	12.5	15.0	17.5	No limit	Max. HR	12.5	15.0	17.5	No limit
0.00	131	131	131	131	0.00	179	179	179	179
0.20	56	53	53	53	0.20	85	74	69	66
0.25	53	47	46	46	0.25	84	70	62	57
0.30	51	44	41	41	0.30	83	68	58	50
0.35	49	42	37	36	0.35	83	67	56	45
0.40	48	40	35	33	0.40	83	66	54	40

No Growth Scenario

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	12.5	15.0	17.5	No limit	Max. HR	12.5	15.0	17.5	No limit
0.00	131	131	131	131	0.00	179	179	179	179
0.20	45	43	43	44	0.20	79	69	63	61
0.25	40	37	36	37	0.25	75	64	56	51
0.30	37	32	31	32	0.30	73	60	51	44
0.35	34	29	27	28	0.35	72	58	48	38
0.40	33	26	24	25	0.40	71	56	46	34

Most Likely Scenario including minimum biomass threshold and limit

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	12.5	15.0	17.5	No limit	Max. HR	12.5	15.0	17.5	No limit
0.00	131	131	131	131	0.00	179	179	179	179
0.20	56	53	53	53	0.20	85	74	69	66
0.25	53	47	46	46	0.25	84	70	62	57
0.30	51	44	41	41	0.30	83	68	58	50
0.35	49	42	37	36	0.35	83	67	56	45
0.40	48	40	35	33	0.40	83	66	54	40

No Growth Scenario including minimum biomass threshold and limit

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	12.5	15.0	17.5	No limit	Max. HR	12.5	15.0	17.5	No limit
0.00	131	131	131	131	0.00	178	178	178	178
0.20	45	43	43	43	0.20	79	69	63	61
0.25	40	37	37	37	0.25	75	64	56	51
0.30	38	33	32	32	0.30	73	60	51	44
0.35	36	31	29	29	0.35	72	58	48	38
0.40	35	29	27	27	0.40	71	57	46	34

Appendix 1d. Percentage of years in which yield (in millions of pounds) is expected to be [3] 90% of constant catch limit for Area 2B under a CCC harvest policy under two different growth scenarios and with and without a minimum biomass threshold and limit.

Most Likely Scenario

Recruitment Distribution 1

Max. HR	Constant catch 12.5	15.0	17.5	No limit
0.00	0	0	0	0
0.20	56	25	1	0
0.25	66	46	15	0
0.30	74	54	33	0
0.35	80	58	42	0
0.40	84	62	47	0

Recruitment Distribution 2

Max. HR	Constant catch 12.5	15.0	17.5	No limit
0.00	0	0	0	0
0.20	91	61	37	0
0.25	98	75	54	0
0.30	100	85	63	0
0.35	100	91	68	0
0.40	100	95	74	0

No Growth Scenario

Recruitment Distribution 1

Max. HR	Constant catch 12.5	15.0	17.5	No limit
0.00	0	0	0	0
0.20	36	13	2	0
0.25	45	23	5	0
0.30	50	32	10	0
0.35	54	27	15	0
0.40	57	41	19	0

Recruitment Distribution 2

Max. HR	Constant catch 12.5	15.0	17.5	No limit
0.00	0	0	0	0
0.20	68	52	36	0
0.25	76	59	45	0
0.30	82	63	50	0
0.35	86	67	54	0
0.40	89	70	57	0

Most Likely Scenario including minimum biomass threshold and limit

Recruitment Distribution 1

Max. HR	Constant catch 12.5	15.0	17.5	No limit
0.00	0	0	0	0
0.20	56	25	1	0
0.25	66	46	15	0
0.30	74	54	33	0
0.35	80	58	42	0
0.40	85	62	47	0

Recruitment Distribution 2

Max. HR	Constant catch 12.5	15.0	17.5	No limit
0.00	0	0	0	0
0.20	91	61	37	0
0.25	98	75	54	0
0.30	100	81	63	0
0.35	100	91	68	0
0.40	100	95	74	0

No Growth Scenario including minimum biomass threshold and limit

Recruitment Distribution 1

Max. HR	Constant catch 12.5	15.0	17.5	No limit
0.00	0	0	0	0
0.20	36	10	1	0
0.25	45	20	4	0
0.30	51	28	8	0
0.35	55	35	12	0
0.40	60	39	17	0

Recruitment Distribution 2

Max. HR	Constant catch 12.5	15.0	17.5	No limit
0.00	0	0	0	0
0.20	68	52	36	0
0.25	76	59	45	0
0.30	82	63	50	0
0.35	86	67	54	0
0.40	90	70	57	0

Appendix 1e. Probability that spawning biomass to will decline to historic minimum in Area 2B under a CCC harvest policy under two different growth scenarios without a minimum biomass threshold and limit.

Most Likely Scenario

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	12.5	15.0	17.5	No limit	Max. HR	12.5	15.0	17.5	No limit
0.00	0	0	0	0	0.00	0	0	0	0
0.20	0	0	0	0	0.20	0	0	0	0
0.25	0	0	0	0	0.25	0	0	0	0
0.30	2	2	2	2	0.30	0	0	0	0
0.35	8	38	44	44	0.35	0	0	0	0
0.40	22	74	90	92	0.40	0	0	2	4

No Growth Scenario

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	12.5	15.0	17.5	No limit	Max. HR	12.5	15.0	17.5	No limit
0.00	0	0	0	0	0.00	0	0	0	0
0.20	18	18	18	18	0.20	0	0	0	0
0.25	68	72	72	72	0.25	0	0	0	0
0.30	98	98	98	98	0.30	12	28	32	32
0.35	100	100	100	100	0.35	34	62	70	70
0.40	100	100	100	100	0.40	48	92	96	96

Appendix 2B. Average annual yields (in millions of pounds) expected for Area 2C under a CCC harvest policy under two different growth scenarios and with and without a minimum biomass threshold and limit.

Most Likely Scenario

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	10.0	12.5	15.0	No limit	Max. HR	10.0	12.5	15.0	No limit
0.00	0	0	0	0	0.00				
0.20	9.3	10.0	10.0	10.0	0.20				
0.25	9.6	10.7	11.0	11.0	0.25	Same	As	Rec.	Dist. 1
0.30	9.8	11.1	11.7	11.8	0.30				
0.35	9.9	11.3	12.1	12.4	0.35				
0.40	9.9	11.4	12.4	12.8	0.40				

No Growth Scenario

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	10.0	12.5	15.0	No limit	Max. HR	10.0	12.5	15.0	No limit
0.00	0	0	0	0	0.00				
0.20	7.9	8.2	8.3	8.3	0.20				
0.25	8.3	8.8	8.9	8.9	0.25	Same	As	Rec.	Dist. 1
0.30	8.5	9.2	9.3	9.3	0.30				
0.35	8.7	9.4	9.6	9.6	0.35				
0.40	8.8	9.6	9.9	9.9	0.40				

Most Likely Scenario including minimum biomass threshold and limit

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	10.0	12.5	15.0	No limit	Max. HR	10.0	12.5	15.0	No limit
0.00	0	0	0	0	0.00				
0.20	9.3	10.0	10.0	10.0	0.20				
0.25	9.6	10.7	11.0	11.0	0.25	Same	As	Rec.	Dist. 1
0.30	9.8	11.1	11.7	11.8	0.30				
0.35	9.9	11.3	12.1	12.4	0.35				
0.40	9.9	11.4	12.3	12.8	0.40				

No Growth Scenario including minimum biomass threshold and limit

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	10.0	12.5	15.0	No limit	Max. HR	10.0	12.5	15.0	No limit
0.00	0	0	0	0	0.00				
0.20	7.9	8.2	8.1	8.1	0.20				
0.25	8.2	8.7	8.6	8.6	0.25	Same	As	Rec.	Dist. 1
0.30	8.4	9.0	8.9	8.9	0.30				
0.35	8.5	9.2	9.1	9.2	0.35				
0.40	8.5	9.3	9.3	9.3	0.40				

Appendix 2b. Standard deviation of yield (in millions of pounds) expected for Area 2C under a CCC harvest policy under two different growth scenarios and with and without a minimum biomass threshold and limit.

Most Likely Scenario

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	10.0	12.5	15.0	No limit	Max. HR	10.0	12.5	15.0	No limit
0.00	0	0	0	0	0.00				
0.20	1.0	1.8	1.8	1.8	0.20				
0.25	0.7	1.9	2.3	2.3	0.25	Same	As	Rec.	Dist. 1
0.30	0.6	1.8	2.6	2.7	0.30				
0.35	0.4	1.7	2.8	3.1	0.35				
0.40	0.4	1.6	2.8	3.5	0.40				

No Growth Scenario

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	10.0	12.5	15.0	No limit	Max. HR	10.0	12.5	15.0	No limit
0.00	0	0	0	0	0.00				
0.20	2.1	2.6	2.7	2.7	0.20				
0.25	1.9	2.8	2.9	2.9	0.25	Same	As	Rec.	Dist. 1
0.30	1.8	2.8	3.1	3.2	0.30				
0.35	1.7	2.8	3.3	3.3	0.35				
0.40	1.7	2.8	3.4	3.5	0.40				

Most Likely Scenario including minimum biomass threshold and limit

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	10.0	12.5	15.0	No limit	Max. HR	10.0	12.5	15.0	No limit
0.00	0	0	0	0	0.00				
0.20	1.0	1.8	1.8	1.8	0.20				
0.25	0.7	1.9	2.3	2.3	0.25	Same	As	Rec.	Dist. 1
0.30	0.6	1.8	2.6	2.7	0.30				
0.35	0.5	1.7	2.8	3.2	0.35				
0.40	0.5	1.8	2.9	3.6	0.40				

No Growth Scenario including minimum biomass threshold and limit

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	10.0	12.5	15.0	No limit	Max. HR	10.0	12.5	15.0	No limit
0.00	0	0	0	0	0.00				
0.20	2.1	2.9	2.7	2.7	0.20				
0.25	2.1	2.9	3.0	3.0	0.25	Same	As	Rec.	Dist. 1
0.30	2.1	3.0	3.3	3.4	0.30				
0.35	2.1	3.2	3.6	3.7	0.35				
0.40	2.1	3.3	3.8	3.9	0.40				

Appendix 2c. Average spawning biomass (in millions of pounds) expected for Area 2C under a CCC harvest policy under two different growth scenarios and with and without a minimum biomass threshold and limit.

Most Likely Scenario

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	10.0	12.5	15.0	No limit	Max. HR	10.0	12.5	15.0	No limit
0.00	127	127	127	127	0.00				
0.20	54	50	49	49	0.20				
0.25	52	44	43	43	0.25	Same	As	Rec.	Dist. 1
0.30	51	41	38	37	0.30				
0.35	50	40	34	33	0.35				
0.40	50	38	32	30	0.40				

No Growth Scenario

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	10.0	12.5	15.0	No limit	Max. HR	10.0	12.5	15.0	No limit
0.00	126	126	126	126	0.00				
0.20	45	41	41	41	0.20				
0.25	41	35	34	34	0.25	Same	As	Rec.	Dist. 1
0.30	38	31	29	29	0.30				
0.35	36	28	25	25	0.35				
0.40	35	26	23	22	0.40				

Most Likely Scenario including minimum biomass threshold and limit

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	10.0	12.5	15.0	No limit	Max. HR	10.0	12.5	15.0	No limit
0.00	127	127	127	127	0.00				
0.20	54	50	49	49	0.20				
0.25	52	44	43	43	0.25	Same	As	Rec.	Dist. 1
0.30	51	41	38	37	0.30				
0.35	50	40	35	33	0.35				
0.40	50	39	33	30	0.40				

No Growth Scenario including minimum biomass threshold and limit

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	10.0	12.5	15.0	No limit	Max. HR	10.0	12.5	15.0	No limit
0.00	126	126	126	126	0.00				
0.20	45	41	41	41	0.20				
0.25	41	36	35	35	0.25	Same	As	Rec.	Dist. 1
0.30	40	32	31	31	0.30				
0.35	39	30	28	28	0.35				
0.40	38	29	26	25	0.40				

Appendix 2d. Percentage of years in which yield (in millions of pounds) is expected to be [3] 90% of constant catch limit for Area 2C under a CCC harvest policy under two different growth scenarios and with and without a minimum biomass threshold and limit.

Most Likely Scenario

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	10.0	12.5	15.0	No limit	Max. HR	10.0	12.5	15.0	No limit
0.00	0	0	0	0	0.00				
0.20	69	32	2	0	0.20				
0.25	83	52	15	0	0.25	Same	As	Rec.	Dist. 1
0.30	90	60	37	0	0.30				
0.35	94	65	46	0	0.35				
0.40	96	68	50	0	0.40				

No Growth Scenario

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	10.0	12.5	15.0	No limit	Max. HR	10.0	12.5	15.0	No limit
0.00	0	0	0	0	0.00				
0.20	46	17	2	0	0.20				
0.25	53	28	6	0	0.25	Same	As	Rec.	Dist. 1
0.30	58	36	11	0	0.30				
0.35	61	41	16	0	0.35				
0.40	64	45	20	0	0.40				

Most Likely Scenario including minimum biomass threshold and limit

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	10.0	12.5	15.0	No limit	Max. HR	10.0	12.5	15.0	No limit
0.00	0	0	0	0	0.00				
0.20	69	32	2	0	0.20				
0.25	83	52	15	0	0.25	Same	As	Rec.	Dist. 1
0.30	90	60	37	0	0.30				
0.35	95	65	46	0	0.35				
0.40	96	69	51	0	0.40				

No Growth Scenario including minimum biomass threshold and limit

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	10.0	12.5	15.0	No limit	Max. HR	10.0	12.5	15.0	No limit
0.00	0	0	0	0	0.00				
0.20	46	17	2	0	0.20				
0.25	54	28	6	0	0.25	Same	As	Rec.	Dist. 1
0.30	59	37	11	0	0.30				
0.35	64	43	16	0	0.35				
0.40	66	48	21	0	0.40				

Appendix 2e. Probability that spawning biomass to will decline to historic minimum in Area 2C under a CCC harvest policy under two different growth scenarios without a minimum biomass threshold and limit.

Most Likely Scenario

Recruitment Distribution 1				
	Constant catch			
Max. HR	12.5	15.0	17.5	No limit
0.00	0	0	0	0
0.20	0	0	0	0
0.25	0	0	0	0
0.30	0	0	0	0
0.35	0	8	12	14
0.40	0	30	46	48

Recruitment Distribution 2				
	Constant catch			
Max. HR	12.5	15.0	17.5	No limit
0.00				
0.20				
0.25	Same	As	Rec.	Dist. 1
0.30				
0.35				
0.40				

No Growth Scenario

Recruitment Distribution 1				
	Constant catch			
Max. HR	12.5	15.0	17.5	No limit
0.00	0	0	0	0
0.20	0	0	0	0
0.25	24	32	34	34
0.30	66	80	86	86
0.35	92	98	100	100
0.40	98	100	100	100

Recruitment Distribution 2				
	Constant catch			
Max. HR	12.5	15.0	17.5	No limit
0.00				
0.20				
0.25	Same	As	Rec.	Dist. 1
0.30				
0.35				
0.40				

Appendix 3a. Average annual yields (in millions of pounds) expected for Area 3A under a CCC harvest policy under two different growth scenarios and with and without a minimum biomass threshold and limit.

Most Likely Scenario

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	25.0	27.5	30.0	No limit	Max. HR	25.0	27.5	30.0	No limit
0.00	0	0	0	0	0.00	0	0	0	0
0.20	24.8	26.6	27.6	28.1	0.20	23.9	25.1	25.8	25.9
0.25	25.0	27.3	29.0	31.6	0.25	24.6	26.2	27.4	28.9
0.30	25.0	27.4	29.6	34.6	0.30	24.8	26.7	28.2	31.2
0.35	25.0	27.5	29.8	36.9	0.35	24.9	27.0	28.6	32.9
0.40	25.0	27.5	29.9	38.8	0.40	25.0	27.2	29.0	34.3

No Growth Scenario

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	25.0	27.5	30.0	No limit	Max. HR	25.0	27.5	30.0	No limit
0.00	0	0	0	0	0.00	0	0	0	0
0.20	20.1	20.7	20.9	21.1	0.20	17.2	17.2	17.3	17.3
0.25	21.0	21.7	22.2	22.6	0.25	18.2	18.4	18.5	18.5
0.30	21.5	22.4	23.0	23.7	0.30	18.9	19.2	19.4	19.4
0.35	21.9	22.9	23.6	24.6	0.35	19.4	19.8	20.0	20.1
0.40	22.3	23.2	24.0	25.2	0.40	19.8	20.3	20.5	20.6

Most Likely Scenario including minimum biomass threshold and limit

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	25.0	27.5	30.0	No limit	Max. HR	25.0	27.5	30.0	No limit
0.00	0	0	0	0	0.00	0	0	0	0
0.20	24.8	26.6	27.6	28.1	0.20	23.9	25.1	25.8	25.9
0.25	25.0	27.3	29.0	31.6	0.25	24.6	26.2	27.4	28.9
0.30	25.0	27.4	29.6	34.6	0.30	24.8	26.7	28.1	31.2
0.35	25.0	27.5	29.8	36.9	0.35	24.9	27.0	28.6	32.8
0.40	25.0	27.5	29.9	38.8	0.40	24.9	27.1	28.8	34.1

No Growth Scenario including minimum biomass threshold and limit

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	25.0	27.5	30.0	No limit	Max. HR	25.0	27.5	30.0	No limit
0.00	0	0	0	0	0.00	0	0	0	0
0.20	19.8	20.3	20.6	20.7	0.20	16.4	16.5	16.5	16.5
0.25	20.3	21.1	21.5	21.9	0.25	17.2	17.4	17.4	17.4
0.30	20.6	21.5	22.1	22.8	0.30	17.5	17.8	18.0	18.0
0.35	20.9	21.7	22.4	23.3	0.35	17.8	18.1	18.2	18.3
0.40	21.3	22.0	22.6	23.7	0.40	18.3	18.4	18.5	18.5

Appendix 3b. Standard deviation of yield (in millions of pounds) expected for Area 3A under a CCC harvest policy under two different growth scenarios and with and without a minimum biomass threshold and limit.

Most Likely Scenario

Recruitment Distribution 1

Max. HR	Constant catch 25.0	27.5	30.0	No limit
0.00	0	0	0	0
0.20	0.6	1.7	2.7	3.3
0.25	0.1	0.8	1.9	4.6
0.30	0.0	0.3	1.2	5.9
0.35	0.0	0.1	0.8	7.2
0.40	0.0	0.1	0.5	8.4

Recruitment Distribution 2

Max. HR	Constant catch 25.0	27.5	30.0	No limit
0.00	0	0	0	0
0.20	1.8	3.0	3.8	4.0
0.25	1.1	2.3	3.4	5.3
0.30	0.7	1.7	2.9	6.5
0.35	0.4	1.3	2.5	7.5
0.40	0.2	1.0	2.2	8.4

No Growth Scenario

Recruitment Distribution 1

Max. HR	Constant catch 25.0	27.5	30.0	No limit
0.00	0	0	0	0
0.20	5.1	5.9	6.4	6.8
0.25	4.7	5.8	6.6	7.5
0.30	4.4	5.6	6.6	8.0
0.35	4.2	5.4	6.5	8.5
0.40	4.0	5.3	6.4	8.8

Recruitment Distribution 2

Max. HR	Constant catch 25.0	27.5	30.0	No limit
0.00	0	0	0	0
0.20	5.3	5.5	5.6	5.6
0.25	5.5	5.9	6.1	6.1
0.30	5.5	6.2	6.4	6.6
0.35	5.5	6.3	6.7	6.9
0.40	5.4	6.3	6.8	7.2

Most Likely Scenario including minimum biomass threshold and limit

Recruitment Distribution 1

Max. HR	Constant catch 25.0	27.5	30.0	No limit
0.00	0	0	0	0
0.20	0.6	1.7	2.7	3.3
0.25	0.1	0.8	1.9	4.6
0.30	0.0	0.3	1.2	5.9
0.35	0.0	0.2	0.8	7.3
0.40	0.0	0.1	0.7	8.5

Recruitment Distribution 2

Max. HR	Constant catch 25.0	27.5	30.0	No limit
0.00	0	0	0	0
0.20	1.8	3.0	3.8	4.0
0.25	1.1	2.3	3.4	5.3
0.30	0.7	1.8	3.0	6.5
0.35	0.6	1.6	2.8	7.7
0.40	0.6	1.6	2.8	8.8

No Growth Scenario including minimum biomass threshold and limit

Recruitment Distribution 1

Max. HR	Constant catch 25.0	27.5	30.0	No limit
0.00	0	0	0	0
0.20	5.7	6.5	7.1	7.4
0.25	5.9	6.9	7.7	8.5
0.30	5.9	7.1	8.0	9.4
0.35	6.4	7.1	8.2	10.0
0.40	8.4	8.5	8.4	10.5

Recruitment Distribution 2

Max. HR	Constant catch 25.0	27.5	30.0	No limit
0.00	0	0	0	0
0.20	6.4	6.6	6.6	6.7
0.25	7.0	7.4	7.5	7.6
0.30	7.2	7.8	8.1	8.2
0.35	7.7	8.1	8.3	8.6
0.40	10.3	9.2	9.1	8.8

Appendix 3c. Average spawning biomass (in millions of pounds) expected for Area 3A under a CCC harvest policy under two different growth scenarios and with and without a minimum biomass threshold and limit.

Most Likely Scenario

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	25.0	27.5	30.0	No limit	Max. HR	25.0	27.5	30.0	No limit
0.00	240	240	240	240	0.00	215	215	215	215
0.20	137	130	126	124	0.20	125	121	119	119
0.25	136	126	120	112	0.25	122	115	111	106
0.30	136	125	117	102	0.30	120	112	106	94
0.35	136	125	115	93	0.35	120	110	103	85
0.40	136	125	115	85	0.40	119	109	100	77

No Growth Scenario

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	25.0	27.5	30.0	No limit	Max. HR	25.0	27.5	30.0	No limit
0.00	235	235	235	235	0.00	192	192	192	192
0.20	92	88	85	84	0.20	70	69	69	69
0.25	85	79	75	71	0.25	61	59	58	58
0.30	80	73	68	62	0.30	55	52	51	50
0.35	77	69	63	54	0.35	50	47	45	44
0.40	74	66	59	48	0.40	47	43	41	40

Most Likely Scenario including minimum biomass threshold and limit

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	25.0	27.5	30.0	No limit	Max. HR	25.0	27.5	30.0	No limit
0.00	240	240	240	240	0.00	215	215	215	215
0.20	137	130	126	124	0.20	125	121	119	119
0.25	136	126	120	112	0.25	122	115	111	106
0.30	136	125	117	102	0.30	120	112	106	94
0.35	136	125	116	93	0.35	120	110	103	86
0.40	136	125	115	85	0.40	120	110	102	79

No Growth Scenario including minimum biomass threshold and limit

Recruitment Distribution 1					Recruitment Distribution 2				
	Constant catch					Constant catch			
Max. HR	25.0	27.5	30.0	No limit	Max. HR	25.0	27.5	30.0	No limit
0.00	235	235	235	235	0.00	192	192	192	192
0.20	95	90	88	87	0.20	75	75	75	75
0.25	91	84	81	77	0.25	69	68	67	67
0.30	88	81	76	70	0.30	67	64	63	62
0.35	86	79	73	65	0.35	64	61	60	59
0.40	83	77	71	61	0.40	60	59	58	58

Appendix 3c. Percentage of years in which yield (in millions of pounds) is expected to be [3] 90% of constant catch limit for Area 3A under a CCC harvest policy under two different growth scenarios and with and without a minimum biomass threshold and limit.

Most Likely Scenario

Recruitment Distribution 1

Max. HR	Constant catch 25.0	27.5	30.0	No limit
0.00	0	0	0	0
0.20	97	84	65	0
0.25	100	96	84	0
0.30	100	99	93	0
0.35	100	100	97	0
0.40	100	100	99	0

Recruitment Distribution 2

Max. HR	Constant catch 25.0	27.5	30.0	No limit
0.00	0	0	0	0
0.20	79	63	49	0
0.25	92	77	64	0
0.30	97	87	73	0
0.35	99	92	79	0
0.40	100	95	84	0

No Growth Scenario

Recruitment Distribution 1

Max. HR	Constant catch 25.0	27.5	30.0	No limit
0.00	0	0	0	0
0.20	48	38	26	0
0.25	55	47	37	0
0.30	60	52	44	0
0.35	63	55	48	0
0.40	66	58	51	0

Recruitment Distribution 2

Max. HR	Constant catch 25.0	27.5	30.0	No limit
0.00	0	0	0	0
0.20	23	10	3	0
0.25	35	21	9	0
0.30	42	28	16	0
0.35	46	34	22	0
0.40	49	38	26	0

Most Likely Scenario including minimum biomass threshold and limit

Recruitment Distribution 1

Max. HR	Constant catch 25.0	27.5	30.0	No limit
0.00	0	0	0	0
0.20	97	84	65	0
0.25	100	96	84	0
0.30	100	99	93	0
0.35	100	100	97	0
0.40	100	100	98	0

Recruitment Distribution 2

Max. HR	Constant catch 25.0	27.5	30.0	No limit
0.00	0	0	0	0
0.20	79	63	49	0
0.25	92	77	64	0
0.30	97	87	73	0
0.35	99	93	80	0
0.40	99	94	85	0

No Growth Scenario including minimum biomass threshold and limit

Recruitment Distribution 1

Max. HR	Constant catch 25.0	27.5	30.0	No limit
0.00	0	0	0	0
0.20	49	39	26	0
0.25	57	48	38	0
0.30	61	56	46	0
0.35	70	58	50	0
0.40	83	69	55	0

Recruitment Distribution 2

Max. HR	Constant catch 25.0	27.5	30.0	No limit
0.00	0	0	0	0
0.20	24	10	3	0
0.25	38	22	10	0
0.30	43	33	19	0
0.35	52	38	23	0
0.40	70	50	36	0

Appendix 3e. Probability that spawning biomass to will decline to historic minimum in Area 2C under a CCC harvest policy under two different growth scenarios without a minimum biomass threshold and limit.

Most Likely Scenario

Recruitment Distribution 1				
	Constant catch			
Max. HR	12.5	15.0	17.5	No limit
0.00	0	0	0	0
0.20	0	0	0	0
0.25	0	0	0	0
0.30	0	0	0	0
0.35	0	0	0	0
0.40	0	0	0	0

Recruitment Distribution 2				
	Constant catch			
Max. HR	12.5	15.0	17.5	No limit
0.00	0	0	0	0
0.20	0	0	0	0
0.25	0	0	0	0
0.30	0	0	0	0
0.35	0	0	0	0
0.40	0	0	0	2

No Growth Scenario

Recruitment Distribution 1				
	Constant catch			
Max. HR	12.5	15.0	17.5	No limit
0.00	0	0	0	0
0.20	4	4	6	6
0.25	46	48	48	48
0.30	86	90	94	96
0.35	98	98	98	100
0.40	98	100	100	100

Recruitment Distribution 2				
	Constant catch			
Max. HR	12.5	15.0	17.5	No limit
0.00	0	0	0	0
0.20	50	52	52	52
0.25	96	98	98	98
0.30	100	100	100	100
0.35	100	100	100	100
0.40	100	100	100	100

REPORT ON INTERNATIONAL PACIFIC HALIBUT COMMISSION ANNUAL MEETING

Situation: Council Chair Dr. Hans Radtke and Executive Director Dr. Don McIsaac attended the International Pacific Halibut Commission (IPHC) meeting in January which set the overall halibut harvest levels for 2003, including that for Area 2A. Dr. Radtke has submitted a brief summary of the results of the meeting (Exhibit F.2, Attachment 1).

Council Task:

1. Receive information for discussion.

Reference Materials:

1. Report on International Pacific Halibut Commission Annual Meeting (Exhibit F.2, Attachment 1).
2. Conference Board Report 80th IPHC Annual Meeting (Exhibit F.2, Attachment 2).
3. Processor Advisory Group Eighth Annual Meeting Report (Exhibit F.2, Attachment 3).
4. International Pacific Halibut Commission News Release (Exhibit F.2, Attachment 4).
5. Issues and Tradeoffs in the Implementation of a Conditional Constant Catch Harvest Policy (Exhibit F.2, Attachment 5).

Agenda Order:

a. Summary of Meeting — Hans Radtke
b. Reports and Comments of Advisory Bodies
c. Public Comment
d. Council Discussion

PFMC
08/21/13

PUBLIC REVIEW OPTIONS FOR THE 2003 INCIDENTAL CATCH REGULATIONS
IN THE SALMON TROLL AND FIXED GEAR SABLEFISH FISHERIES

Situation: Regulations governing the incidental harvest of halibut in the salmon troll fishery and the commercial sablefish fishery north of Point Chehalis require the Council to adopt recommended halibut landing restrictions to allow incidental harvest while assuring the quotas are not exceeded.

Salmon Troll Fishery

The halibut regulations allocate 15% of the non-Indian commercial halibut allocation in Area 2A to the salmon troll fishery as an incidental catch during May and June (with provision for additional harvest from July through September if sufficient quota remains). A change in the regulations in 2001 directs the primary management objective is to harvest the incidental quota in the May/June salmon troll fishery, and a secondary objective is to harvest any remaining quota during July through September.

The table below provides the number of licenses, allocation, harvest, and landing restrictions for the incidental halibut fishery since the initial season in 1995. The Council has successfully used landing ratios and a total trip limit to assure a manageable progression of the fishery in past years.

Incidental Halibut Management in Area 2A Salmon Troll Fishery

Year	Licenses Issued[1/]					Pounds of Halibut			Restriction	
	WA	OR	CA	AK-2A	Total	Allocation	May-June Harvest	Total Harvest	Halibut per Chinook	Trip Limit
1995	14	104	2	5	125	16,068	2,125	2,125	1 per each 20	none
1996	22	82	5	14	123	16,068	9,521	9,521	1 + 1 per each 15	20
1997	59	187	10	19	275	21,635	17,570	17,570	1 + 1 per each 10	20
1998	44	188	15	18	265	25,344	9,123	13,124	1 + 1 per each 8	25
1999	54	193	12	25	284	23,490	9,955	9,955	1 + 1 per each 5	35
2000	49	154	8	24	235	24,464	20,925	22,350	1 + 1 per each 3	35
2001	63	232	13	37	347	34,046	-	34,324	1 + 1 per each 3	35
2002	60	223	7	41	331	39,300	-	37,967	1 + 1 per each 3	35
2003	-	-	-	-	-	39,300	-	-	-	-

Commercial Sablefish Fishery North of Point Chehalis

The total Area 2A halibut quota is large enough this year (over 900,000 pounds) to provide for an incidental halibut harvest in the commercial sablefish fishery north of Point Chehalis. This incidental fishery is allocated that portion of the Washington sport allocation in excess of 214,110 pounds, provided a minimum of 10,000 pounds is available, up to a maximum of 70,000 pounds. The maximum allocation of 70,000 pounds is a new regulation for 2003. For 2003, the available incidental harvest is the maximum of 70,000 pounds. The Council will need to consider landing or other restrictions necessary to manage this fishery within its quota.

In 2002, the allocation was 88,389 pounds of halibut. The season opened on April 1, but retention of halibut was prohibited until May 1; the season continued through October 31. Regulations restricted incidental halibut landings to150 pounds (dressed weight) of halibut for every 1,000 pounds (dressed weight) of sablefish landed and up to two additional halibut in excess of the 150 pounds per 1,000 pound ratio per landing. Final landings for this fishery were 66,599 pounds.

Council Action:

Adopt for public review, a range of landing restrictions for halibut caught incidentally in the May/June troll season to match with the troll salmon management options and assure a reasonable utilization of the incidental catch while not exceeding the quota.

Adopt for public review, a range of landing restrictions for incidental halibut harvest in the commercial sablefish fishery north of Point Chehalis.

Reference Materials:

1. None.

Agenda Order:

a. Agendum Overview — Chuck Tracy
b. State Proposals for the Salmon Troll Fishery
c. State Proposals for the Fixed Gear Sablefish Fishery
d. Tribal Comments — Jim Harp
e. Reports and Comments of Advisory Bodies
f. Public Comment
g. **Council Action:** Adopt Public Review Options for 2003 Incidental Halibut Catch Regulations

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i/ Licenses are issued by vessel number in the following order: AK, WA, OR, CA (i.e., if a vessel has both Alaska and Washington vessel numbers, the license would be issued to the Alaska vessel number).

WASHINGTON DEPARTMENT OF FISH AND WILDLIFE (WDFW) PROPOSED 2003 INCIDENTAL CATCH REGULATIONS FOR THE SALMON TROLL FISHERY

The Washington Department of Fish and Wildlife (WDFW) is proposing options for the 2003 incidental catch regulations for the salmon troll fishery as part of the Salmon Advisory Subpanel Initial Salmon Management Options for 2003 Non-Indian Ocean Fisheries (Exhibit B.5.h.).

These options will include the following:

Option 1a
Restrict incidental halibut landings to one halibut for every three salmon landed, and up to one additional halibut in excess of the 1:3 ratio per landing, not to exceed 35 halibut per landing.

Option 1b
Restrict incidental halibut landings to one halibut for every three salmon landed, and up to one additional halibut in excess of the 1:3 ratio per landing, not to exceed 25 halibut per landing.

Option 2
Designate the "C-shaped" yelloweye rockfish conservation area, as defined in the Pacific Council Halibut Catch Sharing Plan in the North Coast subarea (WA Marine Area 3), as an area to be avoided for salmon troll fishing to provide protection of yelloweye rockfish (i.e., voluntary closure).

NOTE: Option 2 may be combined with either Option 1a or Option 1b.

WASHINGTON DEPARTMENT OF FISH AND WILDLIFE (WDFW) PROPOSED 2003 INCIDENTAL CATCH REGULATIONS FOR THE FIXED GEAR SABLEFISH FISHERY

The Washington Department of Fish and Wildlife is proposing the following options for the 2003 incidental catch regulations for the fixed gear sablefish fishery North of Point Chehalis:

Option 1a
Restrict incidental halibut landings to 150 pounds (dressed weight) of halibut for every 1,000 pounds (dressed weight) of sablefish landed, and up to two additional halibut in excess of the 150 pounds per 1,000 pound ratio per landing.

Option 1b
Restrict incidental halibut landings to 100 pounds (dressed weight) of halibut for every 1,000 pounds (dressed weight) of sablefish landed, and up to two additional halibut in excess of the 150 pounds per 1,000 pound ratio per landing.

Option 2
Designate the "C-shaped" yelloweye rockfish conservation area, as defined in the Pacific Council Halibut Catch Sharing Plan in the North Coast subarea (WA Marine Area 3), as an area to be avoided for longline sablefish fishing to provide protection of yelloweye rockfish (i.e., voluntary closure).

NOTE: Option 2 may be combined with either Option 1a or Option 1b.

Under any selected option, halibut retention in the sablefish fishery would begin on May 1, after the IPHC licensing application period is concluded.

SALMON ADVISORY SUBPANEL REPORT ON PUBLIC REVIEW OPTIONS FOR THE 2003 INCIDENTAL CATCH REGULATIONS IN THE SALMON TROLL AND FIXED GEAR SABLEFISH FISHERIES

The Salmon Advisory Subpanel (SAS) proposes the following options for the incidental halibut catch in the salmon troll fishery:

Option 1. Status quo. One halibut may be retained without salmon aboard vessel. One halibut for every three salmon aboard vessel with a maximum of 35 halibut per trip.

Option 2. One halibut may be retained without salmon aboard vessel. One halibut for every three salmon aboard vessel with a maximum of 25 halibut per trip.

PFMC
03/12/03