Agenda Item E.1
Situation Summary
September 2008

PACIFIC HALIBUT BYCATCH ESTIMATE FOR INTERNATIONAL PACIFIC HALIBUT COMMISSION (IPHC) ADOPTION

Mr. John Wallace, National Marine Fisheries Service (NMFS), will brief the Council on the status of bycatch estimates for Pacific halibut in the Council-area groundfish trawl fishery.

The halibut bycatch estimates for the 2007 groundfish trawl fishery in IPHC Area 2A waters include information from the groundfish observer program and effects of the groundfish area closures in 2007. A supplemental report was provided to the Scientific and Statistical Committee (SSC) for review with the intent of providing estimates to the IPHC to use in establishing the 2009 halibut fisheries (Agenda Item E.1.b, Supplemental NMFS Report).

Council Task:

Utilizing input from the SSC, provide any needed Council guidance to the completion of the bycatch assessment and its transmittal by NMFS to the IPHC.

Reference Materials:

1. Agenda Item E.1.b, Supplemental NMFS Report: Pacific Halibut Bycatch in IPHC Area 2A in 2007.

Agenda Order:

a. Agenda Item Overview	Chuck Tracy
b. NMFS Report	John Wallace
c. Reports and Comments of Advisory Bodies	
d. Public Comment	
e. Council Review and Guidance	

PFMC
08/21/08

PACIFIC HALIBUT CATCH APPORTIONMENT METHODOLOGY

The International Pacific Halibut Commission (IPHC) adopted a coastwide approach to assessing the Pacific halibut stock abundance at its 2008 Annual Meeting. The IPHC staff recommended that the total allowable catch of halibut based on the coastwide assessment be apportioned into IPHC regulatory areas using a constant exploitation rate applied to data from the fishery-independent IPHC setline stock assessment survey and estimates of bottom area from each regulatory area. The resultant allocation to Area 2A was a substantial reduction from recent years. However, at the 2008 Annual Meeting, the IPHC Commissioners deferred adoption of the new apportionment approach until IPHC staff had conducted a workshop to further explore the basis and implications of the new approach (Agenda Item E.2.a, Attachment 1).

The biomass apportionment workshop was September 4, 2008 in Bellevue, Washington and was attended by staff from the various Area 2A agencies, tribes and fishing interests. At the workshop, presentations of the methodology used in apportionment by catch area were made to a cross-section of attendees with science, policy, and industry backgrounds. An independent scientist chaired the workshop. The IPHC staff will release a summary of the workshop after the September Council meeting.

A Halibut Managers Workgroup (HMW) consisting of State, Tribal, and Federal managers, and industry representatives met twice over the summer to discuss implications of the IPHC staff proposed apportionment methodology and to consider other possible approaches that could be presented to the IPHC. The HMW considered area apportionment to be primarily a policy issue, and was prepared to explore various policy approaches with the intent of having IPHC staff provide analysis of the various policies at the apportionment workshop. Unfortunately, the IPHC staff structured the biomass workshop as a scientific approach for implementing one policy - the constant exploitation yield policy - which apportions total allowable catch (TAC) among catch areas by applying a uniform exploitation rate to the estimated exploitable biomass in a given catch area. As a result, the workgroup decided to continue their discussions after the workshop with the intent of presenting alternative approaches to catch apportionment at the IPHC Interim and Annual meetings in November 2008 and January 2009, respectively. The HMW is scheduled to meet Monday, September 8, 2008 at the Council meeting.

A summary of recent apportionment by catch area, including by-catch, is presented below for reference.

Legal sized halibut removals (net weight pounds) allocated to IPHC catch areas.

	Catch Area								
	2A	2B	2C	3A	3B	4A	4B	4CDE	Total
2008									
TAC[a/]	1.22	9.00	6.21	24.22	10.90	3.10	1.86	3.89	60.40
bycatch etc.[b/]	0.29	0.47	3.36	6.47	0.53	0.75	0.33	2.01	14.21
Total	1.51	9.47	9.57	30.69	11.43	3.85	2.19	5.90	74.61
Percent	2.0%	12.7%	12.8%	41.1%	15.3%	5.2%	2.9%	7.9%	100.0%
2007									
TAC[a/]	1.34	11.47	8.51	26.20	9.22	2.89	1.44	4.10	65.17
bycatch etc.[b/]	0.27	0.53	3.79	7.89	0.43	0.57	0.29	2.30	16.07
Total	1.61	12.00	12.30	34.09	9.65	3.46	1.73	6.40	81.24
Percent	2.0%	14.8%	15.1%	42.0%	11.9%	4.3%	2.1%	7.9%	100.0%
2006									
TAC[a/]	1.38	13.22	10.63	25.20	10.86	3.35	1.67	3.55	69.86
bycatch etc.[b/]	0.22	0.53	3.40	7.24	0.43	0.55	0.28	2.29	14.94
Total	1.60	13.75	14.03	32.44	11.29	3.90	1.95	5.84	84.80
Percent	1.9%	16.2%	16.5%	38.3%	13.3%	4.6%	2.3%	6.9%	100.0%
2005									
TAC[a/]	1.33	13.25	10.93	25.47	13.15	3.44	2.26	3.99	73.82
bycatch etc.[b/]	0.39	0.44	3.12	6.61	0.46	0.58	0.29	2.01	13.90
Total	1.72	13.69	14.05	32.08	13.61	4.02	2.55	6.00	87.72
Percent	2.0%	15.6%	16.0%	36.6%	15.5%	4.6%	2.9%	6.8%	100.0%
2004									
TAC[a/]	1.48	13.80	10.50	25.06	15.60	3.47	2.81	3.79	76.51
bycatch etc.[b/]	0.30	0.47	2.97	6.52	0.65	0.73	0.19	2.57	14.40
Total	1.78	14.27	13.47	31.58	16.25	4.20	3.00	6.36	90.91
Percent	2.0%	15.7%	14.8%	34.7%	17.9%	4.6%	3.3%	7.0%	100.0%
2004-2008 Average									
TAC[a/]	1.35	12.15	9.36	25.23	11.95	3.25	2.01	3.86	69.15
bycatch etc.[b/]	0.29	0.49	3.33	6.95	0.50	0.64	0.28	2.24	14.70
Total	1.64	12.64	12.68	32.18	12.45	3.89	2.28	6.10	83.86
Percent	2.0%	15.1%	15.1%	38.4%	14.8%	4.6%	2.7%	7.3%	100.0%

a/ Includes sport catch for Areas 2A and 2B.

b/ Includes legal sized bycatch, wastage, personal use, and sport catch, except that sport catch for Areas 2A and 2B are included in the TAC.

Council Action:

1. **Discuss scientific and policy bases for area apportionment.**
2. **Provide guidance to the Halibut Managers Workgroup for developing recommendations to U.S. Commissioners on the IPHC for catch area apportionment.**

Reference Materials:

1. Agenda Item E.2.a, Attachment 1; IPHC News Release.

Agenda Order:

a. Agenda Item Overview — Chuck Tracy
b. Reports and Comments of Advisory Bodies
c. Public Comment
d. **Council Action**: Recommendations to IPHC

PFMC 08/20/08

INTERNATIONAL PACIFIC HALIBUT COMMISSION

News Release

Agenda Item E.2.a
Attachment 1
September 2008

P.O. Box 95009, SEATTLE, WASHINGTON 98145-2009

July 3, 2008

IPHC Workshop on Biomass Apportionment – September 4th, 2008

The International Pacific Halibut Commission adopted a coastwide stock assessment methodology at its 2008 Annual Meeting. This methodology accommodates movement of halibut at all ages and determines a single coastwide estimate of exploitable biomass. This single coastwide estimate is then apportioned into IPHC regulatory area estimates using data from the fishery-independent IPHC setline stock assessment survey and estimates of bottom area from each regulatory area. This apportionment resulted in a different distribution of the exploitable biomass than had been estimated with the previous closed-area stock assessments.

At the 2008 Annual Meeting, the IPHC Commissioners and industry endorsed the coastwide stock assessment methodology but wished to have further investigation of methods for apportioning the coastwide exploitable biomass estimate into IPHC regulatory area estimates of biomass and catch limits. In addition, the Commission requested that the staff update industry on the most recent results and understanding of halibut movements arising from Commission tagging programs, particularly the PIT-tag experiment. This workshop will address both of these issues. The workshop will be held at the Red Lion hotel in Bellevue, WA on September 4th, 2008. A registration form for the workshop with details on the venue is attached to this News Release. **Registration forms must be received by August 15, 2008.** An online registration and other workshop information can be found at:
http://www.iphc.washington.edu/halcom/meetings/workshop2008/baw2008.htm

The workshop will cover: updated information on movement of halibut from PIT and PAT tagging experiments; the survey-based apportionment of coastwide exploitable biomass used by Commission staff for the 2008 catch limit determination; alternate methods to apportion coastwide exploitable biomass; and, estimated impacts on harvest rates and stock biomass from the use of specific apportionment methods. Relevant documents are located on the meeting website at:
http://www.iphc.washington.edu/halcom/meetings/workshop2008/bawdocs.htm

Currently, the following documents are available on the above referenced meeting page. Any additional documents will be posted here as they become available.

- IPHC Scientific Report 83 - describes the assessment model and harvest policy as well as describing IPHC tagging programs, the 2008 IPHC stock assessment, biomass apportionment, and yield recommendations
- Aims of study, external technical review, tagging protocol, holding experiments, and scanning experiments (IPHC RARA 2002)
- Initial work in 2001 on tagging location, holding studies, and an exploration of a state-space approach to analysis (IPHC RARA 2001)
- Tagging protocol, summary of 2003 shedding studies, recoveries, and preliminary analysis (IPHC RARA 2003)

- Simulation of the effect of migration and uneven fishing effort on the selectivity and harvest rate estimates (IPHC Stock Assessment papers - 2004)
- 2004 releases, tag-loss summary, and summary of 2004 sampling and recoveries (IPHC RARA 2004)
- A simple recovery model was presented in the paper analyzing the 2004 recoveries (IPHC RARA 2004)
- A somewhat more complicated model accounting for non-commercial removals of marked fish was presented in the paper analyzing the 2005 recoveries (IPHC Stock Assessment papers - 2004)
- Analysis of recoveries through 2005 (IPHC RARA 2005)
- Summary of 2005 sampling and recoveries (pp 253-276), tag loss (pp 279-284), examination of cause for low recoveries (pp 285-292) (IPHC RARA 2005)
- Analysis of recoveries through 2006 (pp 129-138) and causes of low recoveries (pp 139-144) (IPHC RARA 2006)
- Summary of 2006 sampling and recoveries (pp 277-298) (IPHC RARA 2006)
- Fine-scale modeling of migration from tagging data (includes estimation of scanning rates by statistical area) (pp 245-258) and analysis of recoveries through 2007 (pp 259-274) (IPHC RARA 2007)
- Summary of 2007 sampling and recoveries (pp 399-426) (IPHC RARA 2007)
- Summary of 2007 assessment, peer review, and migration effects (IPHC RARA 2007)
- Examination of survey catch rates, fishery-survey interactions, modeling migration, harvest policy (IPHC RARA 2007)
- Summary of 2008 recommended catch limits (pp 105-110) (IPHC Bluebook 2008)

The workshop will be chaired by an independent scientist. A report of the workshop will be produced for presentation to the Commission in the fall of 2008. Questions regarding the workshop and registration can be directed to either Laura Black (laura@iphc.washington.edu) or the IPHC office at (206) 634-1838.

- END -

Bruce M. Leaman, Executive Director
Phone: (206) 634-1838
FAX: (206) 632-2983
Web: www.iphc.washington.edu

Agenda Item E.3
Situation Summary
September 2008

PROPOSED CHANGES TO CATCH SHARING PLAN AND 2009 ANNUAL REGULATIONS

Each September meeting, the Council considers proposed changes to the halibut regulations. The purpose of this consideration is for adjustments in the annual regulations (primarily in the recreational fishery) or the Catch Sharing Plan (CSP) for Area 2A (Agenda Item E.3.a, Attachment 1), and can include changes in catch allocation among areas or gear groups.

The Washington Department of Fish and Wildlife (WDFW) held a public meeting on August 19, and the Oregon Department of Fish and Wildlife (ODFW) held meetings on August 27 and 28 to solicit proposed changes to the CSP and to present staff proposals for public comment. Recommendations resulting from these meetings will be presented for review at the September Council meeting (Agenda Item E.3.b, Supplemental WDFW Report; Agenda Item E.3.b, Supplemental ODFW Report). An inseason update on 2008 halibut catch in Area 2A will be available as a Supplemental Informational Report.

The Council will take final action on proposed changes for 2009 at the November 2008 meeting.

Council Action:

1. **Adopt, for public review, any proposed changes to season structure and the Catch Sharing Plan for 2009.**

Reference Materials:

1. Agenda Item E.3.a, Attachment 1: 2008 Pacific Halibut Catch Sharing Plan for Area 2A.
2. Agenda Item E.3.b, Supplemental WDFW Report.
3. Agenda Item E.3.b, Supplemental ODFW Report.
4. Agenda Item E.3.d, Public Comment.

Agenda Order:

a. Agenda Item Overview — Chuck Tracy
b. Agency and Tribal Recommendations and Comments
c. Reports and Comments of Advisory Bodies
d. Public Comment
e. **Council Action**: Adopt Proposed Changes for Public Review

PFMC
08/21/08

2008 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

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*.

(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

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°53.30' 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 season dates will be set within the season dates determined by the IPHC and implemented in IPHC regulations. The tribal commercial fishery will close when the subquota is taken. 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 remainder of the 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 until the end of the season date for commercial halibut fishing determined by the IPHC and implemented in IPHC regulation. 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. Halibut retention in the salmon troll fishery will be allowed after June only if the 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.

(v) Under the Pacific Coast groundfish regulations at 50 CFR 660.383, fishing with salmon troll gear is prohibited within the Salmon Troll Yelloweye Rockfish Conservation Area (YRCA). The Salmon Troll YRCA is an area off the northern Washington coast and is defined by straight lines connecting latitude and longitude coordinates. Coordinates for the Salmon Troll YRCA are specified in groundfish regulations at 50 CFR 660.390 and in salmon regulations at 50 CFR 660.405.

(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°53.30' N. lat.). This fishery may also be managed with closed areas designed to protect overfished groundfish species. Any such closed areas will be described annually in federal halibut regulations published in the *Federal Register* and

specifically defined at 50 CFR 300.63(e). 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.

Under Pacific Coast groundfish regulations at 50 CFR 660.382, fishing with limited entry fixed gear is prohibited within the North Coast Commercial Yelloweye Rockfish Conservation Area (YRCA) and the Non-Trawl Rockfish Conservation Area (RCA). The North Coast Commercial Yelloweye Rockfish Conservation Area YRCA is an area off the northern Washington coast, overlapping the northern part of North Coast Recreational YRCA. The Non-Trawl RCA is an area off the Washington coast. These closed areas are defined by straight lines connecting latitude and longitude coordinates. Coordinates for the North Coast Commercial YRCA are specified in groundfish regulations at 50 CFR 660.390. Coordinates for the Non-Trawl RCA are specified in groundfish regulations at 50 CFR 660.393.

(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 six geographic subareas.

(1) Subarea management. The sport fishery is divided into six 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 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°31.70' 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 the first Tuesday between May 9 and 15, and continue 3 days per week (Tuesday, Thursday, and Saturday) until the May allocation is projected to be taken. The fishery will then reopen for two days on the first Tuesday and Thursday following June 16, in the following nearshore areas only:

A. WDFW Marine Catch Area 4B, which is all waters west of the Sekiu River mouth, 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., to the Bonilla-Tatoosh line, as defined by a line connecting the light on Tatoosh Island, WA, with the light on Bonilla Point on Vancouver Island, British Columbia (at 48°35.73' N. lat., 124°43.00' W. long.) south of the International Boundary between the U.S. and Canada (at 48°29.62' N. lat., 124°43.55' W. long.), and north of the point where that line intersects with the boundary of the U.S. territorial sea.

B. Shoreward of the recreational halibut 30-fm boundary line, a modified line approximating the 30 fm depth contour from the Bonilla-Tatoosh line south to the Queets River. Coordinates for the closed area will be specifically defined annually in federal halibut regulations published in the *Federal Register*.

If there is sufficient quota, the fishery will reopen for one day on the first Saturday following June 16 in the entire north coast subarea. If sufficient quota remains, the fishery would reopen, as a first priority, in the entire north coast subarea for one day following June 24. If there is insufficient quota remaining to reopen the entire north coast subarea for another day, then the nearshore areas described above would reopen following June 24, up to four days per week (Thursday-Sunday), until the remaining subarea quota is projected to be taken. No sport fishing for halibut is allowed after September 30. If the fishery is closed prior to September 30, and there is insufficient quota remaining to reopen the nearshore areas for another fishing day, then any remaining quota may be transferred inseason to another Washington coastal subarea by NMFS via an update to the recreational halibut hotline. The daily bag limit in all fisheries is one halibut per person with no size limit.

Recreational fishing for groundfish and halibut is prohibited within the North Coast Recreational Yelloweye Rockfish Conservation Area (YRCA). The North Coast Recreational YRCA is a C-shaped area off the northern Washington coast and is defined by straight lines connecting latitude and longitude coordinates. Coordinates for the North Coast Recreational YRCA are specified in groundfish regulations at 50 CFR 660.390 and will be specifically defined annually in federal halibut regulations published in the *Federal Register*.

(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°31.70' N. lat.) and north of Leadbetter Point (46°38.17' N. lat.). The structuring objective for this subarea is to maximize the season length, while maintaining a quality fishing experience. The south coast subarea quota will be allocated as follows: 90% for the primary fishery, and 10% for the nearshore fishery, once the primary fishery has closed. In 2008, the fishery will open on May 1. Beginning in 2009, the fishery will open on May 1, if it is a Sunday; otherwise, the fishery will open on the first Sunday following May 1. The primary fishery will be open two days per week, Sunday and Tuesday, in all areas, except where prohibited, and the nearshore fishery will be open four days per week, Friday, Saturday, Sunday, and Tuesday, in the area from 47°25.00' N. lat. south to 46°58.00' N. lat. and east of 124°30.00' W. long. The primary fishery will continue until September 30, or until 90% of the quota is achieved, whichever is earlier. Subsequent to this closure, if there is insufficient quota remaining to reopen the primary fishery for another fishing day, then any remaining quota may be used to accommodate incidental catch in the nearshore area from 47°25.00' N. lat. south to 46°58.00' N. lat. and east of 124°30.00' W. long. on Fridays, and Saturdays, until the remaining quota is projected to be taken. If the fishery is closed prior to September 30, and there is insufficient quota remaining to reopen the nearshore areas for another fishing day, then any remaining quota may be transferred inseason to another Washington coastal subarea by NMFS via an update to the recreational halibut hotline. The daily bag limit is one halibut per person, with no size limit.

Recreational fishing for groundfish and halibut is prohibited within the South Coast Recreational YRCA. The South Coast Recreational YRCA is an area off the southern Washington coast and is defined by straight lines connecting latitude and longitude coordinates. Coordinates for the South Coast Recreational YRCA are specified in groundfish regulations at 50 CFR 660.390 and will be specifically defined annually in federal halibut regulations published in the *Federal Register*.

(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 4.0 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 also allocated 5.0 percent of the Oregon/California sport allocation or an amount equal to the contribution from the Washington sport allocation, whichever is greater. This subarea is defined as waters south of Leadbetter Point, WA (46°38.17' 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 70 percent of the subarea allocation is taken or until the third Sunday in July, whichever is earlier. The fishery will reopen on the first Friday in August and continue 3 days per week, Friday-Sunday until the remainder of the subarea quota has been taken, or until September 30, whichever is earlier. Subsequent to this closure, if there is insufficient quota remaining in the Columbia River subarea for another fishing day, then any remaining quota may be transferred inseason to another Washington and/or Oregon subarea by NMFS via an update to the recreational halibut hotline. Any remaining quota would be transferred to each state in proportion to its contribution. The daily bag limit is one halibut per person, with no size limit. No groundfish may be taken and retained, possessed or landed, except sablefish and Pacific cod when allowed by groundfish regulations, if halibut are on board the vessel.

(v) Oregon central coast subarea.

This subarea extends from Cape Falcon (45°46.00' N. lat.) to Humbug Mountain, Oregon (42°40.50' N. lat.) and is allocated 92.0 percent of the Oregon/California sport allocation minus any amount of pounds needed to contribute to the Oregon portion of the Columbia River subarea quota. 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. 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 40-fathom (73 m) fishery through 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 40-fathom (73 m) fishery subquota, if it can be used. If inseason it is determined via joint consultation between IPHC, NMFS and ODFW, that the combined all-depth and inside 40-fathom (73 m) fisheries will not harvest the entire quota to the subarea, quota may be transferred inseason to another subarea south of Leadbetter Point, WA by NMFS via an update to the recreational halibut hotline. The daily bag limit is one halibut per person, unless otherwise specified, with no size limit. During days open to all-depth halibut fishing, no groundfish may be taken and

retained, possessed or landed, except sablefish when allowed by groundfish regulations, if halibut are on board the vessel.

Recreational fishing for groundfish and halibut is prohibited within the Stonewall Bank YRCA. The Stonewall Bank YRCA is an area off central Oregon, near Stonewall Bank, and is defined by straight lines connecting latitude and longitude coordinates. Coordinates for the Stonewall Bank YRCA are specified in groundfish regulations at 50 CFR 660.390 and will be specifically defined annually in federal halibut regulations published in the *Federal Register*.

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 40-fathom (73 m) curve, and continues daily until the subquota (8 percent of the subarea quota) is taken, or until October 31, whichever is earlier. Any overage in the all-depth fisheries would not affect achievement of allocation set aside for the inside 40-fathom (73 m) curve fishery.

B. The second season is an all-depth fishery with two potential openings and is allocated 69 percent of the subarea quota. Fixed season dates will be established preseason for the first Spring opening and will not be modified inseason except if the combined Oregon all-depth Spring and Summer season total quotas are estimated to be achieved. Recent year catch rates will be used as a guideline for estimating the catch rate for the Spring 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 subquota for this season. The first opening 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. The fixed season dates will occur in consecutive weeks starting the second Thursday in May (if the season is 5 or more fishing days) or second Friday in May (if the season is 4 or fewer fishing days), with possible exceptions to avoid adverse tidal conditions. If, following the "fixed" dates, quota for this season remains unharvested, a second opening will be held. If it is determined appropriate through joint consultation between IPHC, NMFS and ODFW, fishing may be allowed on one or more additional days. Notice of the opening(s) will be announced by NMFS via an update to the recreational halibut hotline. The fishery will be open every other week on Thursday through Saturday except that week(s) may be skipped to avoid adverse tidal conditions. The potential open Thursdays through Saturdays will be identified preseason. The fishery will continue until there is insufficient quota for an additional day of fishing or July 31, whichever is earlier.

C. The last season is an all-depth fishery that begins on the first Friday in August and is allocated 23 percent of the subarea quota. The fishery will be structured to be open every other week on Friday through Sunday except that week(s) may be skipped to avoid adverse tidal conditions. The fishery will continue until there is insufficient quota remaining to reopen for another fishing day or October 31, whichever is earlier. The potential open Fridays through Sundays will be identified preseason. If after the first scheduled open period, the remaining Cape Falcon to Humbug Mountain entire season quota (combined all-depth and inside 40-fathom (73 m) quotas) is 60,000 lb (27.2 mt) or more, the fishery will re-open on every Friday through Sunday (versus every other Friday through Sunday), if determined to be appropriate through joint consultation between IPHC, NMFS, and ODFW. The inseason action will be announced by NMFS via an update to the recreational halibut hotline. If after the Labor Day weekend, the remaining Cape Falcon to Humbug Mountain entire season quota (combined all-depth and inside 40-fathom (73 m) quotas) is 30,000 lb (13.6 mt) or more and the fishery is not already open every Friday through Sunday, the fishery will re-open on every Friday through Sunday (versus every other Friday through Sunday), if determined to be appropriate through joint consultation between IPHC, NMFS, and ODFW. After the Labor Day weekend, the IPHC, NMFS, and ODFW will consult to determine whether increasing the Oregon Central Coast bag limit to two fish is warranted with the intent that the quota for the subarea is taken by September 30. If the quota is not taken by September 30, the season will remain open, maintaining the bag limit in effect at that time, through October 31 or quota attainment, whichever is earlier. The inseason action will be announced by NMFS via an update to the recreational halibut hotline.

(vi) 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°40.50' 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 October 31. The daily bag limit is one halibut per person, with no size limit. 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 in Washington is two daily bag limits, regardless of condition, but only one daily bag limit may be possessed on the vessel. The sport possession limit on land in Oregon is three daily bag limits, regardless of condition, but only one daily bag limit may be possessed on the vessel. The sport possession limit on land in California and on the vessel is one daily bag limit, regardless of condition.

(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.

(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 206-526-6667 or 800-662-9825 (May through October) 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:
73 FR 12280 (March 7, 2008)
72 FR 11792 (March 14, 2007)
71 FR 10850 (March 3, 2006)
70 FR 20304 (April 19, 2005)
69 FR 24524 (May 4, 2004)
68 FR 10989 (March 7, 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)

Port Orford Ocean Resource Team
P.O. Box 679
351 6th Street
Port Orford, OR 97465
P: 541.332.0627
F: 541.332.1170
poort@carrollsweb.com
http://oceanresourceteam.org

August 19, 2008

Mr. Donald K. Hansen
Chairman
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

Dear Chairman Hansen:

I am writing on behalf of the Port Orford Ocean Resource Team and fishermen in Port Orford to ask the Council to consider modifications to the commercial 2A Pacific halibut fishery and the hook and line sablefish fishery to allow retention of incidentally caught halibut that are currently discarded in hook and line sablefish fisheries south of Pt. Chehalis.

The purpose of this request is to reduce discard mortality of incidentally caught halibut in the hook and line fisheries – consistent with the Council's desire to reduce bycatch. We understand that the National Marine Fisheries Service may be providing estimates of discard mortality for the hook and line sablefish fishery. It is likely the overall halibut TAC will be reduced by the estimated mortality in our hook and line fisheries for sablefish. We encourage the Council to consider management options that include full retention of bycatch species in the sablefish fishery and minimize bycatch mortality of halibut. What better way to utilize this valuable resource rather than discarding it as is now required south of Pt. Chehalis?

This summer POORT conducted interviews with fishermen and a processor in Washington and Oregon who have an interest in both the halibut and sablefish fisheries. Although there were some who were mostly satisfied with the present management of halibut and sablefish, the majority felt that there needed to be some changes in the commercial 2A halibut fishery to allow for the retention of bycatch in the hook and line fishery for sablefish.

We recognize that there are a wide range of interests in both the sablefish and halibut directed fisheries, and that our small survey was not a comprehensive review of all stakeholder's opinions. We encourage the Council to initiate the process of developing options for allowing retention of Pacific halibut in the sablefish hook and line fishery that would otherwise be discarded in this fishery south of Pt. Chehalis. We look forward to discussing options for future management of Pacific halibut with other commercial users and the Council family.

Thank your consideration of this request.

Sincerely,

Leesa Cobb

Leesa Cobb, Executive Director

August 20, 2008

Mr. Donald K. Hansen
Chairman
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

Dear Chairman Hansen:

I commercial fish at Port Orford, OR. The 2A commercial halibut fishery is open access; I get a permit but there is no point because we can't access the fish under the current management. We know there is halibut off of Port Orford, but we can't catch them for several reasons:

1. The derby is dangerous for small boats
2. The boat limit is based on the length of your vessel so small boats get few fish
3. The RCA closed our halibut fishing grounds

Against those odds, I do get out and try to catch some halibut. It isn't working.

When I fish for sablefish, I catch halibut as bycatch. And I discard the halibut trip after trip. I want to keep some bycatch of halibut and ask that you add that as an option to the 2A fishery. It seems senseless to discard the halibut and then try to fish in a derby fishery that doesn't work.

Please start the process today to add a bycatch option to2A halibut management.

Sincerely,

Chris Aiello
F/V J&C

August 20, 2008

Mr. Donald K. Hansen
Chairman
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

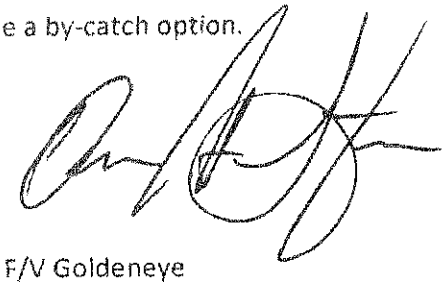
Dear Chairman Hansen,

My name is Aaron Longton. I have fished out of Port Orford for 20 years and have participated in the nearshore rockfish, salmon, tuna, and hook and line sablefish fisheries. During my involvement with the sablefish fishery, I have encountered halibut bycatch. The current management scheme for the halibut is wasteful in that we must throw back the halibut unless it is during the 10 hour opener.

The Port of Port Orford is positioned directly on the Pacific Ocean, making it vulnerable to storms. With our small boats, fishing in storms is difficult. We cannot always participate in the halibut openers, and our opportunity to retain halibut is limited by this. The closure of the RCA has put our historic halibut grounds off limits. This set of circumstances has an impact on our entire fishing fleet. Because of this, I support a change the 2A Halibut fishery to include an option for halibut bycatch retention in the sablefish fishery.

Please take action at this Council meeting to begin the process to change the 2A commercial halibut fishery to include a by-catch option.

Thank you,



Aaron Longton, F/V Goldeneye

August 20, 2008

Mr. Donald K. Hansen
Chairman
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

Dear Chairman Hansen:

I have commercial fished for 25 years for groundfish, tuna, crab and halibutfish in Oregon and California. I am writing to you today about 2A commercial halibut fishery management.

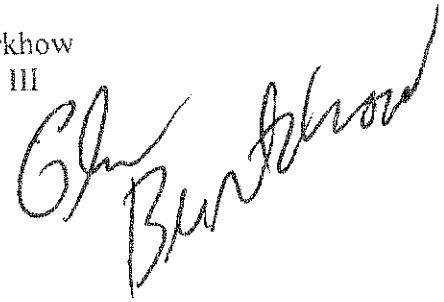
While I fished for halibut for years, over time the management changes have slowly excluded me from the fishery. The derby is tough for small boats, length of vessel as a basis for the amount of fish you are allowed further excludes opportunity for small boats, and the RCA closure put our halibut grounds off limits to fishing. This is an unfortunate set of circumstances that combined have impact this entire fishing community.

Meanwhile, when I fish for blackcod I continuously discard halibut. This seems like a waste to me. I support a change to the 2A commercial halibut fishery that allows halibut to be retained when it is caught as by-catch in the blackcod fishery.

Please take action at this Council meeting to begin the process to change the 2A commercial halibut fishery to include a by-catch option.

Thank you,

Glenn Burkhow
F/V Eagle III



August 19, 2008

Mr. Donald K. Hansen
Chairman
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

Dear Chairman Hansen:

My name is Steve Hatfield. I have been commercial fishing out of Port Orford for six years.

I have tried to fish in the 2A commercial halibut fishery but the management of a derby fishery and the low limits for small boats have made it almost impossible. The RCA closure has made this fishery even more difficult for me because it closes our halibut grounds off of Port Orford.

I catch halibut when I fish for blackcod. I would like to retain some portion of my halibut bycatch in the blackcod fishery so that I can participate in the halibut fishery. It would be more beneficial to my business if I could retain some of the halibut. It is wasteful to continually discard the halibut when I longline for blackcod. Those fish should be brought in and sold, not dumped overboard.

Please act today to change the 2A commercial halibut management to include an option to retain halibut in the blackcod fishery.

Thank you for your consideration.

Sincerely,

Steve Hatfield

F/V Crystal Sea

F/V Dottie B

F/V Miss Emily

August 20, 2008

Mr. Donald K. Hansen
Chairman
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

Dear Chairman Hansen,

My name is Lyle Keeler. I have fished out of Port Orford for 40 years and have participated in the nearshore rockfish, salmon, crab, tuna, shrimp, grenadier, and hook and line sablefish fisheries. I have also participated in the halibut fishery and derbies since 1976. Some years it was up to 1/3 of my net income. Since the Rockfish Conservation Area (RCA) was implemented in 2002, I have only 1 halibut landing.

The Port of Port Orford is positioned directly on the Pacific Ocean, making it vulnerable to storms. With our small boats, fishing in storms is difficult. We cannot always participate in the halibut openers, and our opportunity to retain halibut is limited by this.

It is time to change the 2A Halibut fishery to include an option for halibut bycatch retention in the sablefish fishery. Please make this change so that we can include people who used to fish halibut.

Thank you,

Lyle A. Keeler

Lyle Keeler, F/V Dominion and F/V My Girl

August 20, 2008

Mr. Donald K. Hansen
Chairman
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

Dear Chairman Hansen,

My name is Danny Keeler. I have fished out of Port Orford for 40 years and have participated in the nearshore rockfish, salmon, crab, tuna, shrimp, grenadier, and hook and line sablefish fisheries. When fishing for sablefish, I have encountered a large amount of halibut bycatch.

Our port is positioned directly on the Pacific Ocean, making it vulnerable to storms. With our small boats, fishing in storms is difficult. We cannot always participate in the halibut openers, and our opportunity to retain halibut is limited by this.

It is time to change the 2A Halibut fishery to include an option for halibut bycatch retention in the sablefish fishery. Please make this change so that we can include people who used to fish halibut.

Thank you,

Danny T. Keeler

Danny Keeler, F/V Dominion and F/V My Girl

August 20, 2008

Mr. Donald K. Hansen
Chairman
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, Oregon 97220-1384

Dear Chairman Hansen,

My name is Jeff Miles. I am a second generation fisherman out of Port Orford, where I've fished for more than 30 years. When the Rockfish Conservation Area (RCA) went into effect, it took me out of the 2A Halibut fishery. When I sablefish out of our area, I encounter a large amount of halibut bycatch.

It is time to change the halibut fishery to include an option for halibut bycatch retention in the sablefish fishery. Please make this change so that we can include people who used to fish halibut.

Thank you,

Jeff Miles, F/V Top Gun

Pacific Halibut Bycatch in IPHC Area 2A in the 2007 Groundfish Trawl Fishery

John Wallace
Jim Hastie

NOAA Fisheries
Northwest Fisheries Science Center
Seattle, WA

September 2008

ABSTRACT

This report updates the estimates of Pacific halibut bycatch and mortality in the limited-entry groundfish bottom trawl fishery through the calendar year 2007. The estimates of halibut bycatch and mortality in the bottom trawl fishery are based upon the method developed in the report for 1999 (Wallace, 2000). The current report uses halibut bycatch rates observed for the 2007 calendar year by the West Coast Groundfish Observer Program (WCGOP). These rates are stratified by season, depth, latitude, and amount of arrowtooth flounder catch, and then multiplied by the amount of 2007 trawl effort in each stratum determined from Oregon and Washington trawl logbooks. Estimated halibut bycatch and mortality from other gear types has not been updated for 2007. Using the same average rate of discard mortality rate (50%) that has been used in recent reports, estimated mortality of Pacific halibut in the 2007 bottom trawl fishery is 175,133 lb net weight, of which 111,326 lb (64%) is legal-sized. These amounts are 48% and 56% lower than the corresponding estimates for the 2006 trawl fishery. We also present here an option which uses mortality estimates that are based on WCGOP observations of the viability of discarded halibut during the 2004-2007 bottom trawl fisheries. For 2004-2006, these observations, in conjunction with the corresponding survival rates used by the International Pacific Halibut Commission (IPHC), result in net mortality estimates that are 25-30% higher than those obtained using the fixed 50% mortality rate. For 2007, estimated halibut mortality using the observer viability data is estimated to be 273,657 lb, which is 56% higher than the amount estimated using the fixed 50% mortality rate. As in past reports, forecast of bycatch for the current year (2008) or future years is not attempted.

GROUNDFISH FISHERY BACKGROUND

Pacific halibut is a "prohibited species" for trawl gear on the west coast, therefore all halibut that is caught must be discarded. Even though there is no economic incentive to catch halibut, changes in the groundfish fishery and its management affect not only the amount of groundfish fishing effort, but also its geographic and temporal distribution. Since halibut bycatch rates vary among time and area strata, changes in the amount and distribution of effort will alter the amount of halibut bycatch that is estimated for the trawl fleet. Here we briefly describe the management changes that occurred in 2007.

In early 2007, review of the most recent observer data revealed higher rates of canary bycatch shoreward of the Rockfish Conservation Area (RCA) in the area north of 40°10' N. lat. with selective flatfish gear than had been expected. In response, the Pacific Fishery Management Council divided the northern area into seven latitudinal sub-areas, for purposes of specifying RCA boundaries. Most notably, the sub-areas north of 48°10' N. lat. and between 43°20.83' and 42°40.50' N. lat. were closed from the shore out to 150 or 200 fm from April through September. In general, the shoreward RCA boundaries in these sub-areas in other months and in other sub-areas throughout the year were set at 75 fm, as they had been throughout 2006. Seaward RCA boundaries were shallower (150 fm) north of 45°03.83' N. lat. in 2007 than they were in 2006 (200-250 fm) from April through August. During the remainder of the year, and in the region between 40°10' and 45°03.83' N. lat., seaward RCA boundaries were similar to those in 2006. The extended shoreward closure throughout much of 2007 along the far north Washington coast and the southern Oregon coast contributed to reductions of roughly 75% and 45% in the hours trawled shoreward of the RCA in those areas, respectively, compared to 2006. From the standpoint of halibut bycatch, reduced shoreward effort off northern Washington is particularly important, since halibut bycatch rates in that area/depth are typically among the highest on the US west coast. For the entire area north of 40°10' N. lat., trawl hours decreased by 45% (8,995 hours) shoreward of the RCA and increased by 36% (8,266 hours) seaward of it.

2007 BYCATCH ESTIMATES

Analysis of 2007 bycatch data from the West Coast Groundfish Observer Program

The WCGOP provided data for the complete calendar year of 2007 for this analysis. There were 1,752 bottom trawl tows between 48.667 and 40.667 degrees N. latitude included in this study (Figure 1). An estimated net total weight of 86,058 lb of halibut was caught in those tows. Seventy-five percent of these weights are estimated by using the Pacific halibut length-weight relationship (IPHC, personal communication), 18% reflect weighed fish, 5% are from visual estimates, and the remaining 2% are from other methods. The length frequencies of the halibut measured in the 2007 observer data are given in Table 1.

For all of the limited-entry groundfish bottom trawl activity, methods similar to those in Pikitch (1998) were used to analyze the observer data and identify appropriate strata for bycatch estimation. These strata are season (Jan-Aug and Sept-Dec), depth (0-75, 75-150 150-250, 250-700 fm), area (four latitudinal ranges) and catch of arrowtooth flounder (0-20 lb/hour and >20

lb/hour). Numbers of observed tows and trawl hours, halibut catch rates, and the proportions of legal-sized halibut (>81 cm) are summarized for each of these strata in Table 2.

Bottom Trawl Effort from Logbooks

Trawl logbook data for 2007 were obtained from PacFIN. Since ODFW does not collect logbook data for 100 percent of the trawl deliveries during a typical year, Oregon logbook effort (hours towed) was expanded using fish tickets on a port and month basis. This approach was used in order to avoid any potential bias created by unequal collection of logbooks in the three major ports (Astoria, Newport, and Coos Bay). WDFW's "extrapolated and expanded" trawl effort was used for Washington trips, which is calculated by the agency to account for less than 100 percent of logbook submissions.

Logbook trawl effort (hours) for Oregon was expanded to that entire fleet using the ratio of total groundfish catch reported on fish tickets divided by logbook groundfish catch, for each port and month. These expansion ratios were applied to the tow effort (hours) to arrive at the expanded effort for Oregon's trawl fleet. The stratification scheme identified through analysis of observer data was then applied to the expanded logbook effort observations. Total fleet effort for each stratum in 2007 is reported in Table 2. A comparison of trawl effort in 2006 and 2007, with depth strata compressed to two categories for tows conducted shallower and deeper than 150 fm, is presented in Table 3.

Viability Analyses

In prior years' reports, a fixed percentage (50%) of the entire estimated weight of discarded halibut has been assumed to survive being caught and discarded (Gregg Williams, IPHC, personal communication). Since 2004, WCGOP observers have collected viability data on discarded Pacific halibut, using the same condition key developed by the IPHC for use by observers in North Pacific fisheries. Observations of several external fish characteristics are used to assign each fish that is evaluated to one of three categories: Dead, Poor, or Excellent (Williams and Chen 2004). We therefore present analyses of discard survival: one based on the fixed percentage and a second option for discussion utilizing the observer viability data.

Pacific halibut pose unique challenges for observer sampling. When a trawl net is dumped on deck, most vessels will scan the catch for Pacific halibut and immediately return them to sea, which is termed "presorting". Vessels presort halibut to increase the likelihood of survival of the discarded fish. In addition to the need to quickly return halibut to, in order to promote survival, halibut are often too heavy and/or too awkward to weigh in observer baskets. Therefore, in most circumstances observers visually estimate the length of the halibut in ten-centimeter units (40cm, 50cm, 60cm, etc), which are later converted to weight using the IPHC Length/Weight conversion table. Observers also have the option of measuring a halibut and then converting to weight using the IPHC length/weight conversion table or actually weighing the individual, but these rarely occur. Regardless of the sampling methodology used, the total weight of discarded Pacific halibut is estimated for all sampled tows.

There are two types of biological data collected on halibut: length and viability. Viability is determined using IPHC dichotomous keys, which use physical characteristics to indicate whether the individual is "dead", "poor", or "excellent". Table 4 summarizes viability data provided by WCGOP observers in the LE bottom trawl fishery from 2004 to 2007. During this period, the percentage of halibut weight with viability assessments has ranged from 16% to 24%.

The top row of Table 4 reports the mortality rates assigned to each of the condition categories by the IPHC (Williams and Chen 2004). Note that only 90% of the fish assigned to the "Dead" category are assumed to die following release. The percentage of halibut assigned to the Dead category nearly always increases with depth, as the percentage assigned to the Excellent category diminishes. The weighted average mortality rate for each year and depth interval is reported in the last column of Table 4, and was calculated by summing the product of each category's mortality rate and the proportion of weight assigned to it.

Table 5 reports the average mortality rate, average tow hours and average tow catch in each depth stratum and year from observer data. Tow hours and tow catch were used as factors in two simple regressions in order to evaluate their relationship with mortality rates. Results of these regressions are presented in Table 6. Regardless of whether actual or log-transformed values for stratum tow duration and catch per tow are used, they account for at least 75% of the variability in stratum mortality rates. These are, however, very rudimentary models that serve primarily to confirm that the viability assessments are consistent with our expectations that longer tow times and more crowded nets will tend to reduce the condition of fish that are caught.

Figure 2 shows the actual and predicted mortality rates, from the regression using transformed independent variables. Although predictions for 10 of the 16 strata are within 5% of the observed mortality rates, there is a clear year effect (i.e. all rates from 2005 are over-estimated and all from 2007 are under-estimated). This indicates that other factors are affecting fish condition, as assessed by observers. These could include water and air temperatures, fish size, or the proportion of rockfish (and their damaging spines) in the catch. Tow duration and catch amounts may also have differential effects depending on fish size or depth, and above some threshold, increases in either factor are likely to have diminishing marginal effects upon fish condition. Future exploration of these relationships may help to clarify the extent to which the condition of discarded halibut is influenced by fishing practices, environmental conditions, and stock dynamics, such as large recruitment events.

Method of Estimating Pacific Halibut Bycatch

Amounts of halibut bycatch in each stratum are estimated by multiplying total (expanded) stratum effort (tow hours) by the stratum halibut bycatch rate (pounds/tow hour). These amounts are then multiplied by the stratum average mortality rates (either the fixed 50% rate, or the appropriate rate based on observer viability assessment from Table 4) to estimated total halibut mortality. Estimates of bycatch and discard morality for the entire bottom trawl fleet are then obtained by summing values across strata. If there is logbook effort within a stratum, but no observed tows, the 2007 coast-wide average bycatch rate (14.35 kg per hour) is used. This value

is calculated as the unweighted average of the stratum means. Preliminary work done in 2001 using a sophisticated approach of imputing missing data showed little difference on the calculated total bycatch, between using the unweighted average of the stratum means and the imputed values.

Results

The estimated total amount of discarded halibut fell by nearly 50% between 2006 and 2007, to the lowest value in the past decade (211.8 mt, Table 7). A key factor in this change was the 45% reduction in trawl effort in depths less than 150 fm (Table 6), where halibut bycatch rates are generally higher. The effect of this reduction was enhanced by the closure, for much of the year, of the northern-most shoreward areas, where halibut bycatch rates tend to be higher than the remainder of the coast. The estimated mortality ratio of 4.2 pounds of halibut per tow hour is also the lowest of all years presented. Two methods were used to estimate the amount of mortality arising from these discards. Table 7 reports results, for 2007 and prior years, using the fixed mortality rate of 50% that has been used in recent annual reports. Because a fixed rate is applied, the estimate of 2007 halibut mortality (175.1 mt) is also nearly 50% lower than in 2006. For amounts of total bycatch/discard, total mortality, and legal-sized mortality, 95% confidence limits are reported in parentheses below the point estimates for years 2004-2007. Confidence limits should be viewed as minimum estimates, since trawl effort is assumed known without error.

The proportion of legal-sized halibut (> 81cm) is estimated from the length frequencies of halibut measured in the observer data (Table 1). All measurements of fish lengths are converted to fish weight based on a length-weight relationship for Pacific halibut, and the proportion of discard that is of legal size (by weight) is computed for each stratum (Table 2). The average legal-sized proportion (calculated as the unweighted average of the stratum means) is used when no other estimate was available. During preparation of this report, an error was identified in the programming used to estimate the proportion of mortality comprised by legal-sized halibut for the years 2004-2006. Correcting that problem resulted in significantly lower proportions of mortality that were of legal size than were previously reported for those years. The reduction in these proportions ranges from 20% in 2004 to 47% in 2006. Since 2004, the corrected annual percentages of legal-sized mortality range from 56% in 2004 to 40% in 2006. The percentage in 2007 (48%) is slightly higher than the 4-year average (47%).

Table 8 reports the same quantities as Table 7 for 2004 through 2007, but with halibut mortality estimated using observer assessment of fish viability according to the same condition key developed by the IPHC. The annual amounts of total and legal-sized mortality are higher, in each year, when fish viability is used to determine average mortality rates (Figure 3), though yearly rank order remain the same for both. The viability-based estimates are within 7% of the fixed-rate estimates in 2004 and 2006, however they are nearly 50% higher in 2007. The reduction in total mortality between 2006 and 2007 (26%) is not as large as that estimated using the fixed mortality rate, due primarily to the substantial increase in the proportions of fish caught shallower than 250 fm that were assigned to the “Dead” category (Table 3). Table 9 summarizes the average length of observed halibut, by year and depth interval, with the proportions of total mortality from legal-sized fish from both models.

In preliminary review of this analysis by the IPHC, a question was raised regarding the application of the viability category mortality rates, which were compiled based on numbers of fish, to fleet weight estimates within each stratum. We believe that the manner in which our calculations have been performed is mathematically equivalent to expanding the numbers in each category to the stratum level and then applying mortality assumptions and converting to weight. However, we are developing additional programming to compute mortalities using this latter approach.

Finally, Table 10 summarizes available halibut mortality estimates by fishery from 1977 through 2007. Bycatch mortality estimates for 1977-1997 are included from Williams et al. 1998. Limited Entry groundfish bottom trawl estimates are presented for 2004 through 2007, using both the 50% mortality rate method and the mortality rates based on observed viability data.

It is not possible to make a forecast for the 2008 fishery given lack of a methodology to project the distribution of effort among model strata prior to the complete availability of a year's logbook data.

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Table 1. Length frequencies for Pacific halibut collected by the West Coast Groundfish Observer Program during 2007. (The upper limits on the length intervals are inclusive, the lower limits are not.)

Length Interval (cm)	Length Freq.	Percent Length Freq.
25-30	0	0.00
30-35	0	0.00
35-40	0	0.00
40-45	0	0.00
45-50	0	0.00
50-55	6	0.33
55-60	62	3.41
60-65	232	12.75
65-70	342	18.80
70-75	324	17.81
75-80	253	13.91
80-85	170	9.35
85-90	135	7.42
90-95	102	5.61
95-100	88	4.84
100-105	37	2.03
105-110	37	2.03
110-115	16	0.88
115-120	6	0.33
120-125	2	0.11
125-130	2	0.11
130-135	1	0.05
135-140	2	0.11
140-145	1	0.05
145-150	1	0.05
150-155	0	0.00
155-160	0	0.00
160-165	0	0.00
165-170	0	0.00
170-175	0	0.00
175-180	0	0.00
180-185	0	0.00
Total	1819	100

Table 2. Numbers of observed tows and Pacific halibut catch rates by strata, observed in the 2007 LE groundfish bottom trawl fishery by the West Coast Groundfish Observer Program, with overall fleet trawl effort from Oregon and Washington logbook data. The last two columns, from 2006, are for comparison purposes. (The upper limits are inclusive for all intervals; the lower limits are not.)

SEASON: JANUARY - AUGUST

Arrowtooth Catch (lb/h)	Latitude	Depth (Fathoms)	Number of Observed Tows	Number of Tows with ≥ 1 Halibut	Wgt. (kg., rnd) Halibut per Hour	Trawl Effort (hours) from OR & WA	Proportion Legal by Weight	Number of Observed Tows **2006**	Wgt. (kg., rnd) Halibut per Hour **2006**
≤ 20	40.667 - 42.667	0 - 75	0	0		329.53		0	
		75 - 150	0	0		0.00		0	
		150 - 250	17	12	6.06	473.37	0.70	9	3.84
		250 - 700	24	1	0.04	1497.76	1.00	50	0.07
	42.667 - 46.667	0 - 75	161	92	8.92	3891.90	0.14	402	10.59
		75 - 150	6	2	1.55	66.99	1.00	62	7.90
		150 - 250	102	23	1.17	3118.54	0.70	71	1.83
		250 - 700	219	7	0.04	5215.63	0.39	137	0.14
	46.667 - 47.667	0 - 75	144	80	9.28	2265.87	0.13	155	10.73
		75 - 150	0	0		16.72		4	1.89
		150 - 250	19	10	9.67	343.63	0.87	6	1.63
		250 - 700	17	2	0.06	1002.33	0.00	27	0.25
	47.667 - 48.667	0 - 75	15	12	25.68	514.89	0.37	146	36.88
		75 - 150	0	0		51.80		18	22.33
		150 - 250	35	15	13.45	284.21	1.00	24	5.16
		250 - 700	51	9	0.66	1019.73	1.00	34	0.18
> 20	40.667 - 42.667	0 - 75	0	0		0.00		0	
		75 - 150	0	0		0.00		0	
		150 - 250	1	*	*	*		0	
		250 - 700	6	2	0.29	59.73	0.61	3	0.00
	42.667 - 46.667	0 - 75	63	43	15.85	782.96	0.27	144	12.82
		75 - 150	1	*	*	*	*	83	13.63
		150 - 250	129	87	7.43	3143.69	0.50	164	3.17
		250 - 700	105	51	5.92	1936.14	0.62	61	1.62
	46.667 - 47.667	0 - 75	22	22	10.43	332.36	0.25	38	11.25
		75 - 150	2	*	*	*		9	12.32
		150 - 250	35	26	15.62	518.92	0.65	15	5.57
		250 - 700	3	1	3.84	274.31		4	0.48
	47.667 - 48.667	0 - 75	2	*	*	*	*	54	51.79
		75 - 150	0	0		32.32		36	44.26
		150 - 250	58	38	15.86	810.61	0.76	21	27.57
		250 - 700	35	22	23.28	386.65	0.90	22	8.83

Table 2. Continued.

SEASON: SEPTEMBER - DECEMBER

Arrowtooth Catch (lb/h)	Latitude	Depth (Fathoms)	Number of Observed Tows	Number of Tows with ≥ 1 Halibut	Wgt. (kg., rnd) Halibut per Hour	Trawl Effort (hours) from OR & WA	Proportion Legal by Weight	Number of Observed Tows **2006**	Wgt. (kg., rnd) Halibut per Hour 2006
≤ 20	40.667 - 42.667	0 - 75	10	3	1.39	29.81	0.60	0	
		75 - 150	0	0		0.00		0	
		150 - 250	9	7	5.20	369.95	0.92	5	1.25
		250 - 700	12	2	0.26	659.08	0.42	8	0.91
	42.667 - 46.667	0 - 75	88	23	1.36	1388.50	0.41	123	0.36
		75 - 150	0	0		18.07		4	0.00
		150 - 250	24	9	2.84	1377.71	0.77	8	5.03
		250 - 700	97	4	0.13	2938.72	0.00	69	0.11
	46.667 - 47.667	0 - 75	15	4	2.27	424.63	0.00	12	0.23
		75 - 150	0	0		3.10		0	
		150 - 250	6	4	7.78	83.47	0.91	1	0.00
		250 - 700	8	1	0.33	230.49	0.65	1	0.97
	47.667 - 48.667	0 - 75	30	13	3.54	244.94	0.48	41	61.49
		75 - 150	0	0		0.00		6	75.05
		150 - 250	3	3	8.26	136.21	1.00	0	
		250 - 700	14	2	0.59	614.17	1.00	6	0.81
> 20	40.667 - 42.667	0 - 75	0	0		0.00		0	
		75 - 150	0	0		0.00		0	
		150 - 250	0	0		114.75		0	
		250 - 700	3	0		68.29		1	1.73
	42.667 - 46.667	0 - 75	21	7	0.88	215.09	0.45	76	0.74
		75 - 150	0	0		19.57		10	0.49
		150 - 250	87	43	5.84	2571.13	0.70	67	9.11
		250 - 700	39	7	1.22	1110.78	0.80	39	0.42
	46.667 - 47.667	0 - 75	0	0		58.63		7	0.59
		75 - 150	0	0		0.00		0	
		150 - 250	5	3	4.27	145.04		1	4.36
		250 - 700	3	1	0.34	108.34	1.00	0	
	47.667 - 48.667	0 - 75	2	*	*	*	*	6	226.20
		75 - 150	0	0		2.24		25	0.71
		150 - 250	3	2	8.87	175.74	1.00	8	28.96
		250 - 700	1	*		*		4	3.14

Table 3. Trawl effort (hours) in the 2006 and 2007 Limited Entry groundfish bottom trawl fisheries off Oregon and Washington.

Arrowtooth Catch (lb/h)	Latitude	Depth (fathoms)	Trawl effort (hours)		% change from 2006 to 2007
			2006	2007	
≤ 20	40.667 - 42.667	0 - 150	351	359	2%
		150 - 700	2273	3000	32%
	42.667 - 46.667	0 - 150	7087	5365	-24%
		150 - 700	8694	12651	46%
	46.667 - 47.667	0 - 150	2700	2710	0%
		150 - 700	1124	1660	48%
	47.667 - 48.667	0 - 150	2456	812	-67%
		150 - 700	2134	2054	-4%
	Total	0 - 150	12595	9247	-27%
		150 - 700	14225	19365	36%
		All depths	26820	28612	7%
> 20	40.667 - 42.667	0 - 150	5	0	-100%
		150 - 700	263	334	27%
	42.667 - 46.667	0 - 150	4761	1101	-77%
		150 - 700	6657	8762	32%
	46.667 - 47.667	0 - 150	1225	428	-65%
		150 - 700	511	1047	105%
	47.667 - 48.667	0 - 150	1245	61	-95%
		150 - 700	1116	1531	37%
	Total	0 - 150	7236	1589	-78%
		150 - 700	8547	11673	37%
		All depths	15783	13262	-16%
Total	Total	0 - 150	19831	10836	-45%
		150 - 700	22772	31038	36%
		All depths	42602	41874	-2%

Table 4. Annual amounts and percentages of observed Pacific halibut discard assigned to each viability condition category, for four depth strata during the 2004-2007 Limited Entry groundfish bottom trawl fisheries.

	Total weight of observed halibut (lb)	Weight of discards (lb) by fish viability category				% of total lb with viabillity assessment	Percent of samples where fish viability was assessed			weighted average mortality rate
		Unknown	Dead	Poor	Excellent		Dead	Poor	Excellent	
Mortality rate applied to discards in category			90%	55%	20%		90%	55%	20%	
2004										
0+ thru 75 fm	73,196	63,579	2,238	2,449	4,930	13%	23%	25%	51%	0.452
75+ thru 150 fm	18,598	17,397	566	351	284	6%	47%	29%	24%	0.632
150+ thru 250 fm	53,218	39,731	8,256	2,808	2,422	25%	61%	21%	18%	0.701
250+ thru 700 fm	19,496	17,018	1,849	214	416	13%	75%	9%	17%	0.752
All depths	**164,508**	**137,724**	**12,909**	**5,823**	**8,051**	**16%**				
2005										
0+ thru 75 fm	99,455	79,715	8,402	4,639	6,699	20%	43%	24%	34%	0.580
75+ thru 150 fm	75,722	60,948	5,530	4,689	4,555	20%	37%	32%	31%	0.573
150+ thru 250 fm	36,130	20,817	9,637	2,751	2,925	42%	63%	18%	19%	0.703
250+ thru 700 fm	10,302	6,523	2,275	893	611	37%	60%	24%	16%	0.704
All depths	**221,609**	**168,003**	**25,844**	**12,972**	**14,790**	**24%**				
2006										
0+ thru 75 fm	104,680	92,552	4,022	2,156	5,950	12%	33%	18%	49%	0.494
75+ thru 150 fm	21,674	20,317	704	240	413	6%	52%	18%	30%	0.625
150+ thru 250 fm	22,067	16,140	3,970	734	1,223	27%	67%	12%	21%	0.712
250+ thru 700 fm	4,522	2,022	2,005	195	300	55%	80%	8%	12%	0.789
All depths	**152,943**	**131,031**	**10,702**	**3,325**	**7,885**	**14%**				
2007										
0+ thru 75 fm	32,217	26,020	3,973	548	1,676	19%	64%	9%	27%	0.680
75+ thru 150 fm	156	103	36	0	17	34%	68%	0%	32%	0.673
150+ thru 250 fm	37,806	26,831	8,690	919	1,366	29%	79%	8%	12%	0.784
250+ thru 700 fm	15,909	14,137	1,388	233	151	11%	78%	13%	9%	0.794
All depths	**86,088**	**67,092**	**14,087**	**1,700**	**3,209**	**22%**				
All years and depths		**940,608**	**112,999**	**45,940**	**64,662**	**19%**				

Table 5. Pacific halibut discard mortality rates, average tow duration, and average tow catch of all species from WCGOP observed Limited Entry bottom trawl tows north of 40.667° N. lat. by year and depth interval from 2004-2007.

	Depth (fm)			
	0+ thru 75	75+ thru 150	150+ thru 250	250+ thru 700
2004				
Average mortality rate	0.452	0.632	0.701	0.752
Average tow hours	1.89	2.39	3.97	5.62
Average tow catch (lb)	1,984	3,747	5,101	4,886
2005				
Average mortality rate	0.580	0.573	0.703	0.704
Average tow hours	2.42	2.21	4.88	6.29
Average tow catch (lb)	3,072	4,580	4,915	4,993
2006				
Average mortality rate	0.494	0.625	0.712	0.789
Average tow hours	2.55	2.42	4.36	5.83
Average tow catch (lb)	2,279	4,066	5,062	5,306
2007				
Average mortality rate	0.680	0.673	0.784	0.794
Average tow hours	2.71	2.71	4.49	6.16
Average tow catch (lb)	2,701	4,188	5,505	4,867

Table 6. Results of Ordinary Least Squares Regression, with year-depth stratum average mortality rate as the dependent variable.

		Explanatory variables	
		Untransformed	Log-transformed
Adjusted R Square		0.749	0.789
Intercept	coefficient	0.36301	-0.70730
	p-value	*0.00001*	*0.11705*
Stratum avg. tow duration	coefficient	0.02721	0.12315
	p-value	*0.04379*	*0.01172*
Stratum avg. catch/tow lbs	coefficient	0.00005	0.14675
	p-value	*0.01559*	*0.01968*

Table 7. Halibut bycatch and mortality in the Oregon and Washington Limited Entry bottom trawl fisheries for groundfish off the west coast, **using a 50% rate of mortality for discards**. Estimates from 2002-2007 are based on observations by the West Coast Groundfish Observer Program. All estimates in this table (except the seventh and last column) are derived from a sum over strata cells; see the text for details. The 95% confidence limits, based on the variability in discard of halibut per trawl hour, are given in parentheses. Note that the trawl effort is assumed known without error; hence these confidence limits are a minimum estimate.

Year	Trawl Effort (hours)	Estimated Halibut Bycatch (numbers)	Estimated Halibut Bycatch (kg, round)	Estimated Halibut Bycatch (lb, net)	Estimated Total Halibut Mortality (lb, net)	Est. Mortal-ity (lb) per Trawl Hour	Estimate d Legal-Sized Halibut Mortality (lb, net)	Estimated Legal-Sized divided by Total Halibut Mortality
1998	92,294	164,961	1,259,374	2,082,690	1,041,345	11.3	691,755	0.6643
1999	81,420	147,995	1,144,236	1,892,280	946,140	11.6	638,091	0.6744
2000	70,363	122,234	944,120	1,561,338	780,669	11.1	523,097	0.6701
2001	67,199	124,969	962,348	1,591,482	795,741	11.8	532,912	0.6697
2002	52,168	NA	618,913	1,023,527	511,764	9.8	286,221	0.5593
2003	58,339	NA	558,544	923,693	461,847	7.9	366,745	0.7941
2004	37,495	NA	296,225 (192k-464k)	489,882 (317k-768k)	244,941 (158k-384k)	6.5	136,691 (87k-220k)	0.5581
2005	39,377	NA	432,806 (255k-655k)	715,752 (421k-1,084k)	357,876 (210k-542k)	9.1	152,264 (87k-236k)	0.4254
2006	42,602	NA	403,194 (163k-688k)	666,782 (269k-1,137k)	333,391 (134k-569k)	7.8	134,394 (57k-251k)	0.4031
2007	41,874	NA	211,801 (95k- 349k)	350,266 (157k-577k)	175,133 (78k-288k)	4.2	84,036 (31k-146k)	0.4798

Notes: Halibut bycatch by the California bottom trawl fishery is not included. Proportion of legal-sized mortality (>81 cm) is estimated from length frequencies of fish measured by the West Coast Groundfish Observer Program. 1 kg, round = 1.65375 pounds, net weight.

Table 8. Halibut bycatch and mortality in the Oregon and Washington LE bottom trawl fisheries for groundfish off the west coast, **using rates of discard mortality derived from observer assessment of fish viability**. All estimates in this table (except the seventh and last column) are derived from a sum over strata cells; see the text for details. The 95% confidence limits, based on the variability in discard of halibut per trawl hour, are given in parentheses. Note that the trawl effort is assumed known without error; hence these confidence limits are a minimum estimate.

Year	Trawl Effort (hours)	Estimated Halibut Bycatch (kg, round)	Estimated Halibut Bycatch (lb, net)	Estimated Total Halibut Mortality (lb, net)	Mortality (lb) per Trawl Hour	Halibut Bycatch Mortality divided by Halibut Bycatch	Est. Legal-sized Halibut Mortality (lb, net)	Legal-sized divided by Total Halibut Mortality
2004	37,495	296,225 (192k-464k)	489,882 (317k-768k)	260,590 (169k-423k)	6.9	0.5319	153,804 (98k-254k)	0.5902
2005	39,377	432,806 (255k-655k)	715,752 (421k-1,084k)	417,863 (246k-635k)	10.6	0.5838	178,218 (102k-278k)	0.4265
2006	42,602	403,194 (163k-688k)	666,782 (269k-1,137k)	345,648 (139k-593k)	8.1	0.5184	158,570 (59k-281k)	0.4587
2007	41,874	211,801 (95k- 349k)	350,266 (157k-577k)	257,338 (1115k-425k)	6.1	0.7347	127,677 (48k-222k)	0.4961

Notes: Halibut bycatch by the California bottom trawl fishery is not included. Proportion of legal-sized mortality (>81 cm) is estimated from length frequencies of fish measured by the West Coast Groundfish Observer Program. 1 kg, round = 1.65375 pounds, net weight.

Table 9. Average length (cm) of Pacific halibut observed in the west coast bottom trawl fishery by year and depth interval from 2004-2007.

Year	Depth interval (fm)					Proportion of legal-sized Total Halibut Mortality from	
	0+ thru 75	75+ thru 150	150+ thru 250	250+ thru 700	All Depths	Table 7	(Table 8)
2004	75.60	82.13	84.72	87.71	80.59	0.5581	(0.5902)
2005	73.34	76.58	81.64	88.48	76.36	0.4254	(0.4265)
2006	72.25	77.34	79.78	88.48	74.38	0.4031	(0.4587)
2007	70.03	78.50	82.06	81.79	77.42	0.4798	(0.4961)

Note: The proportion of mortality which is of legal size from Table 7 is estimated using a constant 50% rate of mortality, whereas Table 8 proportions utilize observer assessments of fish viability.

Table 10. Summary of total estimated bycatch mortality of Pacific halibut, in thousands of pounds, net weight, by fishery in 2A. Bycatch mortality estimates for 1977-1997 are reported from Table 3 in Williams, et al. 1998.

Year	Foreign, JV & Catcher-Proc.	Groundfish Trawls	Shrimp Trawls	Hook & Line	TOTAL
1977	3	308	82	16	409
1978	2	308	82	16	408
1979	1	308	82	16	407
1980	1	308	82	16	407
1981	Trace	308	82	16	406
1982	Trace	308	82	16	406
1983	1	308	82	16	407
1984	Trace	308	82	16	406
1985	Trace	308	82	16	406
1986	1	308	82	16	407
1987	1	308	82	16	407
1988	1	308	82	16	407
1989	2	308	82	16	408
1990	2	308	82	16	408
1991	2	308	82	16	408
1992	0	385	43	16	444
1993	0	385	43	16	444
1994	0	385	43	16	444
1995	0	548	50	16	614
1996	0	548	50	16	614
1997	0	548	50	16	614
1998	0	1,041	25	---	---
1999	---	946	---	---	---
2000	---	781	---	---	---
2001	---	796	---	---	---
2002	---	512	---	---	---
2003	---	462	---	---	---
2004	---	245 (261)	---	---	---
2005	---	358 (418)	---	---	---
2006	---	333 (346)	---	---	---
2007	---	175 (257)	---	---	---

Note: Bycatch mortality by groundfish trawls in 1998-2007 does not include fisheries off California. Bycatch mortality by shrimp trawls in 1998 does not include fisheries off California and Washington. 2004-2007 groundfish trawl estimates are given based on a 50% mortality rate and (based on observed fish viability).

Table 11. Summary of estimated mortality of legal-sized Pacific halibut, in thousands of pounds, net weight, by fishery in Area 2A. The bycatch mortality estimate for legal-sized halibut for 2005 is from this report. (Sums across fisheries may not equal the TOTAL due to rounding.)

Year	Foreign, JV & Catcher-Proc.	Groundfish Trawls	Shrimp Trawls	Hook & Line	TOTAL
1977	2	191	51	10	254
1978	1	191	51	10	253
1979	0.6	191	51	10	252
1980	0.6	191	51	10	252
1981	Trace	191	51	10	252
1982	Trace	191	51	10	252
1983	0.6	191	51	10	252
1984	Trace	191	51	10	252
1985	Trace	191	51	10	252
1986	0.6	191	51	10	252
1987	0.6	191	51	10	252
1988	0.6	191	51	10	252
1989	1	191	51	10	253
1990	1	191	51	10	253
1991	1	191	51	10	253
1992	0	239	27	10	275
1993	0	239	27	10	275
1994	0	239	27	10	275
1995	0	340	31	10	381
1996	0	340	31	10	381
1997	0	340	31	10	381
1998	0	692	16	---	---
1999	---	638	---	---	---
2000	---	523	---	---	---
2001	---	533	---	---	---
2002	---	286	---	---	---
2003	---	367	---	---	---
2004	---	137 (154)	---	---	---
2005	---	152 (178)	---	---	---
2006	---	134 (159)	---	---	---
2007	---	84 (128)	---	---	---

Note: Bycatch mortality by groundfish trawls in 1998-2004 does not include fisheries off California. Bycatch mortality by shrimp trawls in 1998 does not include fisheries off California and Washington. 2004-2007 groundfish trawl estimates are given based on a 50% mortality rate and (based on observed fish viability).

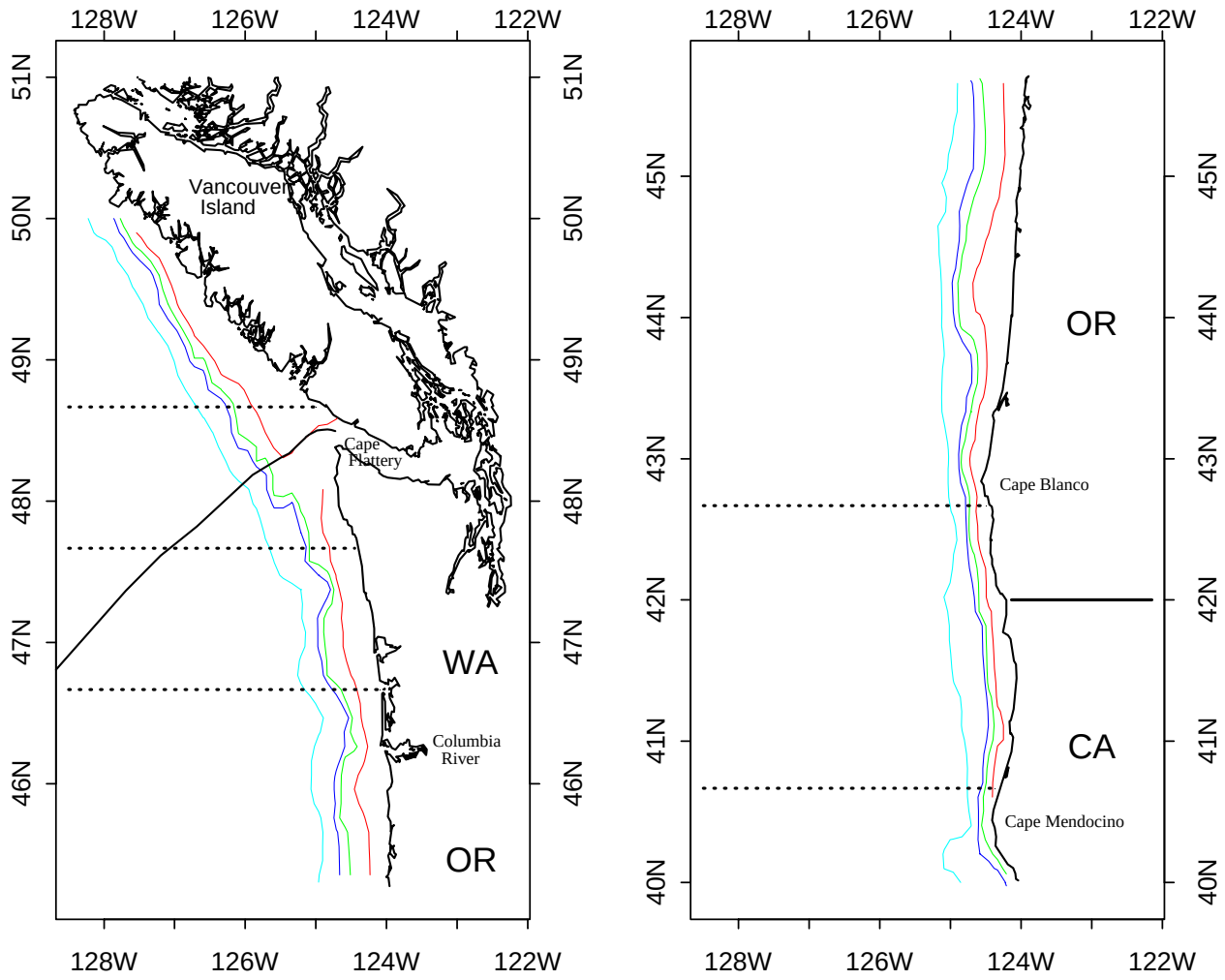


Figure 1. A map of IPHC area 2A with the latitudinal strata demarcated by dotted lines. In the most northerly strata only the area east of the EEZ line is covered by this report. Depth contours are plotted for 75, 150, 250, and 700 fathoms.

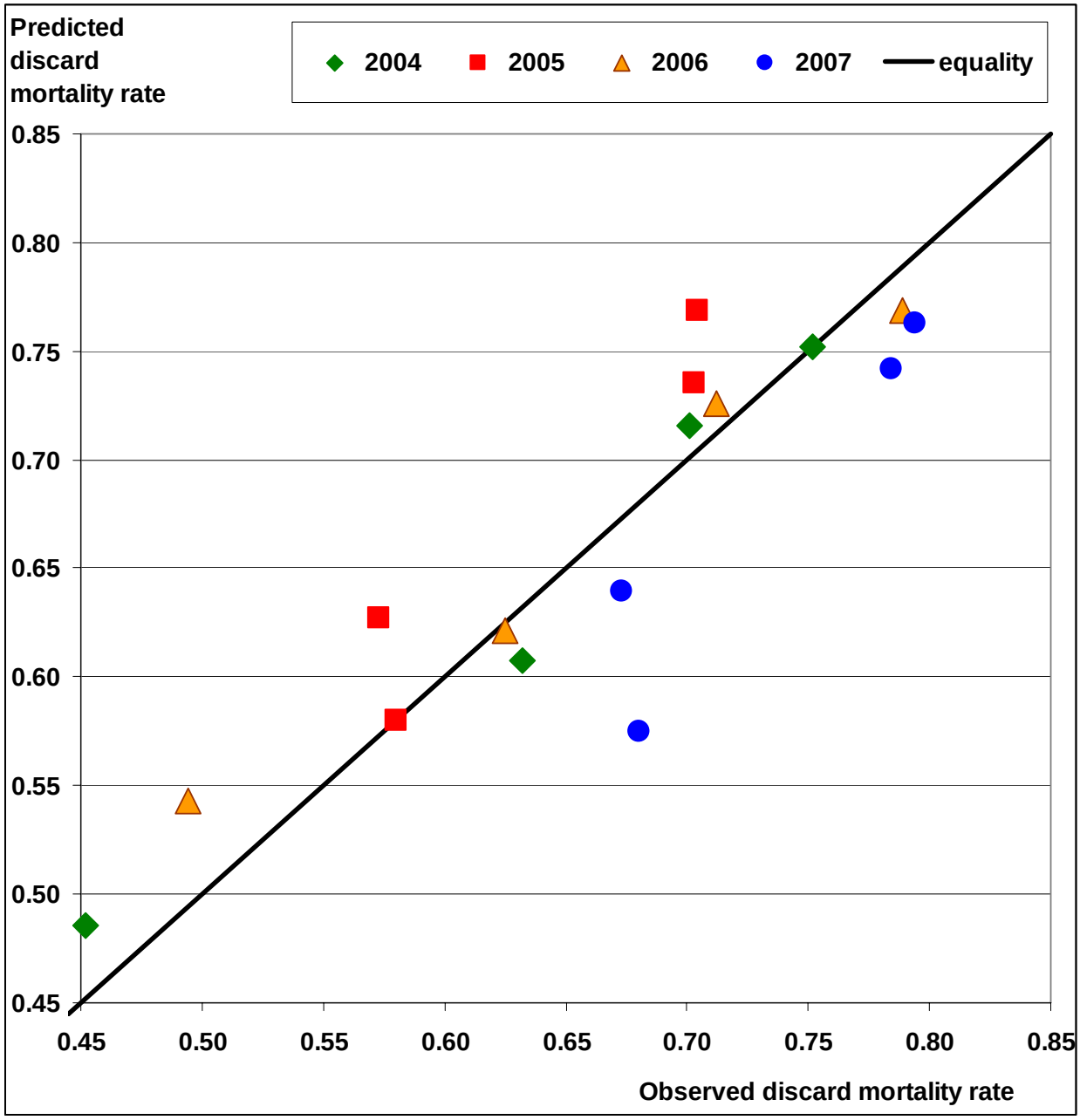


Figure 2. Observed and predicted average stratum discard mortality rates for Pacific halibut, based on the regression results reported in Table 5, using log-transformed average tow duration and average total catch per tow as explanatory variables.

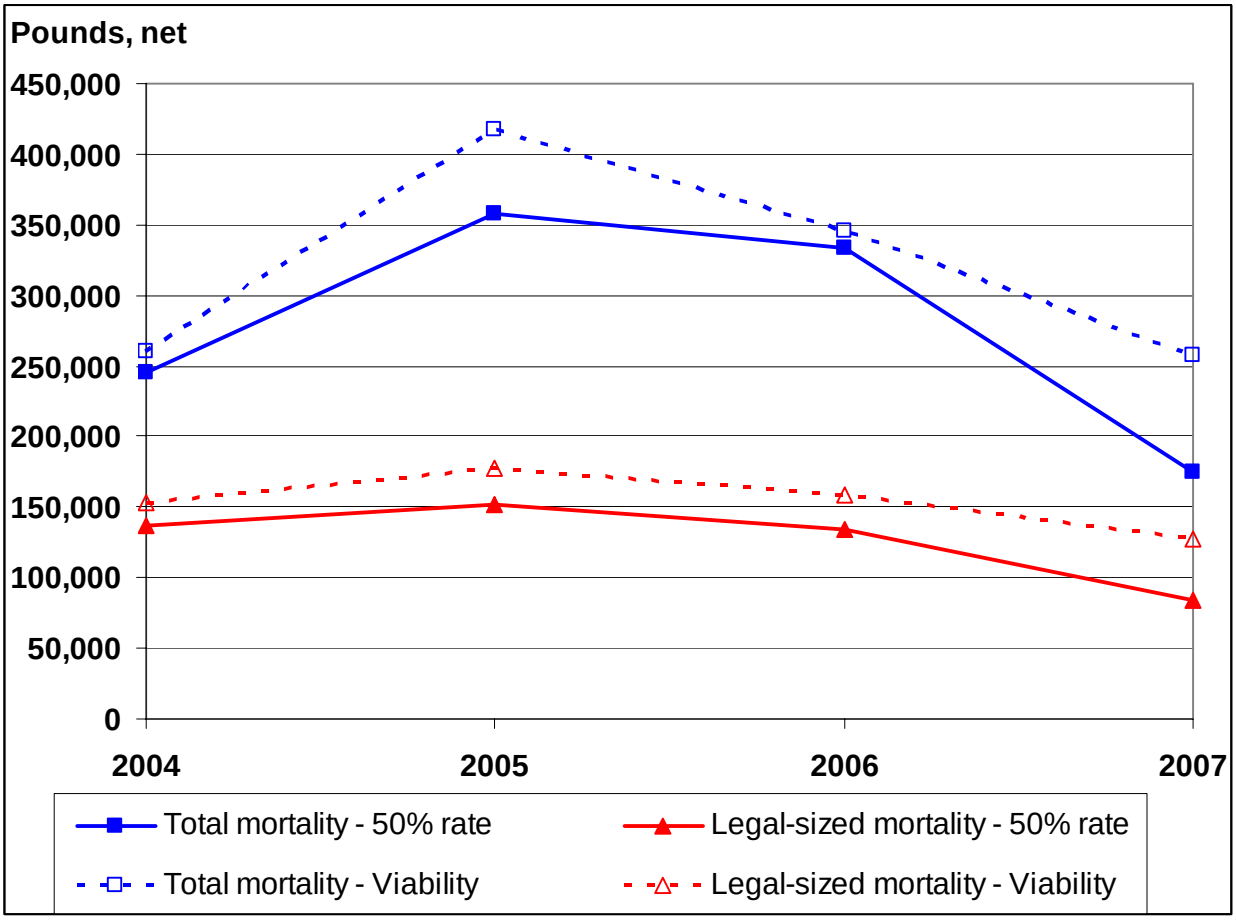


Figure 3. Comparison of estimated amounts of total and legal-sized discard mortality of Pacific halibut in the Limited Entry bottom trawl fishery using a 50% mortality rate and rates based on viability evaluation by at-sea observers from 2004-2007.

Pacific Halibut Bycatch in IPHC Area 2A in the 2007 Groundfish Trawl Fishery

(Supplemental NMFS Report E.1.b)

John Wallace

Jim Hastie

Northwest Fisheries Science Center

3 Factors Major Components Determining the Amount of Pacific Halibut Mortality

- Amount and distribution of fleet effort
- Bycatch rates
- Mortality rates for discarded halibut
  - –Option 1: fixed 50% rate (status quo)
  - –Option 2: rate based on observed viability of fish on deck (used by IPHC in Alaska)

Changes in Trawl Fleet Effort

Latitude	Depth (fathoms)	Trawl effort (hours)		% change from 2006 to 2007
		2006	2007	
40.67° - 42.67°	0 - 150	356	359	**1%**
	150 - 700	2,536	3,334	**31%**
42.67° - 46.67°	0 - 150	11,848	6,466	**-45%**
	150 - 700	15,351	21,413	**39%**
46.67° - 47.67°	0 - 150	3,925	3,138	**-20%**
	150 - 700	1,635	2,707	**66%**
47.67° - 48.67°	0 - 150	3,701	873	**-76%**
	150 - 700	3,250	3,585	**10%**
Total	0 - 150	19,831	10,836	**-45%**
	150 - 700	22,772	31,038	**36%**
		53%	74%	
	All depths	42,603	41,874	**-2%**

Changes in Halibut Bycatch Rates

Latitude	Depth	Observed halibut pounds per hour towed					
		January - August			September - December		
		2006	2007	% change	2006	2007	% change
40.67° - 42.67°							
	0 - 75 fm					1.4	
	76 - 150 fm						
	151 - 250 fm	3.8	5.9	55%	1.2	5.2	317%
	251 - 700 fm	0.1	0.1	33%	1.1	0.2	-82%
42.67° - 46.67°							
	0 - 75 fm	11.3	10.9	-4%	0.5	1.3	149%
	76 - 150 fm	11.6	2.2	-81%	0.3		-100%
	151 - 250 fm	2.8	4.5	64%	8.5	5.2	-39%
	251 - 700 fm	0.6	1.5	174%	0.2	0.4	91%
46.67° - 47.67°							
	0 - 75 fm	10.9	9.5	-13%	0.4	2.3	518%
	76 - 150 fm	9.0	*				
	151 - 250 fm	4.3	13.4	213%	*	6.4	
	251 - 700 fm	0.3	0.7	174%	*	0.3	
47.67° - 48.67°							
	0 - 75 fm	40.9	84.8	107%	77.7	3.5	-95%
	76 - 150 fm	35.0		-100%	15.3		-100%
	151 - 250 fm	17.4	15.1	-13%	29.0	8.6	-70%
	251 - 700 fm	3.3	9.2	177%	1.6	0.6	-64%

Observed Halibut Viability

- For a subset of all halibut caught, observers examine the condition of individual fish
- Using criteria established by the IPHC, fish are assigned to 1 of 3 categories
  - –Dead; Poor; Excellent
- IPHC mortality rates for each category are based on experimental data

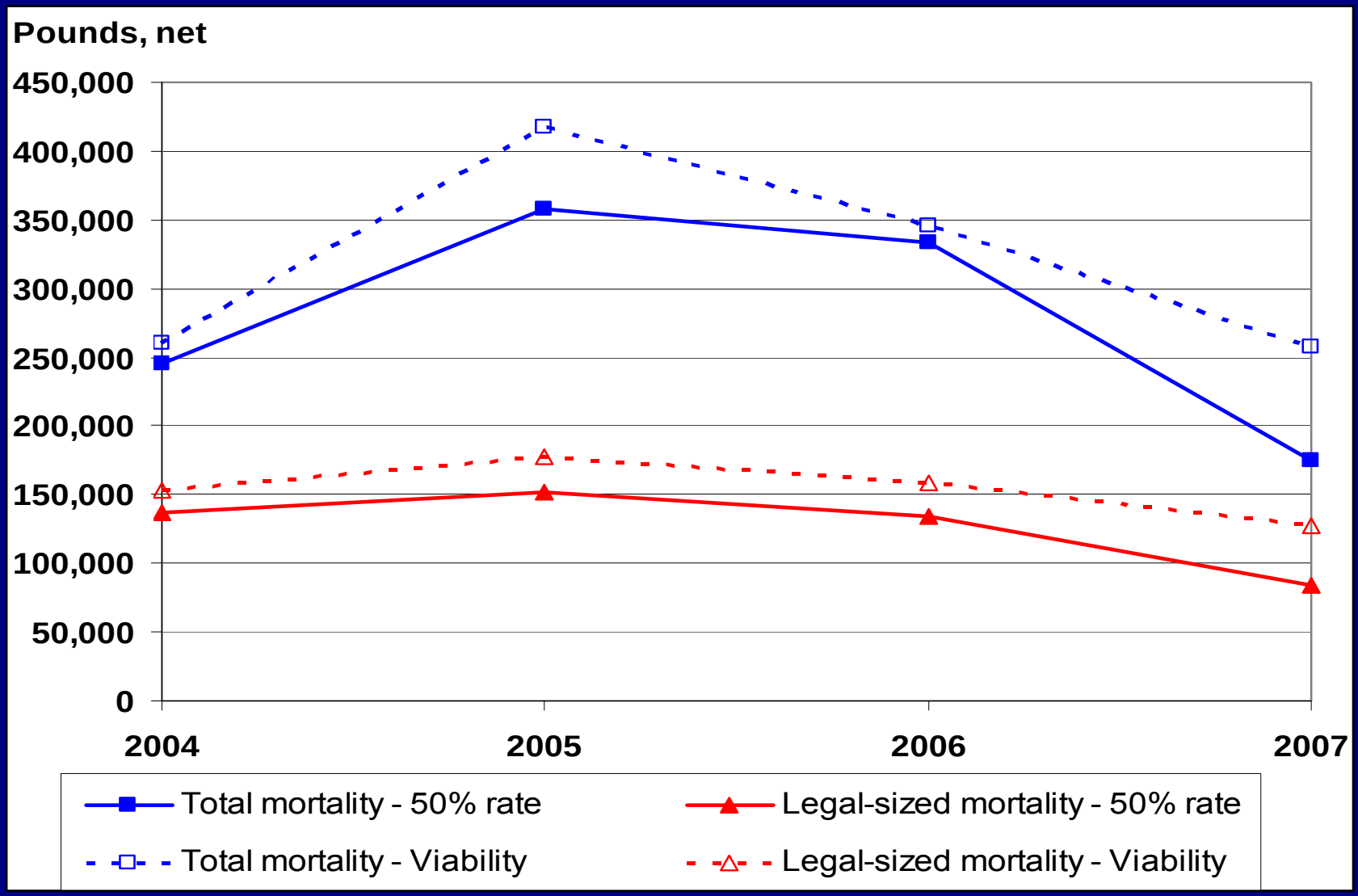
Summary of Viability Data

		Total observed pounds	% with viability assignment	Distribution of lbs, by category			Average mortality rate
				Dead	Poor	Excellent	
Percent dead, by category				90%	55%	20%	
2004	All depths	164,508	16%				
	0 - 75 fm	731,196	13%	23%	25%	51%	0.45
	76 - 150 fm	18,598	6%	47%	29%	24%	0.63
	151 - 250 fm	53,218	25%	61%	21%	18%	0.70
	251 - 700 fm	19,496	13%	75%	9%	17%	0.75
2005	All depths	221,609	24%				
	0 - 75 fm	99,455	20%	43%	24%	34%	0.58
	76 - 150 fm	75,722	20%	37%	32%	31%	0.57
	151 - 250 fm	36,130	42%	63%	18%	19%	0.70
	251 - 700 fm	10,302	37%	60%	24%	16%	0.70
2006	All depths	152,943	14%				
	0 - 75 fm	104,680	12%	33%	18%	49%	0.49
	76 - 150 fm	21,674	6%	52%	18%	30%	0.63
	151 - 250 fm	22,067	27%	67%	12%	21%	0.71
	251 - 700 fm	4,522	55%	80%	8%	12%	0.79
2007	All depths	86,088	22%				
	0 - 75 fm	32,217	19%	64%	9%	27%	0.68
	76 - 150 fm	156	34%	68%	0%	32%	0.67
	151 - 250 fm	37,806	29%	79%	8%	12%	0.78
	251 - 700 fm	15,909	11%	78%	13%	9%	0.79

Mortality Estimates

Year	Trawl Effort (hours)	Estimated Halibut Bycatch (lb, net)	Estimated Total Halibut Mortality (lb, net)	Estimated Mortality per Trawl Hour (lb, net)	Halibut Mortality / Total Halibut Bycatch proportion	Estimated Legal-Sized Halibut Mortality (lb, net)	Estimated Legal-Sized Halibut Mortality proportion of total
Fixed 50% mortality rate							
2004	**37,495**	**489,882**	**244,941**	**6.5**	**0.5**	**136,691**	**0.56**
2005	**39,377**	**715,752**	**357,876**	**9.1**	**0.5**	**152,264**	**0.43**
2006	**42,602**	**666,782**	**333,391**	**7.8**	**0.5**	**134,394**	**0.40**
2007	**41,874**	**350,266**	**175,133**	**4.2**	**0.5**	**84,036**	**0.48**
Viability-based mortality rate							
2004	**37,495**	**489,882**	**260,590**	**6.9**	**0.53**	**153,804**	**0.59**
2005	**39,377**	**715,752**	**417,863**	**10.6**	**0.58**	**178,218**	**0.43**
2006	**42,602**	**666,782**	**345,648**	**8.1**	**0.52**	**158,570**	**0.46**
2007	**41,874**	**350,266**	**257,338**	**6.1**	**0.73**	**127,677**	**0.50**

Comparison of mortality estimates using fixed and viability-based rates



Future Research

- The influence of various factors on the observed viability of halibut
  - Tow duration and the total amount of catch appear well-correlated with average mortality rate, at the stratum level
  - Other factors such as temperature, depth, and species composition should also be examined
- Work with the IPHC to refine methods for estimating fixed-gear mortality

Agenda Item E.1.c
Supplemental SSC Report
September 2008

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON PACIFIC HALIBUT BYCATCH ESTIMATE FOR INTERNATION PACIFIC HALIBUT COMMISSION (IPHC) ADOPTION

The Scientific and Statistical Committee (SSC) received a presentation by Dr. Jim Hastie and Mr. John Wallace (NWFSC), the authors of Agenda Item E.1.b, Supplemental NMFS Report, "Pacific halibut bycatch in IPHC Area 2A in the 2007 Groundfish Trawl Fishery."

The methodology for estimating annual total bycatch mortality of halibut has been reviewed on several occasions by the SSC. In this standard approach the West Coast Groundfish Observer Program (WCGOP) data on halibut bycatch rates (weight per hour of trawling) are coupled with corresponding information on hours of trawl effort to estimate to the total catch weight of halibut each year. The observer bycatch rates and logbook effort are stratified by season, depth, latitude, and arrowtooth flounder catch rate. In past years the mortality for trawl-caught halibut was estimated by applying a fixed 50 percent mortality rate. This year an additional set of catch mortality values was estimated based on WCGOP data on the "viability" of halibut using criteria developed by the International Pacific Halibut Commission. Since 2004 west coast observers have recorded three viability categories (dead, poor, excellent) for some of the individual observed halibut. The viability data are only available for a limited number of individual fish. These data were stratified by depth and year but pooled over the other factors used to stratify the halibut bycatch rate and logbook effort data (season, latitude, and arrowtooth flounder catch rates).

For 2006 the estimate of total mortality of exploitable halibut by the groundfish trawl fishery from the viability observations (345,648 lb) was very similar to the estimate from the fixed 50 percent west coast mortality rate (333,391 lb). For 2007, however, the estimate of exploitable halibut mortality from the viability observations (257,338 lb) was much greater than the estimate based on the fixed 50 percent mortality rate (175,133 lb). Although the 2007 groundfish trawl fishery generally fished in deeper waters with lower catch rates of halibut, the mortality rates for these halibut partially offset the reduced catch rates.

The SSC endorses using the observer viability data as a refinement that will produce better estimates of halibut bycatch mortality. For the estimates next year there should be further exploration of other stratification schema on the estimates of viability. For example, pooling the data across years might produce more stable estimates of the halibut mortality rate.

The SSC also recommends exploring the use of halibut viability data from observed longline fishing trips to derive estimates of halibut mortality by the west coast longline fishery. Currently the estimates for this fishery are based on a fixed 25 percent mortality rate, which appears to be high relative to mortality rates in North Pacific longline fisheries.

PFMC
09/08/08

PACIFIC FISHERY MANAGEMENT COUNCIL (PFMC) REPRESENTATIVE REPORT ON PACIFIC HALIBUT CATCH APPORTIONMENT METHODOLOGY

Several members of the Pacific Fishery Management Council's Halibut Managers' Workgroup attended the International Pacific Halibut Commission's (IPHC) workshop on apportionment on September 4, 2008, in Bellevue, Washington. At the workshop, IPHC staff reviewed the results of an ongoing PIT tag study, explained the coastwide stock assessment methodology, and discussed their rationale for using the survey CPUE to apportion the coastwide stock amongst the halibut management areas.

From the data presented, there are signs indicating that the halibut stock in areas 2A, B, and C, are being fished at too high of rate. Of particular concern is the reduction in the average age of fish and the decrease in the number of age 20+ halibut. In addition, IPHC staff has seen a drastic reduction in the overall size-at-age in all areas. The IPHC staff also presented the summary of the PIT tag recoveries and emphasized the effects of immigration of halibut from other areas into Area 2.

From our perspective, Area 2A is unique to other areas in several ways, suffers from a lack of data compared to other management areas, and the information presented at the workshop results in several concerns regarding the apportionment methodology being proposed by the IPHC staff. Our most significant concerns are identified below:

1. Out of 299 PIT tags in 2A, 4 have been recovered, 1 in Area 2A and 3 in Area 2B. We do not believe that this information is informative nor does it support the contention that Area 2A halibut are subjected to harvest rates as high as 40%.
2. The "q" value for area 2A is lower than areas to the north; the coastwide stock assessment uses an average "q" thereby underestimating the Area 2A biomass.
3. The Area 2A annual setline survey is done after more than 80% of the annual harvest has taken place. This could result in lower CPUE's rates and underestimate the biomass in Area 2A.
4. Hook competition for bait (e.g., from spiny dogfish) is greater in Area 2A, which could also affect survey CPUE.
5. The average age of halibut in Area 2A is higher than the average age in Area 2B.
6. The estimated harvest rate of halibut in Area 2A is likely higher than what is actually taking place.
7. At the workshop, IPHC staff presented a comparison of IPHC survey data with information collected in the NMFS trawl survey off Alaska; however, NMFS trawl survey data for Area 2A were not included.

Based on the information shared at the workshop, I recommend:

1. The Pacific Council request the NMFS Northwest Fisheries Science Center provide a data summary of the halibut catch in the NMFS trawl survey for the past several years, including a description of the area swept in the survey relative to time for the SSC's review in November;

2. The Halibut Managers Workgroup request a meeting with IPHC staff and discuss the data that was presented at the workshop and discuss our concerns and ideas on how the apportionment should be made to Area 2A. In addition, the Halibut Managers Workgroup should discuss addressing scientific assumptions relative to the data available to assess the status of the Area 2A halibut resource; and

3. The Halibut Managers Workgroup report back to the Council at the November meeting and make the appropriate recommendations for Council input to the IPHC prior to the IPHC interim meeting.

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON PACIFIC HALIBUT CATCH APPORTIONMENT METHODOLOGY

The International Pacific Halibut Commission (IPHC) recently adopted a coast-wide assessment model for the Pacific halibut stock. Previously, assessments were conducted by regulatory area and harvest recommendations were based on results of the closed area models. A long-standing management objective of the IPHC is to equalize fishing mortality rates throughout the range of the stock. If Pacific halibut conform perfectly to a unit stock, as assumed by the current assessment model, there would be little biological basis for equalizing fishing mortality rates by regulatory area. However, similar to most stocks, Pacific halibut is unlikely to conform perfectly to a unit stock assumption, and is likely to be situated on a continuum between that extreme and the other extreme of multiple independent stocks. In these circumstances, equalizing fishing mortality rates would help maintain the spatial structure of spawning output, which would be advantageous if recruitment to an area depends on the spawning biomass in that area. It would also be appropriate if spawning in different areas contributes unequally to recruitment, i.e., there are sources and sinks, but the relative contribution of each area is unknown.

The IPHC is proposing a catch apportionment algorithm that uses a 3-year average of setline survey catch per unit of effort (CPUE) multiplied by the bottom area by regulatory area. This method is a standard approach to equalizing fishing mortality rates, and is based on the assumption that setline survey catchability is the same in all areas. Similar approaches have been used for other stocks on the west coast and the North Pacific. While the overall approach is reasonable, area apportionment using setline survey CPUE and bottom area is problematic in Area 2A for several reasons. First, hook competition appears to be higher in Area 2A than in any other area, which would depress catch rates. Second, coverage of habitat with a fixed station grid appears to be less representative in Area 2A than any other area. Finally, a greater percentage of the annual catch is removed in Area 2A before the survey occurs. All of these factors would cause a negative bias in the percent of exploitable biomass in Area 2A.

With respect to future assessments, the Scientific and Statistical Committee (SSC) recommends development of a spatially-explicit model that fully utilizes the available information. For example, a model that includes both the setline survey data and tagging data would allow evaluation of alternative model formulations by comparing model fits to both data sets. The National Marine Fisheries Service (NMFS) Gulf of Alaska bottom trawl survey provides a time series of relative abundance of Pacific halibut that has not been used for halibut assessment, nor has this data set been fully explored to address concerns about differences in setline survey catchability by area. Models that are intermediate between the coast-wide model and closed area models should be considered. Such models would be helpful in addressing issues such as the impact of migration between areas and unequal harvest rates by area.

PFMC
9/8/08

OREGON DEPARTMENT OF FISH AND WILDLIFE REPORT ON PROPOSED CHANGES TO THE PACIFIC HALIBUT CATCH SHARING PLAN FOR THE 2009 FISHERY

The Oregon Department of Fish and Wildlife (ODFW) held two public meetings to discuss proposed changes to the Pacific Halibut Catch Sharing Plan (CSP) for fisheries off Oregon in 2009. The first meeting occurred on August 27, 2008 in Astoria and the second on August 28, 2008 in Newport. Based on the meeting comments, and other public input, the ODFW recommends the Pacific Fishery Management Council (PFMC) approve the following proposals for additional public review.

Columbia River Subarea

Change the structuring of the spring fishery from 7 days per week to every Thursday, Friday and Saturday. The purpose of the change is to extend the duration of the spring season. Open days on Thursday, Friday and Saturday were suggested by the public as salmon seasons are often closed on Fridays and Saturdays.

Central Coast Subarea

1. In the spring all-depth fishery allow fishing on *every* Thursday, Friday and Saturday if pounds remain after the "fixed days". Presently the CSP allows fishing only on *every other* Thursday, Friday and Saturday after the "fixed days". The spring quota has not been taken in the last two years and poundage was rolled into the summer fishery. Opening the fishery every weekend allows more opportunity to harvest the spring quota and would also simplify the regulations.

2. Extend the open area of the inside 40-fathom fishery north from Cape Falcon to the Columbia River. Under existing regulations halibut caught incidentally in the nearshore groundfish fishery north of Cape Falcon must be released. This change would allow retention of those fish on days when the central coast all-depth fishery is not open.

North of Humbug Mt (Columbia River and Central Coast Subareas)

Allow the retention of lingcod and Pacific cod with a halibut on the vessel during all-depth openings. Current language specifies that all groundfish, except sablefish (and Pacific cod north of Cape Falcon), cannot be retained with a halibut on the vessel during all-depth openings. This regulation has resulted in anglers discarding lingcod, which are often caught incidentally while targeting halibut. Allowing the retention of lingcod would not be a lingcod conservation issue as their status is considered healthy. Although Pacific cod are rarely encountered south of Cape Falcon allowing retention in the central coast fishery helps to simplify regulations as the groundfish species allowed in the halibut fishery north and south of Cape Falcon would be the same.

Other Suggestions Received

There were several other suggestions received that ODFW is not proposing for further public comment at this time. Below is a summary of these recommendations:

1. Combine the Oregon portion of Columbia River subarea with the central coast subarea.
2. Combine Columbia River quota into 1 season, 3 days per week starting in May until quota is attained. Thus there would be no separate summer season.
3. Open central coast all-depth fishery 7 days per week.
4. Reduce the inside 40-fm fishery allocation.
5. Increase central coast bag limit to 2 fish per day. Another option was: 1 fish if over certain size, 2 fish if both under that length.
6. Increase allocation to the Columbia River subarea.
7. Combine the spring and summer central coast subarea quotas into one fishery starting in May.
8. Allow retention of incidentally caught arrowtooth flounder, skates and other groundfish.
9. Eliminate the provision in the central coast subarea allowing days of adverse tide conditions to be skipped.
10. Change the open days during the central coast spring fishery from Thursday, Friday, and Saturday to Friday, Saturday, and Sunday.

ODFW proposed changes to the Catch Sharing Plan

(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 4.0 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 also allocated 5.0 percent of the Oregon/California sport allocation or an amount equal to the contribution from the Washington sport allocation, whichever is greater. This subarea is defined as waters south of Leadbetter Point, WA (46°38.17' N. lat.) and north of Cape Falcon, OR (45°46.00' N. lat.). The fishery will open on ~~**May 1**~~ **the first Thursday in May,** and continue ~~7 days per week~~ **three days per week (Thursdays through Saturdays)** until 70 percent of the subarea allocation is taken or until the third Sunday in July, whichever is earlier. The fishery will reopen on the first Friday in August and continue 3 days per week, Friday through Sunday until the remainder of the subarea quota has been taken, or until September 30, whichever is earlier. Subsequent to this closure, if there is insufficient quota remaining in the Columbia River subarea for another fishing day, then any remaining quota may be transferred inseason to another Washington and/or Oregon subarea by NMFS via an update to the recreational halibut hotline. Any remaining quota would be transferred to each state in proportion to its contribution. The daily bag limit is one halibut per person, with no size limit. No groundfish may be taken and retained, possessed or landed, except sablefish**, lingcod** and Pacific cod when allowed by groundfish regulations, if halibut are on board the vessel.

(v) Oregon central coast subarea.

This subarea extends from Cape Falcon (45°46.00' N. lat.) to Humbug Mountain, Oregon (42°40.50' N. lat.) and is allocated 92.0 percent of the Oregon/California sport allocation minus any amount of pounds needed to contribute to the Oregon portion of the Columbia River subarea quota. 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. 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 40-fathom (73 m) fishery through 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 40-fathom (73 m) fishery subquota, if it can be used. . If inseason it is determined via joint consultation between IPHC, NMFS and ODFW, that the combined all-depth and inside 40-fathom (73 m) fisheries will not harvest the entire quota to the subarea, quota may be transferred inseason to another subarea south of Leadbetter Point, WA by NMFS via an update to the recreational halibut hotline. The daily bag limit is one halibut per person, unless otherwise specified, with no size limit. During days open to all-depth halibut fishing, no groundfish may be taken and

retained, possessed or landed, except sablefish**, lingcod, and Pacific cod** when allowed by groundfish regulations, if halibut are on board the vessel.

Recreational fishing for groundfish and halibut is prohibited within the Stonewall Bank YRCA. The Stonewall Bank YRCA is an area off central Oregon, near Stonewall Bank, and is defined by straight lines connecting latitude and longitude coordinates. Coordinates for the Stonewall Bank YRCA are specified in groundfish regulations at 50 CFR 660.390 and will be specifically defined annually in federal halibut regulations published in the *Federal Register*.

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 40-fathom (73 m) curve **and includes waters north of Cape Falcon to the Columbia River (46E16.00' N. lat.),** and continues daily until the subquota (8 percent of the subarea quota) is taken, or until October 31, whichever is earlier. Any overage in the all-depth fisheries would not affect achievement of allocation set aside for the inside 40-fathom (73 m) curve fishery.

B. The second season is an all-depth fishery with two potential openings and is allocated 69 percent of the subarea quota. Fixed season dates will be established preseason for the first Spring opening and will not be modified inseason except if the combined Oregon all-depth Spring and Summer season total quotas are estimated to be achieved. Recent year catch rates will be used as a guideline for estimating the catch rate for the Spring 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 subquota for this season. The first opening 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. The fixed season dates will occur in consecutive weeks starting the second Thursday in May (if the season is 5 or more fishing days) or second Friday in May (if the season is 4 or fewer fishing days), with possible exceptions to avoid adverse tidal conditions. If, following the "fixed" dates, quota for this season remains unharvested, a second opening will be held. If it is determined appropriate through joint consultation between IPHC, NMFS and ODFW, fishing may be allowed on one or more additional days. Notice of the opening(s) will be announced by NMFS via an update to the recreational halibut hotline. The fishery will be open every ~~other~~ week on Thursday through Saturday except that week(s) may be skipped to avoid adverse tidal conditions. The potential open Thursdays through Saturdays will be identified preseason. The fishery will continue until there is insufficient quota for an additional day of fishing or July 31, whichever is earlier.

C. The last season is an all-depth fishery that begins on the first Friday in August and is allocated 23 percent of the subarea quota. The fishery will be structured to be open every other week on Friday through Sunday except that week(s) may be skipped to avoid adverse tidal conditions. The fishery will continue until there is insufficient quota remaining to reopen for another fishing day or October 31, whichever is earlier. The potential open Fridays through Sundays will be identified preseason. If after the first scheduled open period, the remaining Cape Falcon to Humbug Mountain entire season quota (combined all-depth and inside 40-fathom (73 m) quotas) is 60,000 lb (27.2 mt) or more, the fishery will re-open on every Friday through Sunday (versus every other Friday through Sunday), if determined to be appropriate through joint consultation between IPHC, NMFS, and ODFW. The inseason action will be announced by NMFS via an update to the recreational halibut hotline. If after the Labor Day weekend, the remaining Cape Falcon to Humbug Mountain entire season quota (combined all-depth and inside 40-fathom (73 m) quotas) is 30,000 lb (13.6 mt) or more and the fishery is not already open every Friday through Sunday, the fishery will re-open on every Friday through Sunday (versus every other Friday through Sunday), if determined to be appropriate through joint consultation between IPHC, NMFS, and ODFW. After the Labor Day weekend, the IPHC, NMFS, and ODFW will consult to determine whether increasing the Oregon Central Coast bag limit to two fish is warranted with the intent that the quota for the subarea is taken by September 30. If the quota is not taken by September 30, the season will remain open, maintaining the bag limit in effect at that time, through October 31 or quota attainment, whichever is earlier. The inseason action will be announced by NMFS via an update to the recreational halibut hotline.

WASHINGTON DEPARTMENT OF FISH AND WILDLIFE REPORT ON PROPOSED CHANGES TO CATCH SHARING PLAN AND 2009 ANNUAL REGULATIONS

The Washington Department of Fish and Wildlife (WDFW) held a recreational halibut meeting to develop and consider proposed changes to the Pacific Fishery Management Council's Catch Sharing Plan for 2009, in Montesano, on August 19, 2008.

There was a considerable amount of discussion during the season as well as at the public meeting with regard to ensuring that the public receives adequate notice in advance of halibut season openers and closures. As most of the Washington recreational halibut fishing occurs in fairly remote areas, providing advance notice of season changes allows anglers to revise travel plans, as needed. To help facilitate this, WDFW is proposing to identify specific weeks preseason that would be closed to halibut fishing in both the North Coast and South Coast subareas. These closures are intended to provide staff time to tally the catch and provide notice for additional openings if sufficient quota remains.

Based on the public input we received, we would support the following changes to the 2009 Pacific Halibut Catch Sharing Plan for Area 2A, section (f) SPORT FISHERIES, be approved for public review, in addition to the status quo alternative. Suggested revisions to the Catch Sharing Plan language to incorporate the changes below are provided in Agenda Item E.3.b, WDFW Attachment 1.

Washington North Coast Sub-area

For this area, implement the following changes:

a) Remove the provision to divide the subarea quota between May and June;
b) Restructure the season from three staggered days per week (Tuesday, Thursday, and Saturday) to two staggered days per week (Thursday and Saturday); and
c) Change the re-opening date in June from the first Tuesday after June 16 to the first Thursday in June.

Rationale –

a) Removing the quota split between May and June is intended to provide stability and reduce the number of inseason actions (i.e., closures and reopeners). The effort in the North Coast recreational halibut fishery has grown such that it takes a significant amount of halibut quota remaining to reopen the fishery for another offshore fishing day. The May season is usually scheduled to ensure that there is adequate quota set aside for June; as such, when there is not sufficient quota to reopen in May, any remaining quota is then rolled over in June. For the past couple of years, this has resulted in a higher allocation for the June fishery than what was specified in the Catch Sharing Plan (e.g., 43% in 2007 and 35% in 2008, rather than 28%). In the future, if the Area 2A quota is reduced and, subsequently, the North Coast quota is reduced, then this problem could be exacerbated.

b) Reducing the number of days open from three to two is intended to meet the intent of providing fishing days in June is preserved. The selection of Thursday and Saturday is intended to continue to provide one weekend day of fishing per week. By having only one

closed day in between open days, this also provides an opportunity for anglers to remain in port and continue fishing for halibut, if they so desire.

c) The season structure will provide fishing in June and provide opportunity prior to the opening of the salmon season, which typically occurs around July 1.

Washington South Coast Sub-area

For this area, implement the following changes:

a) As an option, specify that the nearshore set-aside would be 10% of the subquota, or 2,000 pounds, whichever is less.
b) Starting the third week in May the primary fishery will only be open on Sundays until the quota for the offshore season is reached
c) Specify that the season will be open in the nearshore areas on Thursday through Saturday during the primary season and Thursday through Sunday after the primary season.
d) Specify that, in addition to the South Coast YRCA, recreational fishing for groundfish and halibut is prohibited in the Westport Offshore YRCA.

Rationale –

a) Setting a cap on the nearshore set aside ensures that the majority of the quota is reserved for the primary offshore fishery, which remains a priority; this cap is especially important in years with higher subarea quotas. On the other hand, by keeping the 10% specified, if the Area 2A quota is reduced and, subsequently, the South Coast quota is reduced, then the set aside would be proportionately reduced as well. The nearshore set aside is intended to allow anglers to retain incidental catches of halibut while targeting bottomfish in the northern nearshore area. It is anticipated that a set aside of 2,000 pounds will accommodate incidental catches, while a larger set aside is unlikely to be utilized by the fishery.
b) Reducing the number of days open from two to one is intended to stretch out the season while continuing to provide one weekend day of fishing per week.
c) Increasing the number of days that the nearshore fishery is open during the primary season and after the offshore quota is reached will allow access to the set aside quota and provide for the retention of incidentally caught halibut.
d) The Council's approved Management Measures for 2009-2010 include a new YRCA in the South Coast subarea that will be closed to recreational halibut fishing effective January 1, 2009.

(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 six geographic subareas.

(1) Subarea management. The sport fishery is divided into six 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 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°31.70' N. lat.). The management objective for this subarea is to provide a quality recreational fishing opportunity during May and June. The fishery will open on the first Thursday between May 9 and 15, and continue 2 days per week (Thursday, and Saturday). Subsequent to a quota management closure in May, the fishery will reopen on the first Thursday of June. The fishery would continue as an all depth fishery on Thursdays and Saturdays, with allowance for a weekly closure to ensure adequate public notice

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of the in-season action. Subsequent to a quota management closure in June, the fishery would continue to be open on Thursdays and Saturdays as an all depth fishery if sufficient quota remains. If there is not sufficient quota for an all-depth day, the fishery would reopen in the nearshore areas described below:

A. WDFW Marine Catch Area 4B, which is all waters west of the Sekiu River mouth, 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., to the Bonilla-Tatoosh line, as defined by a line connecting the light on Tatoosh Island, WA, with the light on Bonilla Point on Vancouver Island, British Columbia (at 48°35.73' N. lat., 124°43.00' W. long.) south of the International Boundary between the U.S. and Canada (at 48°29.62' N. lat., 124°43.55' W. long.), and north of the point where that line intersects with the boundary of the U.S. territorial sea.

B. Shoreward of the recreational halibut 30-fm boundary line, a modified line approximating the 30 fm depth contour from the Bonilla-Tatoosh line south to the Queets River. Coordinates for the closed area will be specifically defined annually in federal halibut regulations published in the *Federal Register*.

No sport fishing for halibut is allowed after September 30. If the fishery is closed prior to September 30, and there is insufficient quota remaining to reopen the nearshore areas for another fishing day, then any remaining quota may be transferred inseason to another Washington coastal subarea by NMFS via an update to the recreational halibut hotline. The daily bag limit in all fisheries is one halibut per person with no size limit.

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Recreational fishing for groundfish and halibut is prohibited within the North Coast Recreational Yelloweye Rockfish Conservation Area (YRCA). The North Coast Recreational YRCA is a C-shaped area off the northern Washington coast and is defined by straight lines connecting latitude and longitude coordinates. Coordinates for the North Coast Recreational YRCA are specified in groundfish regulations at 50 CFR 660.390 and will be specifically defined annually in federal halibut regulations published in the *Federal Register*.

(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°31.70' N. lat.) and north of Leadbetter Point (46°38.17' N. lat.). The structuring objective for this subarea is to maximize the season length, while maintaining a quality fishing experience. The south coast subarea quota will be allocated as follows: 10% or 2,000 pounds, whichever is less, will be set

aside for the nearshore fishery with the remaining amount allocated to the primary fishery. Beginning in 2009, the fishery will open on May 1, if it is a Sunday; otherwise, the fishery will open on the first Sunday following May 1. The primary fishery will be open two days per week, Sunday and Tuesday, in all areas, except where prohibited, and the nearshore fishery will be open three days per week, Thursday, Friday, and Saturday in addition to any days that the primary fishery is open in the area from 47°25.00' N. lat. south to 46°58.00' N. lat. and east of 124°30.00' W. long. Starting the third week in May, the primary fishery will be open on Sundays only until the quota for the offshore season is reached or September 30, whichever is earlier. Subsequent to this closure, if there is insufficient quota remaining to reopen the primary fishery for another fishing day, then any remaining quota may be used to accommodate incidental catch in the nearshore area from 47°25.00' N. lat. south to 46°58.00' N. lat. and east of 124°30.00' W. long. on Thursdays, Fridays, Saturdays, and Sundays until the remaining quota is projected to be taken. If the fishery is closed prior to September 30, and there is insufficient quota remaining to reopen the nearshore areas for another fishing day, then any remaining quota may be transferred inseason to another Washington coastal subarea by NMFS via an update to the recreational halibut hotline. The daily bag limit is one halibut per person, with no size limit.

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Recreational fishing for groundfish and halibut is prohibited within the two South Coast Recreational YRCAs. The South Coast Recreational YRCA and the Westport Offshore YRCA are areas off the southern Washington coast that are defined by straight lines connecting latitude and longitude coordinates. Coordinates for the two South Coast Recreational YRCAs are specified in groundfish regulations at 50 CFR 660.390 and will be specifically defined annually in federal halibut regulations published in the *Federal Register*.

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(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 4.0 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 also allocated 5.0 percent of the Oregon/California sport allocation or an amount equal to the contribution from the Washington sport allocation, whichever is greater. This subarea is defined as waters south of Leadbetter Point, WA (46°38.17' 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 70 percent of the subarea allocation is taken or until the third Sunday in July, whichever is earlier. The fishery will reopen on the first Friday in August and continue 3 days per week, Friday-Sunday until the remainder of the subarea quota has been taken, or until September 30, whichever is earlier. Subsequent to this closure, if there is insufficient quota remaining in the Columbia River subarea for another fishing day, then any remaining quota may be transferred inseason to another Washington and/or Oregon subarea by NMFS via an update to the recreational halibut hotline. Any remaining quota

would be transferred to each state in proportion to its contribution. The daily bag limit is one halibut per person, with no size limit. No groundfish may be taken and retained, possessed or landed, except sablefish and Pacific cod when allowed by groundfish regulations, if halibut are on board the vessel.

GROUNDFISH ADVISORY SUBPANEL REPORT ON PROPOSED CHANGES TO CATCH SHARING PLAN AND 2009 ANNUAL REGULATIONS

General

The GAP supports public review of all proposed regulations presented by Oregon Department of Fish and Wildlife and Washington Department of Fish and Wildlife in their supplemental reports presented to the Council.

Port Orford Request

As several requests have come before the Council in recent years to examine a regulation which allows retention of halibut bycatch in the sablefish fishery and preliminary observer data is indicating a large amount of bycatch in the sablefish fishery, the GAP is recommending a "white paper" to help inform decision making for future years.

The GAP would like to see, at a minimum, the following information contained in the report:

1. What sectors would be affected by a regulation which allows retention of halibut in the blackcod fishery – at the very least the GAP believes that the limited entry fixed gear fleet, the open access fixed gear fleet and the directed halibut fishery will be affected.
2. What bycatch levels are projected based on observer information.
3. What effect does this type of regulation have on the directed halibut fishery?

PFMC
09/08/08