# MSC Final Report
# US Pacific Halibut v.4

June, 2011

The fishery evaluated in this report:
Species: *Hippoglosus stenolepis*
Geographic Area: US waters off the coasts of Washington and Alaska , Bering Sea, and Gulf of Alaska
Fishing Method: demersal longline
Fishery Management: International Pacific Halibut Commission, National Marine Fisheries Service, North Pacific Fisheries Management Council, Alaska Department of Fish and Game, Washington Department of Fish and Wildlife

Accredited Certification Body:
Scientific Certification Systems
2000 Powell Street, Suite 600
Emeryville, CA 94608
USA

Assessment Team
Team Leader: Dr. Sabine Daume
Principle 1: Dr. Steve Martell
Principle 2: Dr. Tim Essington
Principle 3: Dr. Jon Sutinen

**Versions Issued**

| Version No. | Date | Description Of Amendment |
|---|---|---|
| 1 Client Draft Report | January 2011 | Client Draft Report |
| 2 Peer Review Draft Report | February 2011 | Reviewed after Client comments |
| 3 Public Comment Draft Report | May 2011 | Peer reviews incorporated |
| 4 Final Report | June 2011 | Public comments incorporated |
| **5** | | |

**MSC scheme documents:**

MSC Accreditation Manual Issue 4
MSC Fisheries Assessment Methodology (FAM) Version 2.1
MSC Fisheries Certification Methodology (FCM) Version 6.1
MSC TAB Directives
MSC Policy Advisories

# Contents

## PREAMBLE

This report is the sole responsibility of SCS. All advice and comments from Assessment Team members, peer reviewers, client, fishery managers and the MSC have been reviewed by SCS and incorporated into the report by SCS as deemed warranted.

## ABBREVIATIONS

| | |
|---|---|
| ABC | Acceptable Biological Catch |
| ACL | Annual Catch Limit |
| ADF&G | Alaska Department of Fish and Game |
| AHP | Analytical Hierarchy Process |
| AI | Aleutian Islands |
| AK | Alaska |
| AKD | Alaska Enforcement Division |
| ALFA | Alaska Longline Fishermen's Association |
| APA | Administrative Procedures Act |
| ASI | Accreditation Services International |
| ATA | Alaska Trollers Association |
| AWT | Alaska Wildlife Troopers |
| B and $B_0$ | Biomass and un-fished biomass |
| $B_{MSY}$ | Biomass at which Maximum sustainable yield is achieved |
| CB | Certifying Body |
| CDQ | Community development Quota |
| CEY | Constant Exploitable Yield |
| CI | Confidence Interval |
| CIE | Center for Independent Experts |
| CITES | Convention on International Trade in Endangered Species of Wild Fauna and Flora |
| CPUE | Catch Per Unit Effort |
| DAT | Default Assessment Tree |
| EBS | Eastern Bering Sea |
| EFH | Essential Fish Habitat |
| ESA | Endangered Species Act |
| ETP | Endangered, Threatened and Protected species |
| ERA | Ecological Risk Assessment |
| ESD | Ecologically Sustainable Development |
| F | Fishing mortality rate |
| $F_{MSY}$ | Fishing rate that achieves maximum sustainable yield |
| FABC | Allowable Biological Catch |
| FAM | Fisheries Assessment Methodology v2.1 |
| FAO | Food and Agriculture Organization [of the United Nations] |
| $F_{OFL}$ | Over Fishing Limit rate |
| FVOA | Fishing Vessel Owner's Association (client group) |
| GCEL | General Council's Office of Enforcement and Litigation |
| GOA | Gulf of Alaska |
| HAPC | Habitat Areas of Particular Concern |
| HCR | Harvest Control Rule |

| | |
|---|---|
| IFQ | Individual Fishing Quota |
| IPHC | International Pacific Halibut Commission |
| IUCN | International Union for Conservation of Nature |
| MCS | Monitoring Control and Surveillance |
| MFCMA | Magnuson-Stevens Fishery Conservation Act |
| MMPA | Marine Mammal Protection Act |
| MSA | Magnuson Stevenson Act |
| MSC | Marine Stewardship Council |
| MSE | Management Strategy Evaluation |
| MSY | Maximum Sustainable Yield |
| NEPA | National Environmental Policy Act |
| NMFS | National Marine Fisheries Service |
| NOAA | National Oceanic Atmospheric Association |
| NPFMC | North Pacific Fisheries Management Council |
| OFL | Overfishing Level |
| OLE | Office of Law Enforcement |
| OY | Optimum Yield |
| PDO | Pacific Decadal Oscillation |
| PI | Performance Indicator |
| RAM | Restricted Access Management |
| RI | Rhode Island |
| SAFE | Stock Assessment of Fisheries Evaluation |
| SCS | Scientific Certification Systems |
| SG | Scoring Guidepost |
| SSB and R | Spawning Stock Biomass and Recruitment |
| SSC | Scientific and Statistical Committee |
| SUFD | Slow-Up Fast-Down |
| t | metric ton |
| TAB | Technical Advisory Board [of the MSC] |
| TAC | Total Allowable Catch |
| TL | Total Length (nose to middle of tail) |
| US | United States |
| USCG | United States Coast Guard |
| USFWS | United States Fish and Wildlife Service |
| VMS | Video Monitoring Surveillance |
| WA | Washington |
| WDFW | Washington Department of Fish and Wildlife |
| WWF | World Wildlife Foundation |
| YOY | Young of the Year |

# 1. INTRODUCTION

The Marine Stewardship Council (MSC) is a non-profit organization dedicated to the long-term protection or "sustainability" of marine fisheries and related habitats. First started as a joint initiative between Unilever and the World Wildlife Fund (WWF), the MSC is now a fully independent organization that is governed by an independent Board of Directors advised by a panel of scientific, economic, and fishery experts.

The MSC's original mission statement promoted responsible, environmentally appropriate, socially beneficial, and economically viable fisheries practices, as well as the maintenance of biodiversity, productivity and ecological processes of the marine environment. The current MSC mission statement provides a slightly more focused mission and reads,

*"Our mission is to use our ecolabel and fishery certification programme to contribute to the health of the world's oceans by recognising and rewarding sustainable fishing practices, influencing the choices people make when buying seafood, and working with our partners to transform the seafood market to a sustainable basis."*

Dedicated to promoting "well-managed" or "sustainable" fisheries, the MSC initiative intends to identify such fisheries through means of independent third-party assessments and certification. Once certified, fisheries will be awarded the opportunity to utilize an MSC promoted eco-label to gain economic advantages in the marketplace. Through certification and eco-labeling, the MSC intends to promote and encourage better management of world fisheries, many of which have been suggested to suffer from poor management.

The Marine Stewardship Council developed the original standards for sustainable fisheries management in a three-step process: 1) Assemble a group of experts in Bagshot (UK) to draft an initial set of Principles and Criteria; 2) Conduct an 18-month process to review the standard in 8 major international venues; and 3) Convene a second set of experts in Warrenton, Virginia (Airlie Conference Center, USA) to revise and finalize the MSC Principles and Criteria.

The MSC Fisheries Certification Methodology used for this report, the Marine Stewardship Council Fisheries Assessment Methodology (FAM) and Guidance to Certification Bodies Including Default Assessment Tree and Risk-Based Framework Version 2.1 was issued on 1 May 2010.

# 2. SUMMARY

## 2.1 The Re-Assessment Process

Scientific Certification Systems, Inc. conducted a pre-assessment of the US Pacific halibut demersal longline fishery as recommended by the MSC program. After review of the pre-assessment, the applicants for certification authorized the formal, full assessment of the fishery. All aspects of the assessment process were carried out under the auspices of Scientific Certification Systems, Inc., an accredited MSC certification body, and in direct accordance with MSC requirements.

The first full assessment of the US Pacific halibut demersal longline fishery was conducted using an Assessment Tree that was finalized in December 2004. The Public Comment Draft Report was published February 2006, the final report was published in March that same year. No objections to the certification decision were made and the fishery was first certified as sustainable seafood in April 2006 with the caveat of ten conditions. The conditions all referenced one of four major issues. The first was the level of observer coverage to monitor and report bycatch (including ETP species) and discards. The second was to develop strategies for managing ecological impacts of the fishery particularly in regard to seabird mortality and effects of removals. Third was to implement management strategies to account for removals of non-target species and

fourth was to implement a funding scheme to support research for the overall harvest strategy. Steps toward closing these conditions were made throughout the certification. Milestones included implementing "snap-on" gear and tori lines to mitigate seabird mortality as well as implementing a trial Video Monitoring System (VMS) to capture the actual bycatch rates. Steps were taken to secure retention requirements for several rockfish species. Stock status modeling moved to a "coast wide" model that incorporates ecosystem parameters and initiatives were put to vote with the North Pacific Fishery Management Council to help increase and fund on-board observer coverage. Progress toward conditions was deemed sufficient, although admittedly slow. Delays were not due to any lack of diligence on behalf of the client group, the Fishing Vessel Owners Association (FVOA), but were due to temporary lack of government funding and an increase in the time to incorporate sufficient stakeholder input on how to implement changes in observer programs. SCS received a letter from the North Pacific Fishery Management Council dated October 25th, 2010 (See Appendix I). The letter informs SCS that "Alternative 3" had been adopted and describes the approval to restructure the groundfish observer program so that it will incorporate the Pacific halibut fixed gear (demersal longline) fishery into a two tier system for the percent of observer coverage. The adopted Alternative also describes a fee schedule to pay for the increased observer coverage. The 4th annual surveillance occurred before the October Council meeting, but SCS was informed that observer coverage would be the subject of their next meeting. The original certificate expires in April 2011. Progress on conditions was sufficient within the 5-year life-span of the certificate and the fishery remained in compliance with the MSC standards and Principles. The fishery has now entered the first re-assessment.

The MSC re-assessment follows the same requirements of a full assessment. Since the time of the original certification, the MSC has released updated versions of the Fisheries Assessment Methodology (v. 2.1, May 2010), Fisheries Certification Methodology (v.6.1, May 2010) and published the Default Assessment Tree (v2.1, May 2010). The most recent MSC scheme documents were used in the fishery re-assessment. All aspects of any conditions that remained open after the 4th annual surveillance audit were explicitly assessed against the new SGs of this FAM. For details regarding the Condition status and mapping of outstanding issue to Performance Indicators (PIs) of the new Fishery Assessment Methodology - FAM v2 (2009) see 4th annual surveillance audit report (here).

Special care was taken that harmonization of the findings of this assessment with the Canadian Pacific Halibut Fishery in British Columbia, first certified in 2009 by Scientific Certification Systems – SCS, continued. In recognition of the linkages and similarities between the two fisheries, SCS already applied the principles of MSC TAB Directive D-015 V2 during the BC Halibut assessment in order ensure consistency between the scoring of the Alaskan halibut fishery and the BC halibut fishery with respect to Principle 1. While the wording of Principles 2 and 3 in the BC report were also similar these two principles were still assessed and scored in their own right, though in the case of Principle 2, broadly within the context of harmonization.

SCS sought comment from the public through direct mailing and posting advisories on the MSC website and was available for comments throughout the assessment process. SCS responded to requests for information and participation within two days of any inquiry.

To be thorough and transparent, SCS provided opportunities for input at all stages of the assessment process. The general steps followed were:

- Announcement of the intention for the fishery to undergo a full re-assessment (11 May 2010)

  At this first step of the assessment process, SCS provided the MSC thorough background information on the fishery and informed the public that the fishery intended to undergo a full

MSC re-assessment. Identified stakeholders were informed directly through email, telephone or both.

- Team Selection (May 2010)

  At this second step of the assessment process, SCS sought input from interested parties and invited comment on the suitability of the selected assessment team members. SCS sent out an advisory through direct email and posting on the MSC web site (18 May 2010) requesting comment on the nominations of persons capable of providing the expertise needed in the assessment. After a comment period of 10 working days, SCS was able to confirm the assessment team.

- Determining Performance Indicators and Scoring Guideposts (June–July 2010)

  In accordance with the assessment procedures required by the MSC, review of the Default Assessment Tree (DAT) was conducted by the assessment team for applicability to the fishery. It was determined that the DAT was sufficient and no modifications were necessary. The suitability of the DAT for this fishery was up for public comment for a period of 30 days. No comments were received and the DAT was confirmed to use for this fishery.

- Input on fishery performance (May–August 2010)

  SCS requested that the applicants compile and submit written information to the assessment team illustrating the fishery's compliance with the required performance indicators (PI). At the same time, SCS requested that stakeholders submit their views on the fishery management system's functions, ecological impacts and population status of the stock.

- Meetings with industry, managers, and stakeholders (8–9 July, 19 July, and 18–19 August 2010)

  SCS planned for and conducted two site visits and a conference call. The first site visit was on the 8th and 9th of July, 2010 in Seattle, WA at the headquarters of the National Marine Fisheries Service (NMFS). A second on-site meeting was conducted with additional NMFS staff at the National Oceanic Atmospheric Association (NOAA) headquarters as well as the NOAA Fisheries Science Center in Juneau, AK. Stakeholders were invited to participate in both meetings through direct email dialogue, telephone calls and advisory postings on the MSC website. A list of on-site participants may be found in Table 1 below. In addition, a conference call was held with the International Pacific Halibut Commission (IPHC) on 19 July, 2010.

- Scoring fishery (20 August 2010)

  The assessment team scored the fishery using the required MSC methodology including the DAT found in the Fisheries Assessment Methodology (FAM v. 2.1, 2010). Scores were determined by the assessment team and team leader by consensus in a closed meeting.

- Drafting report (August–December 2010)

  The assessment team in collaboration with the SCS lead assessor, Sabine Daume, drafted the report in accordance with MSC required process.

- Selection of peer reviewers (5 January 2011)

  SCS released an advisory of potential peer reviewers and solicited comments from stakeholders on the merits of the selected reviewers. Stakeholders were informed of the 10 day comment period by direct email as well as the online posting. No negative comments were received and

the two peer reviewers were confirmed to review the report. The peer reviews with the team responses can be found in Appendix II.

- Release of Public Comment Draft Report (19 May, 2011)

  SCS releases this draft report for public comment, soliciting stakeholder response through posting on MSC website and direct email to known potential stakeholders. This report includes all comments made by peer reviewers, assessment team responses, all conditions identified by the assessment team and the client action plan for meeting those conditions. This report is available for public comment for a period no less than 30 days. Comments were received and together with the team responses can be found in Appendix IV.

- Release of the Final Report with the Certification Decision (29 June, 2011)

  A certification decision was issued based on the merits of the fishery against the scoring guideposts of the performance indicators and compliance with the MSC FCM and FAM. The performance of the fishery is considered acceptable by SCS and SCS recommends certification of the US North Pacific halibut fishery.

## 2.2 Meeting Conditions for Continued Certification

To be awarded an MSC certificate for the fishery, the applicants must agree in written contract to develop an action plan for meeting the required 'Conditions'; a plan that must provide specific information on what actions will be taken, who will take the actions, and when the actions will be completed. The Action Plan must be approved by SCS as the certification body of record. The applicant must also agree in a written contract to be financially and technically responsible for surveillance visits by an MSC accredited certification body, which shall occur at a minimum of once a year, or more often at the discretion of the certification body (based on the applicant's action plan or by previous findings by the certification body from annual surveillance audits or other sources of information). The contract must be in place prior to certification being awarded. Surveillance audits will be comprised in general of (1) checking on compliance with the agreed action plan for meeting pre-specified 'Conditions', and (2) sets of selected questions that allow the certifier to determine whether the fishery is being maintained at a level of performance similar to or better than the performance recognized during the initial assessment. The client action plan may be found in section 12 of this report.

### 2.2.1. General Conditions for Continued Certification

The general 'Conditions' set for the Client, Fishing Vessels Owners Association, are:

- Client must recognize that MSC standards require regular monitoring inspections at least once a year, focusing on compliance with the 'Conditions' set forth in this report (as outlined below) and continued conformity with the standards of certification.
- Client must agree by contract to be responsible financially and technically for compliance with required surveillance audits by an accredited MSC certification body, and a contract must be signed and verified by SCS prior to re-certification being awarded.
- Client must recognize that MSC standards require a full re-evaluation for certification (as opposed to yearly monitoring for update purposes) every five years.
- Prior to receiving final re-certification, the Client shall develop an 'Action Plan for Meeting the Condition for Continued Certification' and have it approved by SCS.

### 2.2.2. Specific Conditions for Continued Certification

In addition to the general requirements outlined above, the Client must also agree in a written contract with an accredited MSC certification body to meet the specific conditions as described in Section 2.2 and summarized below (within the timelines that will be agreed in the Action Plan for Meeting the Condition for Continued

Certification' to be approved by SCS). Conditions are set for any Performance Indicator that has scored less than 80 (out of 100). There are five conditions placed on this fishery corresponding with PIs 2.2.1, 2.2.3, 2.3.1, 2.3.2, and 2.3.3.

Specific Conditions for the first Re-Assessment are:

*PI 2.2.1: The fishery does not pose a risk of serious or irreversible harm to the bycatch species or species groups and does not hinder recovery of depleted bycatch species or species groups.*

Condition 2.2.1
The fishery shall provide scientifically defensible and comprehensive evidence to the CB that all the main bycatch species are highly likely to be within biologically based limits by the third surveillance audit.

*PI 2.2.3: Information on the nature and amount of bycatch is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage bycatch*

Condition 2.2.3
Information shall be collected and provided to the CB by the second surveillance audit, to support a partial strategy to manage main bycatch species and sufficient data shall continue to be collected to detect any increase in risk to main bycatch species throughout the certification period.

*PI 2.3.1: The fishery meets national and international requirements for protection of ETP species. The fishery does not pose a risk of serious or irreversible harm to ETP species and does not hinder recovery of ETP species.*

Condition 2.3.1
The fishery shall provide evidence to the CB that the effects of the fishery are highly likely to be within limits of national and international requirements for the protection of ETP species. This evidence should be provided by the third surveillance audit.

*PI 2.3.2: The fishery has in place precautionary management strategies designed to:*
*- meet national and international requirements;*
*- ensure the fishery does not pose a risk of serious or irreversible harm to ETP species;*
*- ensure the fishery does not hinder recovery of ETP species; and*
*- minimize mortality of ETP species.*

Condition 2.3.2
By the third surveillance audit the fishery shall show that the strategy to manage impacts on ETP species is working, with an objective basis for confidence.

*PI 2.3.3: Relevant information is collected to support the management of fishery impacts on ETP species, including:*
*- information for the development of the management strategy;*
*- information to assess the effectiveness of the management strategy; and*
*- information to determine the outcome status of ETP species.*

Condition 2.3.3

The fishery shall have sufficient data to allow fishery related mortality and the impact of fishing to be quantitatively estimated in a scientifically defensible manner for ETP species and provide these estimates to the CB by the third surveillance audit.

### 2.3 Certification Determination

It is the consensus judgment of the assessment team and of the SCS Certification Determination Committee that the US Pacific Halibut Fishery complies with the MSC Principles and Criteria. Therefore, SCS as the certification body of record recommends that the fishery be issued an MSC Fishery certificate. The lead assessor for the assessment team presented all evidence to the SCS Certification Panel, which agreed with the assessment team's decision and authorized certification of the fishery. The client has submitted for approval, and SCS has approved, an Action Plan (See Section **11**) for meeting all Conditions placed on the certificate.

## 3. BACKGROUND TO THE REPORT

### 3.1 Assessment Team/Authors

Dr. Sabine Daume, Program Manager and Team Leader, SCS
Dr. Daume is responsible for leading SCS's Sustainable Seafood Certification program, which includes both fishery and chain of custody certification under the auspices of the Marine Stewardship Council (MSC), using the MSC methodology and standards. Dr. Daume has been involved and/ or lead numerous pre- and full assessments. Dr. Daume is a marine biologist with special expertise in the biology and ecology of exploited marine resources. She has over 10 years experience working closely with the fishing and aquaculture industry in Australia. In her role as the Senior Research Scientist at the Department of Fisheries in Western Australia, she lead research projects related to fishery and fisheries habitats of temperate and tropical invertebrate species. Dr. Daume is also a certified lead auditor under the International Standard Organization (ISO) 90011:2008 certification requirement.

Dr Steven Martell, Associate Professor, University of British Columbia, Principle 1
Dr. Martell earned his Ph.D. in fisheries science in 2002 from the University of British Columbia. He brings expertise in fisheries stock assessment, modeling, and devises sustainable fishery harvest strategies. The objective of his research is to better understand of the ecology of harvested species and how to better manage exploitation of natural marine and freshwater systems. He has a special interest in designing monitoring programs, adaptive management experiments, computer models and statistical tools for better understanding the dynamics of natural populations and developing harvest policies that are robust to uncertainties.

Dr. Timothy Essington, Associate Professor, University of Washington, Principle 2
Dr. Essington earned his Ph.D. in zoology in 1999 from the University of Wisconsin. His research focuses on food web interactions involving fish in marine, estuarine, and freshwater habitats. He brings expertise in a wide range of marine ecosystems: from high seas pelagic systems to the inland seas of Puget Sound with a quantitative emphasis, involving modeling and statistical analysis of complex data sets. He is also a principal scientist with the Climate Impacts Group; in this capacity, he leads work that aims to better understand the consequences of climate change on regional fishery ecosystems.

Dr. Jon Sutinen, Professor Emeritus, University of Rhode Island
Dr. Sutinen earned his Ph.D. in economics in 1973 from the University of Washington. He is a Professor Emeritus of Environmental and Natural Resource Economics at the University of Rhode Island. His area of expertise is fisheries economics, and his primary research interests are fisheries management and

regulation. During the past 30 years, he has conducted extensive research in three thematic areas: (1) compliance and enforcement in fisheries, (2) the design of markets and other institutional arrangements for tradable fishing allowances, and (3) the political economics of fisheries governance. He brings extensive experience advising and assisting government agencies and stakeholder groups, in the US and abroad in the areas of his expertise.

Also involved providing logistical and editorial support was

Ms. Adrienne Vincent, Program Associate, SCS, Program Associate
Ms. Vincent is a marine biologist that has worked closely with finfish species of commercial importance including California halibut (*Paralichthys californicus*). After completing her B.Sc. in biology from the University of Oregon she completed an e.M.B. in marine science with the Oregon Institute of Marine Biology. Ms. Vincent thereafter joined the State Managed Finfish Project with the California Department of Fish and Game where she worked on stock assessment and management issues. Since with SCS, she has been involved with the MSC assessments of US Pacific sablefish, Annette Island Salmon and Scotian Shelf shrimp. Ms. Vincent has also conducted the pre-assessment and has started the full assessment of Canada Atlantic halibut. She is a certified lead auditor under the International Standard Organization (ISO) 90011:2008 certification requirement.

### 3.2 Summary of Meetings

The sites and people chosen for visits and interviews were based on the assessment team's need to acquire information about the management operations of the fisheries under evaluation. Agencies and their respective personnel responsible for fishery management, fisheries research, fisheries compliance, and habitat protection were identified and contacted with the assistance of the client group and stakeholders.

The assessment team met with managers and scientists on two occasions, once in Seattle, Washington and once in Juneau, Alaska, USA. As with all assessments, there are always a number of issues that come to light when reviewing all the information with critical management and scientific personnel. Questions that arose after the both meetings were handled through email and phone calls with the client and any other necessary entities.

**Table 1**. Assessment Meetings & Attendees

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|---|---|---|
| **8-9 July, 2010 Seattle, WA USA** | ▪ **Assessment Team** | Dr. Sabine Daume (SCS); Ms. Adrienne Vincent (SCS); Dr. Steve Martell (Univ. of BC); Dr. Tim Essington (Univ. of WA); Dr. Jon Sutinen (Univ. of RI, retired); |
| | ▪ **Client representative** | Mr. Bob Alverson (FVOA); |
| | ▪ **Stock Status & Harvest Strategy** | Dr. Loh-lee Low (NMFS); Mr. Tom Wilderbuer (NMFS); Dr. Martin Loefflad (NMFS). |
| | ▪ **Ecosystems** | |
| | ▪ **Management** | |
| **19 July, 2010** | ▪ **Assessment Team** | Dr. Sabine Daume (SCS); Ms. Adrienne Vincent (SCS); Dr. Steve Martell (Univ. of BC); Dr. Tim Essington (Univ. of WA); Dr. Jon Sutinen (Univ. of RI); |
| | ▪ **Stock Status and Management** | Dr. Bruce Leama (IPHC); Dr. Steven Hare (IPHC). |
| | ▪ **IPHC** | |
| **18-19 Aug, 2010 Juneau, AK** | ▪ **Assessment Team** | Dr. Sabine Daume (SCS); Ms. Adrienne Vincent (SCS); Dr. Steve Martell (Univ. of BC); Dr. Tim Essington (Univ. |

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|---|---|---|
| **USA** | ▪ **Stock Status & Harvest Strategy**<br>▪ **Ecosystems**<br>▪ **Management**<br>▪ **Stakeholders**<br>▪ **MSC** | of WA); Dr. Jon Sutinen (Univ. of RI); Dr. Dana Hanselman (NOAA); Mr. Chris Lunsford (NOAA); Mr. Phil Rigby (NOAA); Ms. Peggy Murphy (NOAA); Ms. Rachel Baker (NOAA); Ms. Mary Furuness (NOAA); Ms. Jessica Gharrett (NOAA); Mr. Ronald Antaya (NOAA); Mr. Jim Humphrys (MSC). |
| **Throughout the Assessment** | ▪ **Stakeholders and groups contacted by email but declined to attend in person** | ATA, ALFA, WWF, David Suzuki Foundation, Ecotrust, US FWS, Wa DFW, NPSFMC, EcoLaw, Alaska Conservation, Earth Justice, Makah Tribe, BSFA, Alaska Marine, Inlet Keeper, PTI Alaska, PWSRCAC, Kenai, MFCN, Pew. |

### 3.3 Submission of Data on the Fishery

One of the most significant, and difficult, aspects of the MSC certification process is ensuring that the assessment team gets a complete and thorough grounding in all aspects of the fishery under evaluation. In even the smallest fishery, this is not an easy task as the assessment team typically needs information that is fully supported by documentation in all areas of the fishery from the status of stocks, to ecosystem impacts, through management processes and procedures.

Under the MSC program, it is the responsibility of the applying organizations or individuals to provide the information required proving the fishery or fisheries comply with the MSC standards. It is also the responsibility of the applicants to ensure that the assessment team has access to any and all scientists, managers, and fishers that the assessment team identifies as necessary to interview in its effort to properly understand the functions associated with the management of the fishery. Last, it is the responsibility of the assessment team and CB to make contact with stakeholders that are known to be interested, or actively engaged in issues associated with fisheries in the same geographic location.

## 4. ALASKA & WASHINGTON WATERS, US PACIFIC HALIBUT LONGLINE FISHERY

A brief description of the US Pacific halibut longline fishery (in WA and AK) assessed in this project is provided in the following subsections. The descriptions are general in nature and brief since much of this information is fully discussed in Section 11, Assessment Team Performance Evaluations.

### 4.1 Unit of Certification

Pacific halibut (*Hippoglosus stenolepis*) ranging from the waters of the Bering Sea and Aleutian Islands, Gulf of Alaska, and south to Washington, USA are included. Only Pacific halibut within the geographic area caught on demersal longline are considered for this report. Pacific halibut caught and landed in Canadian waters have been assessed as a separate Unit of Certification because of differences in governance.

### 4.2 Target Species and Life History

The Pacific halibut is a flatfish which inhabits the continental shelf of the United States and Canada, ranging from California to the Bering Sea, with populations extending east to Russian and Japanese waters. Pacific halibut is a very popular food fish because they can grow to be as much as 500 pounds and have firm textured, light flavored and usually boneless fillets (Hart, 1973).

Pacific halibut are among the largest teleost fishes in the world with lengths reported up to 9 feet (2.7 m) and can weigh several hundred pounds. Although the average age taken in the fishery is 10 to 13 years, halibut are known to live to an age exceeding 50 years (IPHC, 2010).

The adults undertake considerable spawning migrations moving north and south and from shallow to deep water depending on the season. Mature halibut collect on spawning grounds in the fall through spring from November to March and normally spawn along the continental slope at depths of 200 to over 450 meters. A 50 pound female will spawn close to a half million eggs while a female over 200 pounds may spawn several million eggs. Maturity varies with sex, age, and size of the fish. Females grow faster but mature more slowly than males. Most females reach maturity at about 12 years. Most males are mature at 8 years. Eggs are about 3 mm in diameter when released and fertilization takes place externally. Developing ova are typically found at depths of 300 to 600 feet, but have been known to occur at depths as great as 1,500 feet. Egg hatching is moderated by temperature occurring around 15 to 20 days at 5-6 degrees Celsius, and 12 to 14 days at 7-8 degrees Celsius. The eggs and larvae are heavier than the surface seawater and drift passively in deep ocean currents. The larva grow and transform into adult form at about 6 months, at which time they have the characteristic adult form and settle to the bottom in shallow inshore areas. Juvenile halibut, those generally under 7 years of age, also migrate long distances apparently counter balancing the northwesterly drift of the eggs and larva in the Northeast Pacific. Halibut are occasionally eaten by marine mammals and sharks but seem to be rarely found as prey for other fish as adults (IPHC, 2010).

### 4.3 Distribution and migration

Pacific halibut have a wide distribution in the North Pacific Basin ranging from Southern California north to Nome, Alaska. They also occur along the Asiatic Coast from the Gulf of Anadyr, Russia to Hokkaido, Japan. Depending on life stage, they may occur from the shallow waters of the continental shelf and down the continental slope to depths of 1200 meters (Worm, 2009).

Halibut are demersal, living on or near the bottom. Halibut are most often caught between 27 and 274 meters. Young halibut migrate generally in a clockwise direction. One and two-year old Pacific halibut are commonly found in inshore areas, whereas 2 or 3-year olds tend to move further offshore. Pacific halibut enter the commercial fishery at about 8 years old. Adult halibut continue to migrate annually, moving to deeper waters on the edge of the continental shelf during the winter for spawning, and into shallow coastal waters in the summer months for feeding (IPHC, 2010).

## 5. FISHERY AND MANAGEMENT SYSTEM

### 5.1 Evolution of the fishery

Pacific halibut have been fished for hundreds of years by various indigenous peoples of the Pacific Northwest and Alaska. The North American commercial fishery officially started in 1888, when halibut were landed in Tacoma, Washington. The catch was subsequently shipped to Boston. In the 1890s a large fleet of sailing vessels fished with 2 man dories, but the fishery soon shifted to company owned steam powered vessels using large crews (up to 35 crew members).

By 1910, it had become evident to commercial halibut fishermen from the U.S. and Canada that the abundance of halibut on the grounds was declining and suffering from “overfishing.” As a result, the commercial fishermen from both countries asked the two governments to manage the resource. An attempt to put together an international agreement failed in 1919. But, after further efforts, the U.S. and Canada signed a Convention in 1923, making it the first treaty of any kind signed by Canada independent of Great Britain. The Convention led to the formation of the International Fisheries Commission, which later became the International Pacific Halibut Commission (IPHC). The Convention has been modified a number of times and following the

extension of national jurisdiction by the U.S. and Canada, the recommendations of the Commission have been reviewed and implemented by the fishery agencies of the two countries.

The halibut fishery has been limited to hook and line gear almost since its inception although for short periods, deep diving gillnets were used. Over the past several decades, sport fishing for halibut has become increasingly popular requiring increased monitoring of the catch. Halibut are also taken as bycatch in trawl, cod and sablefish longline fisheries as well as pot and jig fisheries.

The longline fishery for halibut occurs along the continental shelf and slope from California to the Bering Sea. Major fishing grounds occur off British Columbia, through the Gulf of Alaska, the Aleutian Islands and the Bering Sea. For many years the longline fisheries constituted the only major offshore fisheries conducted by U.S. fishermen off Alaska. Trawl fisheries in Alaska were confined to the harvest of inside waters and limited to harvesting several species of groundfish and shrimp. The latter harvested using beam trawls. The halibut stocks off Alaska with the exception of the Bering Sea were considered fully utilized by U.S. fishermen at the time of the large-scale development of foreign fisheries which occurred during the 1950s and 1960s.

To some extent the participation of Alaskan fishermen in the harvest of both halibut and sablefish was influenced by the regulatory regime governing vessel sizes and limits in the Alaska salmon fishery. That is, larger multipurpose vessels (over 50 feet) were excluded from the salmon fishery. Knowledge of the extensive groundfish resources off Alaska was limited until the results of the early Japanese fisheries (prior to WWII) and resources surveys conducted by the USSR became public. The major development of most of the marine resources off Alaska, except halibut, followed the great expansion of Japanese, Korean, Soviet and other foreign fishing activities. The major U.S. exploitation of groundfish off Alaska occurred in the Bering Sea whereas the contemporary longline fisheries for these species are largely conducted in the Gulf of Alaska.

Studies of the marine fishery resources of the Gulf of Alaska were pioneered by the IPHC. However, during the late 1950s, NMFS investigations into the marine fish complex, general ecological relationships between the various species, and large scale oceanographic investigations of the region was stimulated by the threat and concern of Japanese high seas salmon fishing and the development of the foreign herring, crab and groundfish fisheries in the Northeast Pacific Ocean. The IPHC studies on MSY and OY along with the Commission's strict control of harvest of the stock set standards for fishery management on a global scale. The Commission (along with the International Pacific Salmon Commission) established a pattern for rational use of fishery resources in the North Pacific region.

### 5.2 Management system

The International Pacific Halibut Commission (IPHC) has managed the halibut resources off the U.S. and Canada since 1923. IPHC has continued to form the basis of national regulations in the two countries. Canada moved to a limited entry program in 1979, shortly after establishing extended jurisdiction, but the U.S. did not follow suit until 1995. In the interim, the U.S. fishery effort continued to grow. The halibut season became derby-like with a fishing season of only 24 hours in the Gulf of Alaska before limited entry was implemented.

The Commission, established by a Convention between the U.S. and Canada, has been revisited several times to extend its authority and/or to adjust to new conditions in the fishery or jurisdictional changes. The latest change in the Protocol of the Commission, which occurred in 1979, was precipitated in 1976 by the U.S. and Canada changing their jurisdiction over ocean space to 200 nautical miles. The 1979 Protocol change, along with legislation, that gave effect to the protocol (North Pacific Halibut Act of 1982), has affected the manner in which the fishery is conducted and redefined the role of IPHC in the management of the fishery during the 1980s.

The U.S. Magnuson-Stevens Fishery Conservation and Management Act (MFCMA) of 1976 required renegotiations of all international fisheries treaties. As a result, the two countries negotiated an amendment to the 1953 Halibut Convention during 1978 and early 1979. The amendment termed Protocol was signed by both countries in March, 1979. The Protocol provided the following changes to the 1953 convention:

- Altered the Commission's mandate from managing on the basis of maximum sustained yield to that of optimum yield (OY);
- Rescinded reciprocal fishing privileges between the two countries after March 31, 1981 (the actual phase-outs occurred before this date);
- Required 60 percent of the catch in Area 2 (off both Canada and the U.S.) to be taken in Canada (Exhibit 10);
- Allowed either party to establish additional regulations which are more restrictive than those adopted by the Commission; and
- Eliminated the Commission's authority to regulate departures of vessels.

The tasks given the Commission staff as a result of Protocol, among others included:

1. To conduct investigations, as are necessary, into the life history of halibut; and
2. Maintain or develop stocks of halibut to the optimum yield levels.

And, for the purpose of achieving this goal:

1. Divide the Convention waters into areas;
2. Establish one or more open or closed seasons to each area;
3. Limit the size of the fish and the quantity of catch to be taken from each area within any season which fishing is allowed;
4. During both open and closed seasons, permit, limit, regulate or prohibit the incidental catch of halibut that might be taken, retained, possessed or landed from each area or portion of an area, by vessels fishing for other species;
5. Fix the size and character of halibut fishing appliances to be used in any area;
6. Make such regulations for the collection of statistics of catch of halibut as it shall find necessary to determine condition and trend of the halibut fishery and to carry provisions of this convention; and
7. Close, to all taking of halibut, any area or portion of an area that the Commission finds to be populated by small, immature halibut and designates as nursery grounds.

The change in the Commission's mandate to optimum yield, made the Halibut Convention consistent with the pronounced national goals of the U.S. and Canada, which according to the U.S. definition of optimum yield, allowed the Commission to set regulations that consider social and economic factors. Maximizing long-term physical yield has been the primary goal of the Commission, but in more recent years the Commission has begun to explore with the Commissioners and industry "what constitutes long term optimum yield. This dialogue had included subjects such as minimizing risk, minimizing fluctuations, long term economic yield, etc.

The Commission scientists continue to evaluate the status of the resource and establish quotas for harvest, which is shared in one statistical management region by (Area 2) the new protocol. However, each nation can establish more restrictive regulations consistent with its own set of conservation principles. Thus, the goals and objectives for management of the longline fishery off Alaska must take into account the conservation and management objectives of the Commission as well as the MFCMA. (The goals and objectives of the latter are

spelled out in the North Pacific Fisheries Management Council (NPFMC) and Pacific Fisheries Management Commission (PFMC) groundfish plans.)

Halibut are managed under an IFQ (Individual Fishing Quota) system. The establishing of quotas results from recommendations submitted to the NPFMC and PFMC by the scientific staff of the National Marine Fisheries Service (NMFS), which are reviewed by the NPFMC's and PFMC's Scientific and Statistical Committee (SSC) and passed on (at times with suggested changes) as recommendations to the NPFMC and PFMC. The Councils are required to establish catch limits that do not exceed the SSC recommended Acceptable Biological Catch (ABC). Public debate and discussions of the recommendation(s) take place at council meetings along with consideration of written commentary.

## 6. FISHERY`S IMPACT ON ECOSYSTEM

### 6.1 Non-target species - Retained and discard as Bycatch

Non-target species are the component of the catch that is not included in the Unit of Certification of this assessment. The non-target species are categorized as "retained" and "bycatch." In this report, the species that are kept for sale are "retained" and those that are discarded are"bycatch." In an MSC assessment, bait used in the fishery, whether caught by the fisher or bought from other sources, is considered "bycatch" (FAM v2.1, 2010). Non-target species that are not caught in the fishery, but may be affected indirectly by the fishery are also considered and discussed in Principle 2 Performance Indicator rationales for bycatch species. Non-target species that are caught or affected by the fishery that are also considered endangered, threatened or protected (ETP) are considered in this assessment separately under their own section.

The Scoring Guidepost (SG) 60 and SG 80 in the Default Assessment Tree (DAT) refer to "main" non-target species. Main species are those that comprise 5% or more of the total catch by weight. The SG 100 considers all species regardless of the percent of the total catch. Prior to scoring for Principle 2, the assessment team decided whether each species would be considered under the retained, bycatch, or ETP Performance Indicators.

#### 6.1.1. Retained non-target species

Retained species in the US Pacific halibut fishery include sablefish, Pacific cod, thornyheads (*Sebastolobus* sp.), rougheye rockfish and yelloweye rockfish. All retained species in this fishery were found to be within biologically based limits and are not considered to be over-fished at this time. Thornyheads consist of short spine, long spine and broadfin. Short spine thornyheads are the most commonly occurring thornyheads in the fishery. Rougheye rockfish and dark spotted rock fish are very difficult to distinguish from each other in the field. They are recorded as rougheye rockfish on the fish tickets and are considered together in fishery assessments.

#### 6.1.2. Bycatch non-target species

Bycatch includes giant grenadier, long nose and big skates, spiny dogfish, sleeper sharks, salmon sharks, black footed albatross, Layson albatross, northern fulmars, and various gulls. Often, skates are recorded on fish tickets in an "other skates" category though the long nose and big skates have their own designation on the form. Giant grenadier, spiny dogfish and skate populations are not considered to be over fished at this time. Black footed and Layson albatross populations are affected by the longline gear type and their populations have seen a decline. More recently, however, both the black footed and Layson albatross populations appear to be at levels that are not irreversibly or detrimentally affected by the fishery. The same may be said about the Northern fulmar and gull populations.

#### 6.1.3. Endangered, threatened and protected (ETP) species

ETP species are those that are recognized by national legislation and/or binding international agreements to which the jurisdictions controlling the fishery under assessment are party (FAM 2.1, 2010). The assessment

team considered any species that is listed as endangered by the US Endangered Species Act as well as the any species listed on the Convention on International Trade in Endangered Species (CITES) list to be an ETP species. The short tailed albatross was designated endangered in 2006 by the Endangered Species Act and is the only species considered ETP that the fishery interacts with.

## 6.2 Ecosystem

The scope of this report includes waters off the coasts of Alaska and Washington including the Gulf of Alaska, Bering Sea and the Aleutian Islands. Pacific halibut are part of a complex of predatory groundfish that inhabit soft sediment at considerable depth. They prey on smaller fishes and invertebrates and may be preyed upon by sharks and whales. The nuances of the halibut/predator relationships are not well understood due to difficulty in sampling shark and whale stomach contents. Preliminary results from the first order trophic interactions have been provided from the ECOPATH model.

The physical oceanography of the region has been described by Dodimead *et al*. (1963). Surface and waters down to 200 meters flow easterly across the Pacific Ocean into the southern Gulf of Alaska and then swing counter clockwise through the Central Gulf of Alaska and westerly along the Aleutian Islands. The wind-driven surface currents may break through the Aleutians and move northward through the Bering Sea. Deeper water flows on to the west entering the Bering Sea at the western extremities of the Aleutian Island chain. The biological productivity of the region is influenced by the annual variation in these current patterns.

### 6.2.1. Habitats

The continental shelf in the Gulf of Alaska varies in width and substrate characteristics. Along the Alexander Archipelago in the south, the shelf is narrow and the slope to the abyssal plain steep. However, north of Cape Spencer, the shelf broadens to form the most extensive shelf area south of the Bering Sea. Several submarine canyons interrupt the shelf in this region and are known to be productive fishing areas. The shelf in this region extends some 50 miles seaward as it swings west towards Kodiak Island. West of Kodiak and south of the Alaska Peninsula the shelf remains relatively wide, but narrows as it approaches Unimak Pass.

The coast of Washington is highly productive with wind driven coastal upwelling being the dominant nutrient producing feature. The continental shelf is relatively straight and narrow with the continental slope dropping off steeply. There is considerable freshwater input near the San Juan de Fuca islands as well as the Puget Sound that brings run-off and silt from the surrounding area which contributes to the nearshore soft bottom habitat.

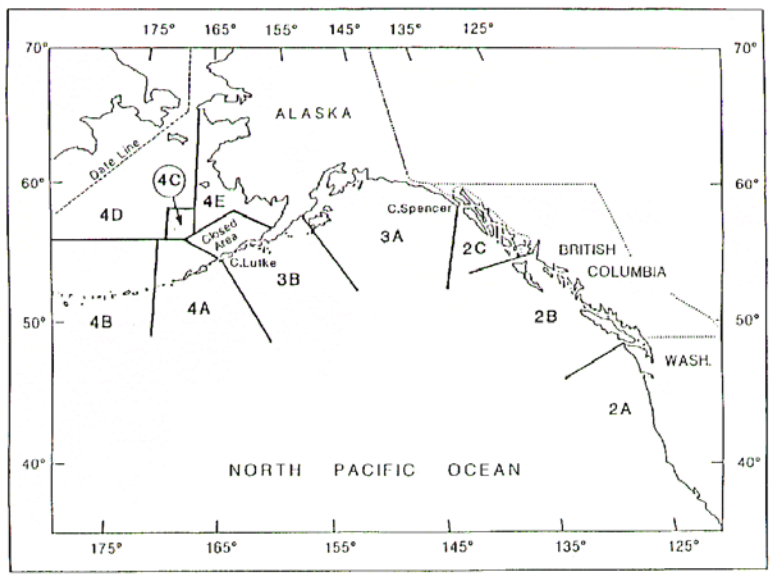


**Figure 1:** Map of the IPHC regulatory areas (Muse *et al*., 1995)

### 6.2.2. Trophic relationships

Halibut are carnivorous. Larval halibut feed on plankton, while halibut from 1 to 3 years old feed on small shrimp-like organisms and small fish. Larger halibut feed on fish, with the percent of the diet occupied by fish increasing with size and age. Species of fish found in the diet of halibut include cod, sablefish, pollock, rockfish, sculpins, turbot, and some flatfish. In addition, halibut have been found to consume a variety of crustaceans, or to leave the bottom to feed on other species of pelagic fish.

## 7. SUMMARY OF FINDINGS

The fishery was found to be in general compliance with the MSC Principles and Criteria for a sustainable fishery. The fishery scored an average above 80 across all PIs for all three Principles (See scoring table in section 11.4).

## 8. TRACKING AND TRACING OF FISH AND FISH PRODUCTS AND TARGET ELEGABILITY DATE

### 8.1 Traceability within the Fishery

For the Pacific halibut fishery, all commercial landings are required to be recorded and reported. In Alaska, compliance in the fishery is monitored and enforced by the NMFS' Alaska region Restricted Access Management (RAM) Division. Quota share holders are issued Landing Cards by NMFS-RAM, which must be presented at registered "transaction" locations when catch is off-loaded. The catch weight is then electronically debited from the holder's IFQ for that year. All landing card data is transmitted directly to NMFS-RAM databases. Fishermen must also alert the "transaction" station six hours prior to arrival to allow NMFS-RAM officials to observe landings.

In Washington, all fish brought into port are weighed and recorded on landing slips which record the vessel number, total catch weight, and location where caught. All landings are recorded and deducted from the quota holder's share. Dockside monitoring and enforcement ensure that all laws and regulations are adhered to. This is sufficient to ensure that traceability is thorough enough for Pacific halibut landed in Washington to enter further chains-of-custody.

### 8.2 At-sea Processing

Most processing occurs at shore-side plants where landings are monitored. On freezer-processor vessels (over 120 ft.), fishery observers remain on-board to assure compliance.

### 8.3 Points of Landing

All ports where Pacific halibut are landed are required to have a registered code and scale to weigh the catch. This information is recorded on the landing slip which if filled out by a registered weigh-master or registered dockside staff.

### 8.4 Eligibility to enter Chains-of-Custody

This report does not cover processing beyond the point of landing. This report acknowledges that sufficient monitoring takes place to identify the fishery of origin for all landed fish via landing slips where the amount of catch and the fishing area are recorded for each line set during the fishing trip. This is sufficient to allow a chain-of-custody to be established from the point of landing forward for all products derived from the fishery. MSC chain-of-custody certifications were not undertaken in this project, and therefore, are undertaken on a separate and individual basis for those entities that may wish to identify and/or label products derived from the fishery. Only those fishers that belong to the certificate are eligible to enter the chain-of-custody where the products can then carry the blue MSC eco-label. Other eligible

fishers (see 9.2) may join the certificate at the discretion of the certificate holder. A complete list of all current members of the Fishing Vessels Owner's Association can be found in Appendix VI.

### 8.5 Eligibility Date

The eligibility date may begin as much as six months before the release of the Public Comment Draft Report. This report was published for public comment on 19 May, 2011. The target eligibility date for this certificate is six months before the publication of the PCDR which was 19 November, 2010) which overlaps with the current certificate.

## 9. OTHER FISHERIES IN THE AREA AND ELIGIBLE FISHERS

### 9.1 Other Fisheries

The fleet also targets Pacific sablefish by long-line, typically once in deeper water and catch halibut on transit inshore. Other fisheries in the area that may have halibut quota include rock-cod (*Sebastes* sp.), pollock, haddock, Pacific cod, salmon (*Oncorhynchus* sp.), and various flatfishes (Pleuronectiformes). The MSC standard has been applied to many of the fisheries in the region.

### 9.2 Other Eligible Fishers

The entire stock in the waters off Alaska, including the Bering Sea, Aleutian Islands, Gulf of Alaska as well as the US federal waters off the coast of Washington are re-assessed in this report. Only those fishers landing Pacific halibut by demersal long line as well belonging to the client group, Fishing Vessels Owner's Association, are currently eligible to enter further chains-of-custody and carry the MSC blue eco-label of sustainability under this certificate application. If additional fishers landing Pacific halibut that are within the scope of this re-assessment and would like to join the certificate, they may contact the client group to work out a fair and equitable cost sharing mechanism. Canadian Pacific halibut are addressed by separate certificate. Pacific halibut landed in California and Oregon are not considered within scope of this re-assessment.

## 10. MSC PRINCIPLES AND CRITERIA

### 10.1 MSC Principle 1 – Stock Status and Harvest Strategy

A fishery must be conducted in a manner that does not lead to over-fishing or depletion of the exploited populations and, for those populations that are depleted; the fishery must be conducted in a manner that demonstrably leads to their recovery.

Intent:
The intent of this principle is to ensure that the productive capacities of resources are maintained at high levels and are not sacrificed in favor of short term interests. Thus, exploited populations would be maintained at high levels of abundance designed to retain their productivity, provide margins of safety for error and uncertainty, and restore and retain their capacities for yields over the long term.

MSC Criteria:

1. The fishery shall be conducted at catch levels that continually maintain the high productivity of the target population(s) and associated ecological community relative to its potential productivity.
2. Where the exploited populations are depleted, the fishery will be executed such that recovery and rebuilding is allowed to occur to a specified level consistent with the precautionary approach and the ability of the populations to produce long-term potential yields within a specified time frame.
3. Fishing is conducted in a manner that does not alter the age or genetic structure or sex composition to a degree that impairs reproductive capacity.

### 10.2 MSC Principle 2 – Ecosystem

Fishing operations should allow for the maintenance of the structure, productivity, function and diversity of the ecosystem (including habitat and associated dependent and ecologically related species) on which the fishery depends.

Intent:
The intent of this principle is to encourage the management of fisheries from an ecosystem perspective under a system designed to assess and restrain the impacts of the fishery on the ecosystem.

MSC Criteria:

1. The fishery is conducted in a way that maintains natural functional relationships among species and should not lead to trophic cascades or ecosystem state changes.
2. The fishery is conducted in a manner that does not threaten biological diversity at the genetic, species or population levels and avoids or minimizes mortality of, or injuries to endangered, threatened or protected species.
3. Where exploited populations are depleted, the fishery will be executed such that recovery and rebuilding is allowed to occur to a specified level within specified time frames, consistent with the precautionary approach and considering the ability of the population to produce long-term potential yields.

### 10.3 MSC Principle 3 – Management

The fishery is subject to an effective management system that respects local, national and international laws and standards and incorporates institutional and operational frameworks that require use of the resource to be responsible and sustainable.

Intent:
The intent of this principle is to ensure that there is an institutional and operational framework for implementing Principles 1 and 2, appropriate to the size and scale of the fishery.

MSC Criteria:

A. Management System Criteria:

1. The fishery shall not be conducted under a controversial unilateral exemption to an international agreement.

The management system shall:

2. demonstrate clear long-term objectives consistent with MSC Principles and Criteria and contain a consultative process that is transparent and involves all interested and affected parties so as to consider all relevant information, including local knowledge. The impact of fishery management decisions on all those who depend on the fishery for their livelihoods, including, but not confined to subsistence, artisanal, and fishing-dependent communities shall be addressed as part of this process;
3. be appropriate to the cultural context, scale and intensity of the fishery – reflecting specific objectives, incorporating operational criteria, containing procedures for implementation and a process for monitoring and evaluating performance and acting on findings;
4. observe the legal and customary rights and long term interests of people dependent on fishing for food and livelihood, in a manner consistent with ecological sustainability;
5. incorporates an appropriate mechanism for the resolution of disputes arising within the system;
6. provide economic and social incentives that contribute to sustainable fishing and shall not operate with subsidies that contribute to unsustainable fishing;
7. act in a timely and adaptive fashion on the basis of the best available information using a precautionary approach particularly when dealing with scientific uncertainty;

8. incorporate a research plan – appropriate to the scale and intensity of the fishery – that addresses the information needs of management and provides for the dissemination of research results to all interested parties in a timely fashion;
9. require that assessments of the biological status of the resource and impacts of the fishery have been and are periodically conducted;
10. specify measures and strategies that demonstrably control the degree of exploitation of the resource, including, but not limited to:
    a) set catch levels that will maintain the target population and ecological community's high productivity relative to its potential productivity, and account for the non-target species (or size, age, sex) captured and landed in association with, or as a consequence of, fishing for target species;
    b) identify appropriate fishing methods that minimize adverse impacts on habitat, especially in critical or sensitive zones such as spawning and nursery areas;
    c) provide for the recovery and rebuilding of depleted fish populations to specified levels within specified time frames;
    d) have mechanisms in place to limit or close fisheries when designated catch limits are reached;
    e) establish no-take zones where appropriate;
11. contain appropriate procedures for effective compliance, monitoring, control, surveillance and enforcement which ensure that established limits to exploitation are not exceeded and specify corrective actions to be taken in the event that they are.

B. MSC Operational Criteria:
Fishing operations shall:

12. make use of fishing gear and practices designed to avoid the capture of non-target species (and non-target size, age, and/or sex of the target species); minimize mortality of this catch where it cannot be avoided, and reduce discards of what cannot be released alive;
13. implement appropriate fishing methods designed to minimize adverse impacts on habitat, especially in critical or sensitive zones such as spawning and nursery areas;
14. not use destructive fishing practices such as fishing with poisons or explosives;
15. minimize operational waste such as lost fishing gear, oil spills, on-board spoilage of catch, etc.;
16. be conducted in compliance with the fishery management system and all legal and administrative requirements; and
17. assist and co-operate with management authorities in the collection of catch, discard, and other information of importance to effective management of the resources and the fishery.

### 10.4 Interpretations of MSC Principles for Performance Assessments

Along with developing a standard for sustainable fisheries management, the MSC also developed a certification methodology that provides the process by which all fisheries are to be evaluated. Accreditation Services International (ASI) accredits certification bodies that can show that the expertise and experience necessary to carry out MSC evaluation is present in the organization. In addition, each certification body must demonstrate its fluency with the MSC standards and evaluation methods through the use of these in a fishery evaluation

The methods are provided in great detail through documents that can be downloaded from the MSC website (www.msc.org). The Fisheries Assessment Methodology (FAM) Version 2.1, released 1 May 2010 is being used for the assessment of the fishery.

The MSC Principles and Criteria are general statements describing what aspects need to be present in fisheries to indicate that they are moving toward sustainable management. The certification approach or methodology

adopted by the MSC requires that any assessment of a fishery or fisheries move beyond a management verification program that simply provides third-party assurances that a company's stated management policies are being implemented. The MSC's 'Certification Methodology' is designed to be an evaluation of a fishery's performance to determine if the fishery is being managed consistent with emerging international standards of sustainable fisheries.

## 11. ASSESSMENT TEAM FISHERY PERFORMANCE EVALUATIONS

After completing all the reviews and interviews, the assessment team is tasked with utilizing the information it has received to assess the performance of the fishery. Under the MSC program, an Assessment Tree is determined for this task. The proposed Assessment Tree is made available for public comment for a period of 30 days. All comments are considered and the Assessment Tree revised where appropriate. The finalized Assessment Tree is used to evaluate the performance of the fishery. Unless determined unsuitable for the particular fishery, the MSC Default Assessment Tree is used whereby the weighting of the Performance Indicators is pre-determined. The Risk-Based Framework may also be used for data poor fisheries. The Assessment Tree may also be modified to suit the specifics of the fishery. In such a case, the process for assessing the fishery is performed by prioritizing and weighting the Performance Indicators (PI) relative to one another at each level of the performance hierarchy established when the assessment team develops the Assessment Tree for the fishery. Each PI has three associated Scoring Guideposts (SG) set at 60, 80 and 100. The SGs have specific elements that must be met for the fishery to get at least a partial score for the particular SG. Each PI under each Principle is weighted so that each of the three Principles is equal to one another. If a fishery scores less than 60 for any PI, it is excluded from certification. The process requires that all team members work together to discuss and evaluate the information they have received for a given performance indicator and come to a consensus decision on weights and scores. Scores and weights are then combined to get overall scores for each of the three MSC Principles. A fishery must have normalized scores of 80 or above on each of the three MSC Principles to be recommended for certification. Should an individual PI receive a score of less than 80, a ‘Condition’ is established that when met, would bring the fishery’s performance for that indicator up to the 80 level score representing a well-managed fishery.

The Default Assessment Tree v.2.1 was used for this assessment.

Below is a written explanation of the assessment team’s evaluation of the information it received and the team’s interpretation of the information as it pertains to the fishery’s compliance with the MSC Principles and Criteria.

## 11.1 MSC Principle 1

**A fishery must be conducted in a manner that does not lead to over-fishing or depletion of the exploited populations and, for those populations that are depleted, the fishery must be conducted in a manner that demonstrably leads to their recovery.**

### 1.1.1

The stock is at a level which maintains high productivity and has a low probability of recruitment overfishing.

| SG 60 | SG 80 | SG 100 |
|---|---|---|
| It is likely that the stock is above the point where recruitment would be impaired. | It is highly likely that the stock is above the point where recruitment would be impaired.<br>The stock is at or fluctuating around its target reference point.<br><br>The stock is at or fluctuating around its target reference point. | There is a high degree of certainty that the stock is above the point where recruitment would be impaired.<br><br>There is a high degree of certainty that the stock has been fluctuating around its target reference point, or has been above its target reference point, over recent years. |

**Score: 90**

**1.1.1 Scoring Rationale**

Estimates of the 2010 female spawning stock biomass is 331 million pounds (95% confidence interval of 289, to 375 million pounds), which corresponds to a depletion level of 38% of its unfished state (Hare 2010). Spawning stock biomass is currently above the $B_{30\%}$ target (Hare 2010). The 2009 harvest rate is above the target harvest rate of 20%, but is below the previous target harvest rate of 25% since 2008 (Hare 2010). The 1989 to 2002 year classes are estimated to be well above average and are partially responsible for the recent increase in biomass. There is no explicit stock recruitment relationship therefore it is difficult to interpret the level at which recruitment would be impaired, annual recruitment is estimated as a free parameter. It is assumed that the previous models used for developing the reference points are stationary, and that $B_{30\%}$ is an appropriate target reference point (Clark and Hare 2006). Therefore the team determined that all elements of the SG 60 and SG 80 are met. In addition the fishery meets the first element of the SG 100 with respect to the stock being above a point where recruitment would be impaired.

**Trace references**

Clark and Hare 2006, Hare 2010

### 1.1.2

Limit and target reference points are appropriate for the stock.

| SG 60 | SG 80 | SG 100 |
|---|---|---|
| Generic limit and target reference points are based on | Reference points are appropriate for the stock and can be estimated. | The limit reference point is set above the level at which there is an appreciable risk of impairing reproductive capacity |

| | | |
|---|---|---|
| justifiable and reasonable practice appropriate for the species category. | The limit reference point is set above the level at which there is an appreciable risk of impairing reproductive capacity.<br><br>The target reference point is such that the stock is maintained at a level consistent with BMSY or some measure or surrogate with similar intent or outcome.<br><br>For low trophic level species, the target reference point takes into account the ecological role of the stock. | following consideration of relevant precautionary issues.<br><br>The target reference point is such that the stock is maintained at a level consistent with BMSY or some measure or surrogate with similar intent or outcome, or a higher level, and takes into account relevant precautionary issues such as the ecological role of the stock with a high degree of certainty. |

**Score: 85**

**1.1.2 Scoring Rationale**

The limit reference points are appropriate for the stock and have undergone simulation testing under the old area based assessment framework. The reference points can, and are estimated during each assessment. Given that there is no recent estimate of an underlying stock recruitment relationship defined for the coast-wide Pacific halibut model, it is not possible to determine whether the target reference point is consistent with $B_{MSY}$; however, for many groundfish stocks the depletion level associated with $B_{MSY}$ is generally in the range of 30% to 40% of the unfished stock and is a function of the age-at-recruitment to the fishery and the age-at-maturity.

The limit reference point for halibut is 20% of the unfished spawning stock biomass.

The target reference point for halibut is 30% of the unfished spawning stock biomass.

The unfished spawning stock biomass is calculated by multiplying the spawning biomass per recruit times the average coast-wide recruitment from an unproductive regime. This calculation is conservative in that it uses estimates of at age-recruits from an unproductive regime. In the most recent assessment (Hare 2010) the estimated unfished female spawning stock biomass is 880 million pounds, the limit reference point ($B_{20}$) is 176 million pounds, and the target reference point ($B_{30}$) is 264million pounds.

The team determined that the fishery clearly meets all elements of the SG 60 and SG 80 and the first element of the SG 100 but that more simulation work was required to quantify appreciable levels of risk before a higher score could be justified.

**Trace Refeences:**

Clark 2002, Clark and Hare 2006, Hare 2010

| **1.1.3** | | |
|---|---|---|
| Where the stock is depleted, there is evidence of stock rebuilding. | | |
| **SG 60** | **SG 80** | **SG 100** |

| | | |
|---|---|---|
| Where stocks are depleted rebuilding strategies which have a reasonable expectation of success are in place.<br><br>Monitoring is in place to determine whether they are effective in rebuilding the stock within a specified timeframe. | Where stocks are depleted rebuilding strategies are in place.<br><br>There is evidence that they are rebuilding stocks, or it is highly likely based on simulation modeling or previous performance that they will be able to rebuild the stock within a specified timeframe | Where stocks are depleted, strategies are demonstrated to be rebuilding stocks continuously and there is strong evidence that rebuilding will be complete within the shortest practicable timeframe. |

**Score: N/A**

Not applicable at this time. In the Pacific halibut fishery, the stock has not fallen below the limit reference point and no rebuilding policies have been implemented. The current harvest policy in place uses a 20% exploitation rate to determine annual Constant Exploitation Yield (CEY) each year. There is an additional annual adjustment called "slow-up, fast-down" (SUFD) policy that has been implemented to avoid rapid increases and decreases in annual catch limits. The policy is conservative in that it is asymmetric around the target. Catch limits respond more strongly to estimated decreases in biomass and slowly for increases in biomass.

| **1.2.1** | | |
|---|---|---|
| There is a robust and precautionary harvest strategy in place. | | |
| **SG 60** | **SG 80** | **SG 100** |
| The harvest strategy is expected to achieve stock management objectives reflected in the target and limit reference points.<br><br>The harvest strategy is likely to work based on prior experience or plausible argument.<br><br>Monitoring is in place that is expected to determine whether the harvest strategy is working. | The harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points.<br><br>The harvest strategy may not have been fully tested but monitoring is in place and evidence exists that it is achieving its objectives. | The harvest strategy is responsive to the state of the stock and is designed to achieve stock management objectives reflected in the target and limit reference points.<br><br>The performance of the harvest strategy has been fully evaluated and evidence exists to show that it is achieving its objectives including being clearly able to maintain stocks at target levels.<br><br>The harvest strategy is periodically reviewed and improved as necessary. |

**Score: 85**

**1.2.1 Scoring Rationale**

The harvest strategy implemented by the IPHC is called Constant Exploitation Yield (CEY), which involves applying a fixed harvest rate to the estimate of exploitable biomass in each statistical area. There is also an additional asymmetric adjustment to the annual catch based on a Slow-Up/Fast-Down (SUFD) policy where catch limits are adjusted more strongly in response to declines in biomass and less so to increases in biomass. The harvest strategy is relatively simple, but involves a very complex process of

determining the exploitable biomass in each area. In addition, the fixed harvest rate is adjusted downwards if the female spawning stock biomass falls below the target reference point of 30% of its unfished state. The default exploitation rate of 20% of the exploitable biomass has been shown to achieve management objectives and the performance of the slow up fast down adjustment has been fully evaluated in the past using simulation models. The net effect of the SUFD policy was to leave more fish in the water over the long-term and to require a reduced harvest rate because the stock fell below the threshold reference point less often than without the SUFD policy.

The IPHC has done an extensive amount of simulation testing under the closed area model to test the current harvest strategy that is in place (Clarke and Hare 2006). The assessment team determined that all elements for SG60 and SG80 are met; however, the current harvest strategy has not been simulation tested under the new coast-wide assessment model and apportionment methodology that is currently used to set annual CEYs, therefore a full score of 100 is not justified for this Performance Indicator. The first element of SG 100 is met, but the second and third elements fall short due to the recent changes in the coast wide assessment and apportionment scheme.

**Trace references:**

Clarke and Hare 2006

| **1.2.2** | | |
|---|---|---|
| There are well defined and effective harvest control rules in place. | | |
| **SG 60** | **SG 80** | **SG 100** |
| Generally understood harvest control rules are in place that are consistent with the harvest strategy and which act to reduce the exploitation rate as limit reference points are approached.<br><br>There is some evidence that tools used to implement harvest control rules are appropriate and effective in controlling exploitation. | Well defined harvest control rules are in place that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached.<br><br>The selection of the harvest control rules takes into account the main uncertainties.<br><br>Available evidence indicates that the tools in use are appropriate and effective in achieving the exploitation levels required under the harvest control rules. | The design of the harvest control rules take into account a wide range of uncertainties.<br><br>Evidence clearly shows that the tools in use are effective in achieving the exploitation levels required under the harvest control rules. |

**Score: 90**

**1.2.2 Scoring Rationale**

The harvest control rule that is currently in place is defined as follows: the annual catch limit in a given area is set at 20% of the exploitable biomass in that area if the female spawning stock biomass is greater than 30% of the unfished level. The harvest rate declines linearly to 0 if the female spawning biomass declines to 20% of its unfished level. In addition to this fixed rule, additional adjustments are made based on recent trends in spawning biomass to avoid large fluctuation in annual catch limits. This adjustment is referred to as Slow-Up/Fast-Down (SUFD) policy and is consistent with the precautionary approach.

Under the SUFD adjustment, annual catch limits respond more quickly to declines in biomass than to increases in biomass. The assessment team determines that all of the elements for SG60 and SG80 are met as well as the first element of SG100. There is, however, historical evidence under the closed area models that the harvest rules have worked in the past, where annual catches have been adjusted up or down based on trends in the spawning stock biomass. However, the new coast wide assessment model does not take into consideration the uncertainties associated with movement/migration of halibut and assumes fixed parameter values (e.g., natural mortality rate) therefore, a score of 100 is not justified.

| **1.2.3** | | |
|---|---|---|
| Relevant information is collected to support the harvest strategy. | | |
| **SG 60** | **SG 80** | **SG 100** |
| Some relevant information related to stock structure, stock productivity and fleet composition is available to support the harvest strategy.<br><br>Stock abundance and fishery removals are monitored and at least one indicator is available and monitored with sufficient frequency to support the harvest control rule. | Sufficient relevant information related to stock structure, stock productivity, fleet composition and other data is available to support the harvest strategy.<br><br>Stock abundance and fishery removals are regularly monitored at a level of accuracy and coverage consistent with the harvest control rule, and one or more indicators are available and monitored with sufficient frequency to support the harvest control rule.<br><br>There is good information on all other fishery removals from the stock. | A comprehensive range of information (on stock structure, stock productivity, fleet composition, stock abundance, fishery removals and other information such as environmental information), including some that may not be directly relevant to the current harvest strategy, is available.<br><br>All information required by the harvest control rule is monitored with high frequency and a high degree of certainty, and there is a good understanding of the inherent uncertainties in the information [data] and the robustness of assessment and management to this uncertainty. |

**Score: 85**

**1.2.3 Scoring Rationale**

There is a large amount of information collected on Pacific halibut each year from both commercial fisheries, recreational fisheries and scientific surveys. Each year there is set line survey that is used to collect information on size/age composition, relative abundance, and growth information and the spatial coverage is nearly complete with the exceptions of Easter Bering Sea (EBS). However, each year the IHPC does place a sampler aboard the NMFS EBS groundfish/crab survey to collect biological data on halibut for length and age composition information in that region. In addition to the routine set line surveys and catch sampling programs, there has also been tagging studies to determine movement/migration of Pacific halibut. These tagging studies have shed light on stock structure and the results of which have been the motivation for moving to a coast wide assessment model. Environmental information in the form of the Pacific Decadal Oscillation (PDO) is also used in the assessment and has been shown to explain halibut recruitment patterns (Hare 2010), but is not necessarily relevant to the current harvest strategy.

All information required by the harvest control rule is monitored on an annual basis and with a high degree of certainty. There is a good understanding of the inherent uncertainties in the data. We were unable to score this Performance Indicator at the 100 level because a recent assessment of the robustness of the harvest control rule has not been updated with the new coast wide model and apportionment

scheme. However, the fishery clearly meets all elements of the SG 60 and SG 80 and the first element of the SG 100 but could not satisfy the second element of the SG 100 because a recent assessment of the robustness of the harvest control rule has not been updated with the new coast wide model and apportionment scheme.

**Trace References:**

Hare 2010

| **1.2.4** | | |
|---|---|---|
| There is an adequate assessment of the stock status. | | |
| **SG 60** | **SG 80** | **SG 100** |
| The assessment estimates stock status relative to reference points.<br><br>The major sources of uncertainty are identified. | The assessment is appropriate for the stock and for the harvest control rule, and is evaluating stock status relative to reference points.<br><br>The assessment takes uncertainty into account.<br><br>The stock assessment is subject to peer review. | The assessment is appropriate for the stock and for the harvest control rule and takes into account the major features relevant to the biology of the species and the nature of the fishery.<br><br>The assessment takes into account uncertainty and is evaluating stock status relative to reference points in a probabilistic way.<br><br>The assessment has been tested and shown to be robust. Alternative hypotheses and assessment approaches have been rigorously explored.<br><br>The assessment has been internally and externally peer reviewed. |

**Score: 90**

**1.2.4 Scoring Rationale**

The annual assessments of Pacific halibut conducted by the International Pacific Halibut Commission (IPHC) are very comprehensive in comparison to most stock assessment models. The model considers numerous sources of data from fisheries independent surveys, commercial samples and addresses issues pertaining to sex, size/weight-at-age and the harvest control rule is based on spawning stock biomass based reference points (Clark and Hare 2006; Hare 2010). Major sources of uncertainty including density dependent growth, recruitment, and selectivity are considered. Annual assessments are internally reviewed and externally reviewed by the Center for Independent Experts. However, the current coast wide assessment model has not been simulation tested and the current harvest control rules for the coast wide model and apportionment scheme have not been rigorously explored. As such a scoring of 100 could not be justified for this Performance Indicator. The assessment team determined that all the elements of SG60 and SG 80 were met and elements 1 and 4 of SG 100. However, the current coast wide assessment model has not been simulation tested and the current harvest control rules for the coast wide model and apportionment scheme have not been rigorously explored. As such a scoring of 100 could not be justified for this Performance Indicator because the 2nd and 3rd elements are not satisfied.

**Trace References:**
Clark and Hare 2006, Hare 2010

### 11.2 MSC Principle 2

**Fishing operations should allow for the maintenance of the structure, productivity, function and diversity of the ecosystem (including habitat and associated dependent and ecologically related species) on which the fishery depends.**

| **2.1.1** | | |
|---|---|---|
| The fishery does not pose a risk of serious or irreversible harm to the retained species and does not hinder recovery of depleted retained species. | | |
| **SG 60** | **SG 80** | **SG 100** |
| Main retained species are likely to be within biologically based limits or if outside the limits there are measures in place that are expected to ensure that the fishery does not hinder recovery and rebuilding of the depleted species.<br><br>If the status is poorly known there are measures or practices in place that are expected to result in the fishery not causing the retained species to be outside biologically based limits or hindering recovery. | Main retained species are highly likely to be within biologically based limits, or if outside the limits there is a partial strategy of demonstrably effective management measures in place such that the fishery does not hinder recovery and rebuilding. | There is a high degree of certainty that retained species are within biologically based limits.<br><br>Target reference points are defined and retained species are at or fluctuating around their target reference points. |

**Score: 90**

**2.1.1 Scoring Rationale:**
Table 2 provides a summary of all retained species, based on data from NOAAs catch accounting system. The main retained species are at healthy population levels halibut-directed fishing operations capture relatively small fractions of the total catches of these species. Thus, this fishery meets all requirements of SG 80. Target reference points are defined for most retained species, and for those that do not have biomass reference points, exploitation reference points are clearly defined and stocks are well within accepted limits. Total catches may not be known precisely because of the very limited observer coverage, the fishery does not meet the first SG 100 requirement. Below we detail the catch levels of main retained species and background assessment data for each. We therefore assign an intermediate score of 90 to reflect the fact that (1) for those species retained in notably quantities stock status has been evaluated and found to be within biological limits and (2) for minor species that are captured infrequently, there are no stock assessments and no determination of target reference points.

The major retained groundfish species are sablefish (largely captured as part of ITQ system by fishers holding both sablefish and halibut quota), Pacific cod, several species of rockfishes, lingcod, and longnose skate. Because sablefish and its fisheries are treated in detail in a separate MSC assessment document, we do not treat it here, and therefore focus on remaining species.

For years 2007 – 2009, the average annual (total) catch of Pacific cod, estimated from extrapolating industry-provided catch reports (see the "information" PI 2.1.3) and limited observer data was 505 t / yr. Both the Gulf of Alaska Pacific cod stock and the Bering Sea / Aleutian Island populations are not considered overfished and

overfishing is not occurring (Thompson *et al*. 2009a,b). Over this same time period, total catch (directed and incidental) ranged between 46,646 and 51,501 t / year for the Gulf of Alaska and exceeded 140,00 t / year for the Eastern Bering Sea. The landings from halibut-directed longline operations therefore constitute a small fraction of the total catch on populations that are deemed to be within biological limits.

Total catch of rockfish and rockfish-like species has averaged 443 t / year, and consists of 25 species. The most dominant species are (1) yelloweye rockfish (227 t/yr); (2) shortraker rockfish (87 t/ yr); (3) rougheye rockfish (55 t/ yr); (4) thornyhead rockfish (41 t / yr). These four species account for 85% of all rockfish catches in halibut fishing operations. Most of this catch is retained and sold.

***Thornyheads***

Thornyheads (*Sebastolobus* species) are assessed using tier 5 criteria (because of the absence of age information needed for age-structured assessment models; Lowe and Ianelli 2009). Three main species are in this genus (shortspine, longspine, and broadfin), but shortspine thornyheads dominate survey biomass and landings. Biological reference points (e.g. $B_{MSY}$, $B_{40\%)}$ are not estimated, but $F_{ABC}$ and $F_{OFL}$ are estimated. Although the assessment methodology provides conservative advice on annual catch quotas, in recent years landings have been well below catch limits. For 2010, the recommended allowable biological catch was 1,770 t (roughly 7 times the total catch in sablefish-directed catch). Total catch (all gears) from 2007 -2009 ranged from 631 t to 798 t / yr. Because landings rarely approach allowable biological catch status (because it is not targeted but only incidentally captured by longline and trawl fisheries), the stock is deemed to be healthy and not overfished (Lowe and Ianelli, 2009). See Table 3 for NPFMC assessment tier criteria.

***Yelloweye rockfish***

Yelloweye rockfish are assessed as the dominant component of "demersal shelf rockfish", but only for the Southeast-Outside management region located in the SE Gulf of Alaska (Brylinsky *et al.* 2009). Allowable Biological Catch (ABC) in this region during the past five years have been approximately 400 t / yr but actual total catches have been about one-half of this level. In general, catches are dominated by incidental catches rather than directed fishing operations. Total yelloweye rockfish catch in halibut directed catch (entire fleet) is roughly 5% of the total landings. Because catches are below the allowable biological catch limits, the stock is deemed to not be subject to overfishing or approaching an overfished state. Allowable annual catch is more conservative than would be recommended based on standard Tier 4 definitions, to account for the longevity and habitat-specific residency.

***Shortraker rockfish***

These species are assessed in a tier-5 assessment as the dominant component of the "other slope rockfish category" (Clausen 2009). As such, the reference point exploitation rate seeks to maintain F below 0.75 M; here M is estimated to be 0.03. The most recent assessment estimates exploitable biomass in the Gulf of Alaska to be 40,600 t, yielding an overfishing limit of 1,200 t. The estimated allowable biological catch (entire Gulf of Alaska) is 914 t for 2010. Total catch (all fisheries) in 2008 and 2009 averaged ca. 560 t/ yr, well below the overfishing limit. In the eastern Bering Sea / Aleutian Islands region, total biomass is 17,000 t, and total catches (166 -183 t / yr) are well below the overfishing limit (ca. 500 t / yr; Spencer and Ianelli, 2009a).

***Rougheye rockfish***

Genetic analysis has revealed that landings of species labeled "rougheye rockfish" consist of two morphologically similar species; rougheye and blackspotted rockfish. Because they cannot be reliably identified in the field, data are collected in aggregate and labeled "rougheye rockfish" and are similarly assessed in aggregate. The current Gulf of Alaska assessment of this species (Tier 3a assessment; Shotwell *et al.* 2009) estimates total female spawning biomass to be 14,055 t, and the allowable biological catch level to be 1,284 t. The stock is not considered overfished nor is it approaching overfished. In the Eastern Bering Sea / Aleutian

Islands, maximum allowable biological catch is 547 t, and the stock is not considered overfished nor is it approaching overfished (Spencer and Ianelli 2009b).

***Longnose skate***

Longnose skate in the Gulf of Alaska are managed under Tier 5 assessment methodology (optimal fishing yield a product of natural mortality, biomass levels). The current (2010) total overfishing level yield from this procedure is ca. 3,000 t (Ormset and Matta 2009), while catches over the past 5 years (2005-2009) have been less than 1,000 t / yr. Catches are highest in the Pacific cod longline fishery. Longnose skate catch in the halibut fishery is estimated from the bycatch rates in the IPHC survey, applied to the fishery operations in a depth-and area-stratified manner. This method only uses survey data when they occur in regions that have high halibut catch rates to better resemble commercial fishing activity. Notably, this new method of assessment led to much reduced estimates of longnose skate bycatch than earlier estimation methods (Ormset and Matta 2009).

***Lingcod***

The halibut fishery catches moderate levels of lingcod (ca. 50 t / year), but there is no formal stock assessment of lingcod in Alaska waters. In 2008, total estimated lingcod landings were 700 t (Alaska Dept. Fish and Game), so halibut-directed bycatch appears to be a relatively minor component of total landings.

**Table 2**. Average annual retained catch, 2007-2009 by species. Data includes catch retained for personal use or sold, but does not include discarded catch.

| Species (common name) | Average catch (mt / yr) |
|---|---|
| Arrowtooth/Kamchatka Flounder | 2.68 |
| Aurora Rockfish | 0.32 |
| Big Skate | 25.58 |
| Black Rockfish | 0.72 |
| Blackgill Rockfish | 0.09 |
| Boccacio Rockfish | 0.30 |
| Canary Rockfish | 0.30 |
| Chillipepper Rockfish | 0.01 |
| China Rockfish | 0.09 |
| Copper Rockfish | 0.06 |
| Dark Rockfish | 0.14 |
| Darkblotched Rockfish | 0.03 |
| Dusky Rockfish | 0.76 |
| Eels or eel-like fish | 0.09 |
| Flathead sole | 0.06 |
| Greenland Turbot | 1.05 |
| Greenstripe Rockfish | 0.05 |
| Harlequin Rockfish | 0.07 |
| Kelp Greenling | 0.02 |
| Lingcod | 60.88 |
| Longnose Skate | 54.95 |
| Misc. Flatfish | 0.14 |
| Northern Rockfish | 0.40 |
| Octopus | 1.46 |
| Pacific Cod | 480.47 |
| Pacific Ocean Perch | 0.16 |

| | |
|---|---|
| Pacific sleeper shark | 0.08 |
| Pink Salmon | 0.09 |
| Pollock | 0.12 |
| Quillback Rockfish | 5.46 |
| Redbanded Rockfish | 18.93 |
| Redstripe Rockfish | 0.26 |
| Rex sole | 0.01 |
| Rosethorn Rockfish | 0.07 |
| Rougheye Rockfish | 52.41 |
| Sablefish (black cod) | 1211.59 |
| Salmon shark | 0.09 |
| Sculpins | 0.37 |
| Sharpchin Rockfih | 0.03 |
| Shortraker Rockfish | 80.43 |
| Silvergrey Rockfish | 1.92 |
| Skate, other | 8.36 |
| Skilfish | 0.01 |
| Spiny dogfish shark | 0.15 |
| Thornyhead Rockfish (Idiots) | 41.41 |
| Tiger Rockfish | 0.17 |
| Vermillion Rockfish | 0.77 |
| Widow Rockfish | 0.04 |
| Wolf Eel | 0.02 |
| Yelloweye Rockfish | 225.35 |
| Yellowfin sole | 0.24 |
| Yellowmouth Rockfish | 0.05 |
| Yellowtail Rockfish | 0.11 |

### 2.1.1 Trace References

Brylinsky et al. 2009; Clausen 2009; Hanselman et al. 2009; Lowe and Ianelli 2009; Ormset and Matta 2009; Shotwell et al. 2009; Thompson et al. 2009a; Thompson et al. 2009b; Spencer and Ianelli 2009a, Spencer and Ianelli 2009b.

## 2.1.2

There is a strategy in place for managing retained species that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to retained species.

| SG 60 | SG 80 | SG 100 |
|---|---|---|
| There are measures in place, if necessary, that are expected to maintain the main retained species at levels which are highly likely to be within biologically based limits, or to ensure the fishery | There is a partial strategy in place, if necessary that is expected to maintain the main retained species at levels which are highly likely to be within biologically based limits, or to ensure the fishery does not hinder their recovery and rebuilding. | There is a strategy in place for managing retained species.<br><br>The strategy is mainly based on information directly about the fishery and/or species involved, and testing supports high confidence that the strategy will work. |

| | | |
|---|---|---|
| does not hinder their recovery and rebuilding.<br><br>The measures are considered likely to work, based on plausible argument (eg, general experience, theory or comparison with similar fisheries/species). | There is some objective basis for confidence that the partial strategy will work, based on some information directly about the fishery and/or species involved.<br><br>There is some evidence that the partial strategy is being implemented successfully. | There is clear evidence that the strategy is being implemented successfully, and intended changes are occurring.<br><br>There is some evidence that the strategy is achieving its overall objective. |

**Score: 90**

**2.1.2 Scoring Rationale:**

There is a strategy in place to manage the retained species which consists of (1) extensive catch accounting system (2) limited observer program to estimate discarded catch (applies only to joint sablefish-halibut trips), (3) fishery independent surveys conducted by NOAA- Fisheries and IPHC (4) statistical stock assessments for all but one the main retained species (5) a tiered system of assessments that provides for more precautionary annual catch limits when assessments use less precise methods. The tiered, precautionary procedure for setting annual catch limits provides a high likelihood that stocks will be maintained at levels above their reference points and clear procedures exist for restricting catch limits if stock rebuilding is necessary. The evidence for successful implementation of this management strategy is manifest by the healthy stock status for main retained species, the extensive catch accounting system to estimate total landings as well as annual stock assessment reports for these species. The fishery meets most of the SG 100 elements (a strategy in place, some evidence that the strategy is achieving its overall objective). There is not yet high confidence that the strategy will work and there is not clear evidence that the strategy is being implemented successfully because of poor observer coverage which makes estimates of discarded catch relatively imprecise (described below). The score of 90 reflects that some, but not all of the scoring elements for SG100 are met.

**Table 3**: North Pacific Fisheries Management Council description of the groundfish system used to estímate reference points (DiCosimo *et al*., 2010).

Description of the groundfish tier system used by NPFMC since 1999 for defining fishing–mortality rate related to overfishing level ($F_{OFL}$) and to acceptable biological catch ($F_{ABC}$) based on the type of information available (Info).

| | | |
|---|---|---|
| Tier 1 | Info: reliable point estimates of $B$ and $B_{MSY}$ and reliable pdf of $F_{MSY}$ | |
| | (1a) | Stock status: $B/B_{MSY} \geq 1$<br>$F_{OFL} = m_A$; $F_{ABC} \asymp m_H$ |
| | (1b) | Stock status: $a < B/B_{MSY} \leq 1$<br>$F_{OFL} = m_A \asymp (B/B_{MSY} - a)/(1 - a)$; $F_{ABC} \leq m_H \leq (B/B_{MSY} - a)/(1 - a)$ |
| | (1c) | Stock status: $B/B_{MSY} \asymp a$<br>$F_{OFL} = F_{ABC} = 0$ |
| Tier 2 | Info: reliable point estimates of $B$, $B_{MSY}$, $F_{MSY}$, $F_{35\%}$, and $F_{40\%}$ | |
| | (2a) | Stock status: $B/B_{MSY} \geq 1$<br>$F_{OFL} = F_{MSY}$; $F_{ABC} \leq F_{MSY} \asymp (F_{40\%}/F_{35\%})$ |
| | (2b) | Stock status: $a < B/B_{MSY} \asymp 1$<br>$F_{OFL} = F_{MSY} \asymp (B/B_{MSY} - a)/(1 - a)$; $F_{ABC} \leq F_{MSY} \asymp (F_{40\%}/F_{35\%}) \asymp (B/B_{MSY} - a)/(1 - a)$ |
| | (2c) | Stock status: $B/B_{MSY} \leq a$<br>$F_{OFL} = F_{ABC} = 0$ |
| Tier 3 | Info: reliable point estimates of $B$, $B_{40\%}$, $F_{35\%}$, and $F_{40\%}$ | |
| | (3a) | Stock status: $B/B_{40\%} \geq 1$<br>$F_{OFL} = F_{35\%}$; $F_{ABC} \leq F_{40\%}$ |
| | (3b) | Stock status: $a < B/B_{40\%} \leq 1$<br>$F_{OFL} = F_{35\%} \asymp (B/B_{40\%} - a)/(1 - a)$; $F_{ABC} \leq F_{40\%} \asymp (B/B_{40\%} - a)/(1 - a)$ |
| | (3c) | Stock status: $B/B_{40\%} \leq a$<br>$F_{OFL} = F_{ABC} = 0$ |
| Tier 4 | Info: reliable point estimates of $B$, $F_{35\%}$, and $F_{40\%}$ | $F_{OFL} = F_{35\%}$; $F_{ABC} \leq F_{40\%}$ |
| Tier 5 | Info: reliable point estimates of $B$ and natural mortality rate $M$ | $F_{OFL} = M$; $F_{ABC} \leq 0.75 \asymp M$ |
| Tier 6 | Info: reliable catch history from 1978 to 1995 | OFL = average catch (1978–1995), unless otherwise established by SSC; ABC $\leq 0.75 \asymp$ OFL |

$a$, 0.05 for Tiers 1–3, by applying the 10% rule (Rosenberg *et al*., 1994) to half of the $B_{MSY}$ reference point; $B$, current biomass; subscripts MSY, 35%, and 40%, biomass related to the maximum sustainable yield, or to 35% or 40% of the unexploited biomass (or to the $F$ related to those); pdf, probability density function; $m_A$ and $m_H$, arithmetic and harmonic mean of the pdf.

**2.1.3**

| Information on the nature and extent of retained species is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage retained species. | | |
|---|---|---|
| **SG 60** | **SG 80** | **SG 100** |
| Qualitative information is available on the amount of main retained species taken by the fishery.<br><br>Information is adequate to qualitatively assess outcome status with respect to biologically based limits.<br><br>Information is adequate to support measures to manage main retained species. | Qualitative information and some quantitative information are available on the amount of main retained species taken by the fishery.<br><br>Information is sufficient to estimate outcome status with respect to biologically based limits.<br><br>Information is adequate to support a partial strategy to manage main retained species.<br><br>Sufficient data continue to be collected to detect any increase in risk level (e.g. due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the strategy). | Accurate and verifiable information is available on the catch of all retained species and the consequences for the status of affected populations.<br><br>Information is sufficient to quantitatively estimate outcome status with a high degree of certainty.<br><br>Information is adequate to support a comprehensive strategy to manage retained species, and evaluate with a high degree of certainty whether the strategy is achieving its objective.<br><br>Monitoring of retained species is conducted in sufficient detail to assess ongoing mortalities to all retained species. |

**Score: 80**

**2.1.3 Scoring Rationale:**

This fishery has significant sources of fishery dependent and fishery independent data that permit stock assessments for all main retained species. Information used in managing this fishery comes from several sources detailed below. All elements for SG 80 are met, the information on retained species can be considered accurate and verifiable, and monitoring of species is sufficient to assess mortalities. However, limitations in the observer program – central to the estimation of discards – are important and limit the degree of certainty with which outcome status and management effectiveness is known. A score of 80 reflects the general high amount of quality information and the current limits resulting from the low observer coverage.

(1) Fishery independent surveys: IPHC and NOAA- Fisheries conducts annual longline and trawl surveys in the Gulf of Alaska and in the Eastern Bering Sea / Aleutian Islands. This information is used directly in assessments.

(2) Catch accounting system: Participants in the halibut quota fishery are required to use one of two electronic reporting systems. The first (IFQ and CDQ on-line catch reporting) documents only landings of ITQ- species (halibut / sablefish) as a way to track each participants' annual catch. The second, e-Landings is a more comprehensive system that inputs all catches, including self-reported discards as well as all retained and sold landings for all species. Catches can be submitted on-board the fishing vessel daily, so that the e-Landings system thereby provides real time catch accounting. Paper logbooks are required to be maintained and submitted for all vessels > 25’ fishing for halibut. These are largely used for enforcement and not for catch estimation. Landing fish in the state of Alaska requires the use of fish tickets that describe the amount and composition of all fish sold. Thus, together the fish ticket and e-Landings system provide precise quantitative information on the amount of fish landed.

(3) Observers: Currently, observers are only present on mixed trips that target both sablefish and halibut (30% of sablefish – directed fishing days on vessels > 60' require an on-board observer). This provides a limited basis to estimate bycatch on longline sets that are targeting halibut. The IPHC has been developing methods to improve total catch estimates, which includes a further development of methods that will use the IPHC survey data to generate more accurate bycatch rates that can be applied to the commercial fishery. This method seeks to develop a habitat-based statistical model to predict bycatch rates as a function of location and time of fishing effort. By applying this information to logbook data, there is a reasonable basis to belief that bycatch rates will be more reliably estimated rather than basing estimates solely on fisherman self reported rates. This is viewed as a temporary measure to improve bycatch estimates until the expansion of the observer program is realized. The IPHC and NOAA partnered with the fishing industry to test video surveillance methods on board halibut vessels (draft document is in review). Notably, the industry has pursued changes in observer regulations to amend the observer coverage for the entire groundfish fishery in Alaska. That effort has culminated in an Initial Review Draft Environmental Assessment / Regulatory Impact Review / Initial Regulatory flexibility analysis for proposed restructuring of observer program in the North Pacific (North Pacific Fishery Management Council 2010). Five alternative amendments were proposed (including no change), most of which expand the existing observer coverage to include the halibut fleet. Moreover, the alternatives would make the minimum vessel size limit more flexible (currently 60') and thereby include a larger range of vessels. In October, 2010, preferred alternative 3 was adopted and is scheduled to be implemented by 2013. (See Appendix I)

Although the observer coverage on halibut trips is limited, there is some information on halibut-directed sets when participants with both sablefish and halibut quota fish for both on the same observed trip. The observer program underwent significant changes in 2003 to better meet information needs, based on identified weaknesses of earlier procedure (lack of statistical procedures to estimate catch and uncertainties therein, randomizing observer deployments, requirements of observers to make computations). In 2008 the observer program was again redesigned to provide sample-specific information (instead of aggregated data), increased use of systematic sampling procedures and decreased reliance on observer calculations (Cahalan *et al.* 2010). The industry (participants) currently choose which trips will be observed and are free to dictate the location of fishing and the duration of the trip. As a result, there is concern that this non-random assignment of observers is not providing representative data. The NPFMC and NMFS preferred alternative 3 for the observer program grants greater control to NMFS to deploy observers in a systematic fashion.

Annual catches of all species is based on a "blended" approach that uses both observer data and industry-provided data to generate estimated total catch (retained + discarded) (Cahalan *et al.* 2010). At-sea-discard estimates are based entirely on models based on observer data and on reported retained landings. For longline operations, observers sample some fraction of the hooks retrieved on individual sets and extrapolate to derived estimates of total catch / set. Not all sets are directly monitored. Catch is reported in weight, which is converted to numbers of fish based on mean weight of individual fish. Data are reported electronically (daily) to provide daily information on catch rates. Estimation methods follow a "post-stratification of hauls and deliveries based on gear and area fished, target species… and vessel type". For longline, catch estimates for unsampled sets are based on the amount of gear fished and average catch per unit gear from the sample hauls (a catch rate for each species) (Cahalan *et al.* 2010).

To generate estimated catch rates for unobserved sets, each set is matched to another observed set. For hauls are within the same FMP area as other sampled hauls, this matching system uses one of 4 methods of matching unobserved to sampled hauls, the closest match being one conducted in the same day, and the farthest match is as many as 7 days removed from observed sample (Cahalan *et al.* 2010).

### 2.1.3 Trace References

Cahalan, J., et al., 2010; NPFMC, 2010.

| 2.2.1 | | |
|---|---|---|
| The fishery does not pose a risk of serious or irreversible harm to the bycatch species or species groups and does not hinder recovery of depleted bycatch species or species groups. | | |
| **SG 60** | **SG 80** | **SG 100** |
| Main bycatch species are likely to be within biologically based limits, or if outside such limits there are mitigation measures in place that are expected to ensure that the fishery does not hinder recovery and rebuilding.<br><br>If the status is poorly known there are measures or practices in place that are expected result in the fishery not causing the bycatch species to be biologically based limits or hindering recovery. | Main bycatch species are highly likely to be within biologically based limits or if outside such limits there is a partial strategy of demonstrably effective mitigation measures in place such that the fishery does not hinder recovery and rebuilding. | There is a high degree of certainty that bycatch species are within biologically based limits. |

**Score: 70**

**2.2.1 Scoring Rationale:**
The main bycatch species groups are demersal fish and seabirds. For both species groups, the current absence of a fleet-wide observer program for halibut vessels makes estimation of bycatch rates difficult (see "information" PI 2.2.3). For fish species (principally skates and sharks), the best available information on catch rates and stock status suggest that stocks are within biological limits and that halibut operations account for a relatively small portion of the total catches. For seabirds, there is little data upon which to estimate total takes in halibut fishing (Fitzgerald *et al.* 2008), although the adoption of seabird avoidance devices and their demonstrated effectiveness at reducing seabird takes in similar longline operations, provides some confidence that current impacts are minimized to the extent that seabirds mortality is within biologically based limits. However, the current lack of observers on halibut vessels means that SG 80 is not met.

The main fish species captured and discarded include skates and sharks.

***Skates***
Longnose and big skates are commonly retained and sold (see Retained species), but a diverse assemblage of "other skates" are also captured and discarded at sea. Catch estimates provided by the Alaska Regional office indicate annual catch rates of these "other skates" equaling 110 t / yr in the halibut fishery. These species are also captured in trawl and Pacific cod longline fishing, and total catches have averaged 570 t / year (Gulf of Alaska; Ormseth and Matta 2009) and 19,000 t/ year in the eastern Bering Sea / Aluetian Islands (Ormseth *et al*. 2009). Only in the Gulf of Alaska and Aleutian Islands does halibut fishing constitute a significant component of the total skate catch. For the Gulf of Alaska, the estimated overfishing level is 2,791 t / year, and total catches have rarely exceeded 500 t / year. In the eastern Bering Sea / Aleutian Islands, the overfishing level is 8,227 t / year, with most bycatch occurring in the Pacific cod fishery. Total landings have been near the overfishing level since 2005. Survey-based biomass limits show no discernable downward trend indicating overfishing (Ormseth *et al.* 2009).

***Sharks***
Halibut longlining captures spiny dogfish, sleeper and salmon sharks. In the Gulf of Alaska, estimated bycatch rates (averaged 1997 - 2009) are 161t / year, 11 t / year and 12.5 t / yr for spiny dogfish, sleeper sharks, and

salmon sharks, respectively (Tribuzio *et al.* 2009a). Halibut fishing accounts for less than 15% of all catches of these three species in the Gulf of Alaska (Tribuzio *et al.* 2009b). In the BSAI, halibut fishing captured on average 0.8 t /yr, 2.28 t / yr of spiny dogfish and sleeper sharks respectively (salmon shark catch was less than 0.5 t / yr; Tribuzio *et al.* 2009b). Halibut fishing accounts for 6% and 1% of total spiny dogfish and sleeper shark catches in the BSAI, respectively (Tribuzio *et al.* 2009b). Sharks are managed under Tier 6 procedures (harvest specifications based on historical catch levels; see Table 2). In both the Gulf of Alaska and Bering Sea / Aleutian Islands total catches in recent years are at or near historical catch levels and there is no evidence of overfishing (Tribuzio *et al.* 2009a, b),

***Seabirds***

All longline vessels are required to use seabird avoidance devices that have been demonstrated to markedly reduce seabird mortality (Melvin *et al.* 2001). The adoption of these measures has reduced seabird takes in other demersal longline fisheries by one-third (Fitzgerald *et al*. 2008), and albatross takes by 85% (Fitzgerald *et al.* 2008). Seabird takes are substantially greater in the Eastern Bering Sea compared to either the Gulf of Alaska or Aleutian Island regions. There is limited information on seabird bycatch rates specific to the halibut longline fishery, because of the current lack of observer data on most halibut trips. However, there is a small amount of observer coverage when dual sablefish / halibut permit holders are observed as required for sablefish trips, but then make sets specifically targeting halibut on the same trip. These provide the only basis upon which seabird bycatch can be estimated for halibut sets. Gilroy *et al.* (2000) note that these trips are not representative of typical halibut operations. These data are included in NOAA's estimates of total seabird take by gear type (demersal longline), but these total catch estimates do not include any information on bycatch during halibut-directed trips. Some additional information on seabird take comes from interviews with fishing captains by port samplers. These data can be extrapolated (on the basis of total effort and bird encounters and bird takes) to provide some indication of seabird takes (Gilroy *et al.* 2000), and these data were used by Arata and Stievert (2009) to generate total black-footed and Laysan albatross takes.

Fitzgerald *et al.* (2008) report on trends among all demersal longline fisheries for the E. Bering Sea, Aleutian Islands and the Gulf of Alaska. The annual average bycatch rate (birds / 1,000 hooks) in the Gulf of Alaska has declined over 2002 – 2006 compared to the overall mean (1993 – 2006). Total birds / year declined markedly from the early 1990's to late 1990's, and have remained low since. 2006 (the last year on record) had higher number of seabirds taken in the Gulf of Alaska (815 estimated, 95% CI 531 – 1252), doubling the number from the previous year (424 estimated, 95% CI 314-573). Much of this increase was due to bycatch of gulls (Fitzgerald *et al.* 2008).

Demersal longline fisheries, on average, took 75 black-footed albatross per year, 2002 – 2006 (Fitzgerald *et al.* 2008), and 37 Laysan albatross per year (Fitzgerald *et al.* 2008). Other species commonly captured in demersal longlining include northern fulmar (average 2002 – 2006 = 357 $yr^{-1}$) and gulls (average 2002 – 2006 = 161$yr^{-1}$). Halibut fishing occurs in shallow waters up to 300 m depth, compared to sablefish fishing which is focused on depths between 200 – 600 m. Thus, differences in the spatial distribution of fishing effort are important in considering the relative degrees of bycatch by halibut and sablefish fisheries. Notably, halibut fishing by small vessels in Alaska inshore waters are not expected to have significant seabird mortalities because of the rarity of vulnerable seabirds (albatrosses) in those areas (Melvin *et al.* 2006).

Laysan and Black-footed albatross population trends are monitored through nest surveys on breeding colonies, principally on three islands in the Hawaiian archipelago that account for 97% and 77% of the total breeding population for Layson and Black-footed albatross, respectively. For both species, the current primary threat is incidental catch in pelagic longlining (Naughton *et al.* 2007), taking ca. 5,000 black-footed and 2,000 Laysan albatrosses annually. Thus, the rate of albatross kills in the demersal longline fishery represent a much smaller threat. Both species were heavily depleted in the late 1800's / early 1900s by feather hunting.

For black-footed albatross, the observed nest counts in the Hawaiian breeding colonies indicate no discernable trend since 1992 when surveys began (Flint 2007), and compilation of data from all breeding colonies supports this conclusion (Arata *et al*. 2009). Over longer time periods, breeding population of black-footed albatrosses have increased from 17,785 to 54, 592 between early 1920's and mid 1950's, but populations have apparently stabilized since then. Still, IUCN currently lists black-footed albatross as endangered "on the basis of a projected future rapid population decline over the next three generations, taking into account of estimated rates of incidental mortality in longline fisheries in the North Pacific Ocean" (IUCN 2010). 2007 breeding pair numbers from the Hawaiian Islands are 52,068, and the world breeding population in 2005 was estimated at 59,000 pairs. Overall, pelagic longline and gillnet have been the most important source of incidental mortality for black-footed albatrosses (Naughton *et al.* 2007) and pelagic longline fisheries are deemed the most important current threat to the black-footed albatross (Arata *et al.* 2009), taking ca. 5,000 birds per year. Population viability analysis indicates a 40% chance of population decline over the next 60 years (Arata *et al.* 2009) for the Laysan Island colony. Matrix models developed from stage-specific demographic parameters that include bycatch mortality suggest that current estimated bycatch levels can be sustained by the population without causing population decreases.

For Laysan albatross, pre-hunting breeding population size was as high as 2 million pairs (on Laysan Island alone), but was reduced to 17,930 by the early 1920's. Since that time, total breeding pair counts have increased to 600,000, and on some islands (e.g. Midway) current levels greatly exceed historical levels owing to land use changes that expanded capacity to host breeding pairs (Arata *et al.* 2009). Current breeding population size over the three major Hawaiian colonies is roughly 550,000 pairs. IUCN lists Laysan albatross as "vulnerable" (IUCN 2010). Like the black-footed albatross, incidental kills in pelagic longlining are deemed the principal threat.

Population viability analysis indicates a 45% probability of a population decline over the next 60 years on Laysan Island, and a 30% chance of decline on French Frigate Shoals. Matrix models developed from stage-specific demographic parameters and including bycatch mortality in fisheries suggest that current estimates of bycatch levels (2,500 / year) can be sustained by the population without causing population decreases, and consequently Arata et al. (2009) conclude that demersal longline fishing in Alaska does not appear to be threatening the recovery or long-term viability of Laysan albatross.

There is less information about status and trends of other seabirds. The most common seabird taken in demersal longlines in Alaska is Northern Fulmar (*Fulmarus glacialoides*). Available data indicate that Northern fulmar populations have been increasing or been stable over 1970's – 2003 (Dragoo *et al*. 2006). Glaucous-winged gull (*Larus glaucesens*) counts are available for 6 sites in Alaska; at one counts have been decreasing, four show no change and one shows an increase over time. Notably, the two sites with the largest numbers of breeding pairs and that account for the vast majority of bird counts (Middleton Island, Aiktak Island) have either had increasing populations since the 1970's or no change (Dragoo *et al*. 2006). There is no population assessment available for either species so no biological reference points are available.

***Bait***

The main (> 5% total catch) bait used in the Alaska halibut fishery are Alaska Pacific herring (*Clupea productus*) Alaska Pacific salmon (typically chum). Herring populations consist of multiple distinct stocks, often separated by distinct nearshore spawning areas. Thus an Alaska-wide herring stock assessment is not available. One SE Alaska herring stock, Lynn Canal, was petitioned for ESA listing, but NMFS found that listing as threatened or endangered was not warranted. Alaska uses a precautionary management approach for herring, where commercial harvest on herring stocks is not permitted in an area unless stock forecasts of annual population levels exceed a minimum threshold biomass. Fisheries for these include bait and sac-roe, and the

bait is used in several Alaska fisheries (e.g. crab, halibut, sablefish). SE Alaska stocks have generally been increasing in abundance over the past decade (Hebert 2009), and Sitka Sound herring stocks are currently at the highest observed levels (ADFG 2010). The Alaska salmon fisheries are certified sustainable by MSC (2007), and consist of multiple distinct fisheries (by gear, location and species) managed by the AK Department of Fish and Game. ADFG primary management approach is to set escapement goals for each stock, monitor returns in season, and then open terminal fisheries after escapement goals have been met. Alaska salmon fisheries are often held as examples of successful fisheries management; this success is fostered in part by the maintenance of stock structure and diversity (Schindler *et al*. 2010).

***Condition 2.2.1***

The fishery shall provide scientifically defensible and comprehensive evidence to the CB that all the main bycatch species are highly likely to be within biologically based limits by the third surveillance audit.

**2.2.1 Trace References**

Arata, J.A., et al., 2009; IUCN, 2010; Dragoo, D.E., et al., 2006; Flint, E., 2007; Naughton, M.B., et al., 2007' Ormseth, O., et al., 2009; Ormseth, O. and Matta, 2009; Tribuzio, C.A., et al., 2009a; Tribuzio, C.A., 2009b; Fitzgerald, S.M., 2008; Melvin, E.F., et al., 2001; Melvin, E.F., et al., 2006; Gilroy, et al., 2000; Schindler, D.E., et al., 2010, Hebert, K., 2009; ADFG, 2010.

| **2.2.2** | | |
|---|---|---|
| There is a strategy in place for managing bycatch that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to bycatch populations. | | |
| **SG 60** | **SG 80** | **SG 100** |
| There are measures in place, if necessary, which are expected to maintain main bycatch species at levels which are highly likely to be within biologically based limits or to ensure that the fishery does not hinder their recovery.<br><br>The measures are considered likely to work, based on plausible argument (e.g general experience, theory or comparison with similar fisheries/species). | There is a partial strategy in place, if necessary, for managing bycatch that is expected to maintain main bycatch species at levels which are highly likely to be within biologically based limits or to ensure that the fishery does not hinder their recovery.<br><br>There is some objective basis for confidence that the partial strategy will work, based on some information directly about the fishery and/or the species involved.<br><br>There is some evidence that the partial strategy is being implemented successfully. | There is a strategy in place for managing and minimising bycatch.<br><br>The strategy is mainly based on information directly about the fishery and/or species involved, and testing supports high confidence that the strategy will work.<br><br>There is clear evidence that the strategy is being implemented successfully, and intended changes are occurring. There is some evidence that the strategy is achieving its objective. |

**Score: 80**

**2.2.2 Scoring Rational:**

The management system consists of (1) surveys (NOAA and IPHC) that are used to estimate stock status of non-target species and generate estimates of bycatch rates (2) setting of annual catch limits for the main bycatch species (3) mandatory use of seabird avoidance devices (tori lines) on all vessels larger than 55'. This system is expected to keep bycatch species at levels that are highly likely to be within biological limits. The fact that none of the bycatch fish species are overfished indicates that the strategy is being implemented successfully.

There is a partial strategy in place that requires the use of seabird avoidance devices (tori lines) that have been demonstrated to sharply reduced seabird encounters. Moreover, there is a monitoring program for albatross species and some other seabird species that allows for the outcome status to be evaluated. However, the management strategy does not include a robust procedure to estimate seabird takes.

Fisheries for main bait species (Alaska herring and salmon) use a precautionary and adaptive management plan that prohibits fishing unless stock projections are above a minimum threshold level.

| **2.2.3** | | |
|---|---|---|
| Information on the nature and amount of bycatch is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage bycatch. | | |
| **SG 60** | **SG 80** | **SG 100** |
| Qualitative information is available on the amount of main bycatch species affected by the fishery.<br><br>Information is adequate to broadly understand outcome status with respect to biologically based limits.<br><br>Information is adequate to support measures to manage bycatch. | Qualitative information and some quantitative information are available on the amount of main bycatch species affected by the fishery.<br><br>Information is sufficient to estimate outcome status with respect to biologically based limits.<br><br>Information is adequate to support a partial strategy to manage main bycatch species.<br><br>Sufficient data continue to be collected to detect any increase in risk to main bycatch species (e.g. due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the strategy). | Accurate and verifiable information is available on the amount of all bycatch and the consequences for the status of affected populations.<br><br>Information is sufficient to quantitatively estimate outcome status with respect to biologically based limits with a high degree of certainty.<br><br>Information is adequate to support a comprehensive strategy to manage bycatch, and evaluate with a high degree of certainty whether a strategy is achieving its objective.<br><br>Monitoring of bycatch data is conducted in sufficient detail to assess ongoing mortalities to all bycatch species. |

**Score: 70**

**2.2.3 Scoring Rationale:**
For fish species, the current limited observer coverage, and a new initiative to provide improved bycatch estimates by using data from the IPHC annual longline surveys, does provide some basis to estimate bycatch rates. Monitoring and assessment of all bycatch species permits evaluation of outcome status, but it is possible that this assessment could be significantly revised if bycatch in the halibut fishery is much larger than is presently estimated. Because there is very little observer coverage, there is not currently a

method to collect data that could detect changes in impact of this fishery on these species. Moreover, information is not currently sufficient to support a partial strategy.

Stock assessments are conducted for skate species (based on survey-derived biomass estimates) but not for shark species. However, there is information on total shark catches that indicate that it is unlikely that halibut fishing is responsible for a large (>20%) fraction of the total catch of any shark species.

For seabirds, there is ample data on population trends of the most vulnerable species (albatrosses) which permits quantitative evaluation of population status (Arata *et al.* 2009), but less information on other species (Dragoo *et al.* 2006; Boldt and Zador 2009). Total takes of seabirds in the halibut fishery are not known precisely because halibut-directed trips do not have on-board observers. The effectiveness of required seabird avoidance measures are well estimated through carefully controlled experiments (Melvin *et al.* 2001).

The knowledge of species overlap, the adoption of seabird deterrent devices, and assessment of population trends of most species provides mix of quantitative and qualitative information.

The North Pacific Regional Fishery Management Council voted on a proposed amendment to the Gulf of Alaska and Bering Sea / Aleutian Island Fishery Management Plans that presented several alternatives to restructure the observer program. Alternative 3 was adopted and will significantly enhance the observer coverage by making the lower vessel size limit more flexible, grant NMFS greater authority to set observer coverage and to dictate which fishing trips are covered and also will require halibut-directed trips to carry observers (North Pacific Fisheries Management Council 2010; see Appendix I). The industry has participated in cooperative research with NMFS and NOAA to evaluate the effectiveness of video surveillance systems (Draft report in review; Ames 2005).

Main bait species (AK herring and salmon) are assessed consistently by ADFG and in-season monitoring is used to set fishing season restrictions.

***PI 2.2.3 Condition***

Information shall be collected and provided to the CB by the third surveillance audit, to support a partial strategy to manage main bycatch species and sufficient data shall continue to be collected to detect any increase in risk to main bycatch species throughout the certification period.

**2.2.3 Trace References**

Arata, J.A., et al., 2009; Melvin, E.F., et al., 2001; Ames, R., 2005; Boldt, J. and Zador, S., 2009; Dragoo, D.E., et al., 2006; NPFMC, 2010.

| **2.3.1** | | |
|---|---|---|
| The fishery meets national and international requirements for protection of ETP species.<br>The fishery does not pose a risk of serious or irreversible harm to ETP species and does not hinder recovery of ETP species. | | |
| **SG 60** | **SG 80** | **SG 100** |

| | | |
|---|---|---|
| Known effects of the fishery are likely to be within limits of national and international requirements for protection of ETP species.<br><br>Known direct effects are unlikely to create unacceptable impacts to ETP species. | The effects of the fishery are known and are highly likely to be within limits of national and international requirements for protection of ETP species.<br><br>Direct effects are highly unlikely to create unacceptable impacts to ETP species.<br><br>Indirect effects have been considered and are thought to be unlikely to create unacceptable impacts. | There is a high degree of certainty that the effects of the fishery are within limits of national and international requirements for protection of ETP species.<br><br>There is a high degree of confidence that there are no significant detrimental effects (direct and indirect) of the fishery on ETP species. |

**Score: 75**

**2.3.1 Scoring Rationale:**

The only ETP species potentially adversely affected by the halibut fishery is the short-tailed albatross (*Phoebastria albatrus*). The short-tailed albatross was listed as "endangered" in 2006 and thereby falls under protection of the U.S. Endangered Species Act. Before being subjected to intense hunting for feathers in the late 1800's / early 1900's, the short-tailed albatross was the most abundant albatross species in the North Pacific. Currently, roughly 2,400 short-tailed albatross are known to exist, and only 400 – 500 breeding pairs have been documented (U.S. Fish Wildl. Serv., 2008). Their breeding range is now restricted to two islands (Torishima and Senkaku). The first of these supports roughly 80% of all breeding pairs, but because this island is an active volcano and the biggest colony is subject to mud slides, the population is at significant risk. The population on Torishima is growing at a rate of 6% per year (U.S. Fish Wildl. Serv., 2008).

Threats to the short-tailed albatross are principally the threat of stochastic events on Torishima Island, but also incidental catches in fisheries, ingestion of plastics, toxic contaminants, and depredation by non-native species. The current recovery plan concludes that these secondary threats do not pose a significant risk of depletion provided that populations continue to grow at current levels and that efforts to transplant chicks to islands that were part of their historical range are successful (U.S. Fish Wildl. Serv., 2008).

Two short-tailed albatrosses were killed in the eastern Bering Sea from Pacific Cod longline fishing in late summer 2010. Prior to those events, there had been no reported kills since 1998. Since 2001 vessels larger than 55' are required to use seabird avoidance devices (tori lines) to minimize the probability of seabird entanglements. These have been demonstrated to be highly effective (Melvin et al. 2001) at reducing the probability of albatross takes and there is a high degree of compliance (Fitzgerald et al. 2008). Moreover, annual fishing-caused mortality rates would have to be significantly greater than the current level to exceed biological limits and to significantly hamper recovery. Given the current levels of population increase and assuming that only 10% of all seabird kills are reported or observed, there would have to be 13 observed / reported short-tailed albatross kills per year to conclude that the level of mortality in fisheries is causing a population decline (U.S. Fish Wildl. Serv. 2008). Only 11 kills have been reported in total since 1988 and only two since 1998. Thus, there is a high likelihood that the effects of the halibut fishery are within limits that would prevent their recovery. However, smaller amounts of takes would limit albatross' recovery rate and could be important. The range of short-tailed albatrosses and halibut fishing do overlap considerably: on average, one short-tailed albatross is observed for every ten sets on IPHC longline surveys (Geernaert 2009).

Because of the absence of observer coverage on halibut-directed trips, there is little basis to directly enumerate short-tailed albatross takes in the halibut fishery. Thus, the effects of the fishery are not currently known. The reported effectiveness of tori lines and the demonstrated reduction in all total albatross takes in Alaska longline

fisheries since the adoption of seabird avoidance measures (Fitzgerald et al. 2008) implies that it is likely that the halibut fishery is unlikely to create unacceptable impacts to short-tailed albatross. Moreover, a significant portion of halibut fishing by small boats occurs in Alaska inland waters where short-tailed albatross are extremely rare (Melvin et al. 2006). Thus, there is no reason to conclude that bycatch should *necessarily* be greater in halibut fishing compared to other demersal longlining. Lastly, the estimated population growth rate of short-tailed albatrosses are very high and near their maximum intrinsic rate of growth (U.S. Fish. Wildl. Serv. 2008), which could not be possible if unacceptably high numbers of short-tailed albatrosses were taken in halibut fisheries. These separate lines of evidence imply that it is highly unlikely that the effects of the fishery create unacceptable impacts to short-tailed albatross. Indeed, the recovery plan for short-tailed albatrosses (U.S. Fish. Wildl. Serv. 2008) concludes that: "short-tailed albatrosses are not declining due to seabird bycatch in commercial fisheries. Modeling efforts indicate that 5-6% additional annual mortality would be needed before this species would begin to decline in numbers."

***2.3.1 Condition***

The fishery shall provide evidence to the CB that the effects of the fishery are highly likely within limits of national and international requirements for the protection of ETP species. This evidence should be provided by the third surveillance audit.

**2.3.1 Trace References**

USFWS, 2008; Fitzgerald, S.M., et al., 2008; Melvin, E.F., et al., 2001; Melvin, E.F., et al., 2006; Geernaert, T.O., 2009.

## 2.3.2

The fishery has in place precautionary management strategies designed to:
- meet national and international requirements;
- ensure the fishery does not pose a risk of serious or irreversible harm to ETP species;
- ensure the fishery does not hinder recovery of ETP species; and
- minimize mortality of ETP species.

| SG 60 | SG 80 | SG 100 |
|---|---|---|
| There are measures in place that minimize mortality, and are expected to be highly likely to achieve national and international requirements for the protection of ETP species.<br><br>The measures are considered likely to work, based on plausible argument (eg. general experience, theory or comparison with similar fisheries/species). | There is a strategy in place for managing the fishery's impact on ETP species, including measures to minimize mortality that is designed to be highly likely to achieve national and international requirements for the protection of ETP species.<br><br>There is an objective basis for confidence that the strategy will work, based on some information directly about the fishery and/or the species involved.<br><br>There is evidence that the strategy is being implemented successfully. | There is a comprehensive strategy in place for managing the fishery's impact on ETP species, including measures to minimize mortality that is designed to achieve above national and international requirements for the protection of ETP species.<br><br>The strategy is mainly based on information directly about the fishery and/or species involved, and a quantitative analysis supports high confidence that the strategy will work.<br><br>There is clear evidence that the strategy is being implemented successfully, and intended changes are occurring. There is evidence that the strategy is achieving its objective. |

**Score: 75**

**2.3.2 Scoring Rationale:**
There is a strategy in place to manage the fishery's impact on short-tailed albatrosses. The management actions include the mandatory use of seabird avoidance measures that reduce albatross takes by more than 80%, and a bycatch limit that would close the entire halibut fishery if more than 2 birds are killed in a two year period. Population modeling suggests that levels of bycatch mortality would have to be nearly two orders of magnitude higher than the bycatch limit to cause population declines, thereby supporting a high confidence that this strategy will work. There is good evidence that the strategy is being implemented successfully (based on compliance with seabird avoidance device regulations), but there is not clear evidence that the strategy is effective because currently there is very low level of observer coverage in the halibut fishery. Because of this, we score 75 to indicate that most SG 80 criteria are met but not the final one. Observer coverage is expected to increase with the implementation of the NPFMC preferred alternative 3 (See Appendix I).

***PI 2.3.2 Condition***

By the third surveillance audit the fishery shall show that the strategy to manage impacts on ETP species is working, with an objective basis for confidence.

| **2.3.3** | | |
|---|---|---|
| Relevant information is collected to support the management of fishery impacts on ETP species, including:<br>- information for the development of the management strategy;<br>- information to assess the effectiveness of the management strategy; and<br>- information to determine the outcome status of ETP species. | | |
| **SG 60** | **SG 80** | **SG 100** |
| Information is adequate to broadly understand the impact of the fishery on ETP species.<br>Information is adequate to support measures to manage the impacts on ETP species<br><br>Information is sufficient to qualitatively estimate the fishery related mortality of ETP species. | Information is sufficient to determine whether the fishery may be a threat to protection and recovery of the ETP species, and if so, to measure trends and support a full strategy to manage impacts.<br><br>Sufficient data are available to allow fishery related mortality and the impact of fishing to be quantitatively estimated for ETP species. | Information is sufficient to quantitatively estimate outcome status with a high degree of certainty.<br><br>Information is adequate to support a comprehensive strategy to manage impacts, minimize mortality and injury of ETP species, and evaluate with a high degree of certainty whether a strategy is achieving its objectives.<br><br>Accurate and verifiable information is available on the magnitude of all impacts, mortalities and injuries and the consequences for the status of ETP species. |

**Score: 70**

**2.3.3 Scoring Rationale:**
Information on halibut impacts on short-tailed albatross consists of: (1) low levels of observers on board halibut-directed sets that are deployed during observed sablefish-directed fishing trips (2) demonstrated high effectiveness of seabird avoidance devices and a high level of compliance with regulations (3) the high rates of population growth currently exhibited by short-tailed albatrosses that are near their maximum intrinsic rates of

increase. This information meets all of the SG 60 elements. Information is not sufficient to allow fishery related mortality and the impact of fishing to be quantitatively estimated. This information is sufficient to determine whether this fishery may be a threat to protection and recovery of albatrosses. A score of 70 reflects that the first element of the SG80 is met. Additional information on likely rates of bycatch might be derived from a comparative analysis of bycatch rates in other demersal longline fisheries that operate in similar regions but have observer coverage. We view this information to be helpful to provide a range of plausible bycatch rates, but do not consider this sufficient to constitute a quantitative estimate of bycatch rates of ETP species. This analysis would need to be validated by direct comparison to halibut fishing, but data are not available to permit this comparison.

***2.3.3 Condition***

The fishery shall have sufficient data to allow fishery related mortality and the impact of fishing to be quantitatively estimated in a scientifically defensible manner for ETP species and provide these estimates to the CB by the third surveillance audit.

| **2.4.1** | | |
|---|---|---|
| The fishery does not cause serious or irreversible harm to habitat structure, considered on a regional or bioregional basis, and function. | | |
| **SG 60** | **SG 80** | **SG 100** |
| The fishery is unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm. | The fishery is highly unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm. | There is evidence that the fishery is highly unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm. |

**Score: 80**

**2.4.1 Scoring Rationale:**

The fishery being assessed uses bottom longline gear to capture halibut. Here, lines of baited hooks are deployed by the fishing vessel, which sink to the ocean floor where halibut forage. They are generally considered "fixed gear" because compared to other gears such as trawling, they do not operate by moving along the seafloor. For that reason, bottom longline gear is generally thought to have substantially less impact on bottom habitat compared to mobile gear (Chuenpagdee *et al*. 2003). Despite its classification as "fixed gear", the gear can move during soak time by ocean currents, and during gear retrieval. Consequently, the bottom line and the hooks can destroy some structural habitat, particularly biogenic habitats.

The Alaska Fisheries Science Center conducted a semi-quantitative assessment of all Alaska fisheries with respect to their potential impacts too habitats and subsequent impacts on the productivity of managed species. Here, they ranked fishery impacts according to (1) intensity of fishing effort (2) sensitivity of habitat features to contact with fishing gear (3) recovery rates of habitat features (4) distribution of fishing effort relative to different types of habitats (National Marine Fisheries Service Alaska Region 2005). They use a simple quantitative model that relates habitat impacts in terms of the expected degree of loss of habitat function relative

to an unfished state. Model inputs include the distribution of fishing effort, estimates of the impacts of fishing effort on particular habitat types (with respect to specific attributes and functions), and estimated habitat recovery rates.

The above analysis did not explicitly consider halibut fisheries because they are not managed under the NOAA Fisheries Management Plan, but instead by the IPHC. We can look at similar fisheries to halibut that were assessed to consider the likely scoring for halibut fishing. Sablefish is the most similar fishery, which uses the same gear (and many sablefish vessels also fish halibut). One difference is that halibut fishing is generally conducted in shallower water than is halibut fishing. Sablefish longlining was estimated to have minimal impact on overall habitat. For the eastern Bering Sea soft substrate, the index of relative impact was 0.1% for sand / mud biostructure and 0.7% for slope biostructure i.e. current levels and distribution of fishing impact was estimated to reduce biostructures by 0.1 and 0.7 percent, respectively. For sablefish fishing in the Gulf of Alaska, slope biostructure long term effect index was 0.1%, and in the Aleutian Islands was 0%. Importantly, the document concludes that the level of total groundfish fishing activities in Alaskan waters was not sufficient to cause significant reductions in the production capacity of the managed species.

A crucial question is the extent to which halibut fishing might be expected to have significantly greater impacts than sablefish. Because of the depth distributions of sensitive corals (Stone 2006) and because halibut fishing generally is shallower than sablefish fishing, there is reason to expect impacts to be greater in halibut fishing compared to sablefish fishing.

Although this document is clear in stating limitations in the analysis (National Marine Fisheries Service Alaska Region), the CIE review was critical of the model presentation principally on the basis of the absence of validation procedures for the model and poorly resolved parameter estimates (AFSC, 2008) The AFSC Habitat and Ecological Processes Research Program is working to provide more detailed information on habitat distributions (see “information below” PI 2.4.3) in part to address these limitations.

One particularly vulnerable habitat types are biogenetic structures such as corals. Halibut longlining impacts corals by entangling and dislodging them (as evidenced by coral bycatch, Livingston 2003). Areas of high coral density (coral gardens) have been identified, some in SE Alaska but most in the Aleutian Islands. All bottom – contact fishing in these areas are prohibited (see Management).

The most important corals in Alaska waters are gorgonians, scleractinians and soft corals (*Gersemia* spc.). The distribution of corals have been assessed through NOAA trawl survey catch rates (Heifitze *et al.*, 2002 ) and via smaller scale submersible surveys / observations (McConnaughey et al. 2009; Stone 2006). Identifying trends in these corals is difficult because they are encountered infrequently (Martin 2009), but nonetheless no discernable trend in gorgonians or scleractinians are apparent (Martin 2009).

Stone (2006) and Heifetz (2009) recently conducted submersible surveys of deep water corals and sponges in the Aleutian archipelago to describe depth distributions and also the incidence of visible damage or other footprints of fishing activities. They report substantial rates of coral damage, which is greatest in areas opened to trawling and least in regions infrequently trawled. Stone (2006) compares the depth distributions of corals to those of longlining and finds that in general, longlining sets are slightly shallower than the depths with peak coral densities, but there was substantial overlap between coral and longlining depth distributions. Of course, these data do not permit one to link damage to any particular gear, as longlining, trawling and fish/ crab pots were all used in these areas.

Based on management measures that prohibit bottom-trawling in Aleutian Island and SE Alaska coral garden sites and the otherwise low impact of bottom longline gear on habitats, we conclude that the fishery is highly

unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm. Moreover, there is some evidence, based on models conducted by AFSC in support of this claim. However, limitations in data used to parameterize these models and the absence of model verification means that the evidence is not conclusive. Moreover, the absence of direct analysis of halibut fishing distributions relevant to sensitive habitats has not been conducted.

Given these considerations, the halibut fishery is considered to be highly unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm, and thereby meets SG 80. However, there is no direct evidence of these effects so SG 100 is not met.

### 2.4.1 Trace References

Martin, M. 2009; Heifetz, J., 2002; Heifetz, J., et al., 2009; McConnaughey, R.A., et al., 2009; NMFS, 2005; AFSC, 2008; Stone, R.P., 2006;

| **2.4.2** | | |
|---|---|---|
| There is a strategy in place that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to habitat types. | | |
| **SG 60** | **SG 80** | **SG 100** |
| There are measures in place, if necessary, that are expected to achieve the Habitat Outcome 80 level of performance.<br><br>The measures are considered likely to work, based on plausible argument (e.g general experience, theory or comparison with similar fisheries/habitats). | There is a partial strategy in place, if necessary, that is expected to achieve the Habitat Outcome 80 level of performance or above.<br><br>There is some objective basis for confidence that the partial strategy will work, based on some information directly about the fishery and/or habitats involved.<br><br>There is some evidence that the partial strategy is being implemented successfully. | There is a strategy in place for managing the impact of the fishery on habitat types.<br><br>The strategy is mainly based on information directly about the fishery and/or habitats involved, and testing supports high confidence that the strategy will work.<br><br>There is clear evidence that the strategy is being implemented successfully, and intended changes are occurring. There is some evidence that the strategy is achieving its objective. |

**Score: 90**

### 2.4.2 Scoring Rationale:

In general, this fishery is not suspected of having significant impacts on habitats. However, bottom contact gear, including longlining, may harm some biogenic habitat, particularly habitat-forming coral species. There is a strategy in place for managing the impact of the fishery on coral habitats which consists of (1) closing coral garden sites to all bottom-contact fishing in the Aleutian Islands and (2) closing coral garden sites in SE Alaska to bottom-contact fishing gears; (3) monitoring trends in relative abundance via the NOAA- Fisheries trawl surveys. This fishery meets all elements for SG 80. There is a transparent criterion for identifying and classifying habitats as “Habitat Areas of Particular Concern” (NPFMC 2010). This strategy meets the first and second elements for SG 100, but not the final criterion.

### 2.4.2 Trace References

NPFMC. 2010b.

| 2.4.3 | | |
|---|---|---|
| Information is adequate to determine the risk posed to habitat types by the fishery and the effectiveness of the strategy to manage impacts on habitat types. | | |
| **SG 60** | **SG 80** | **SG 100** |
| There is a basic understanding of the types and distribution of main habitats in the area of the fishery.<br><br>Information is adequate to broadly understand the main impacts of gear use on the main habitats, including spatial extent of interaction. | The nature, distribution and vulnerability of all main habitat types in the fishery area are known at a level of detail relevant to the scale and intensity of the fishery.<br><br>Sufficient data are available to allow the nature of the impacts of the fishery on habitat types to be identified and there is reliable information on the spatial extent, timing and location of use of the fishing gear.<br><br>Sufficient data continue to be collected to detect any increase in risk to habitat (e.g. due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the measures). | The distribution of habitat types is known over their range, with particular attention to the occurrence of vulnerable habitat types.<br><br>Changes in habitat distributions over time are measured.<br><br>The physical impacts of the gear on the habitat types have been quantified fully. |

**Score: 80**

**2.4.3 Scoring Rationale:**
The spatial distribution of fishing effort for the halibut fishery is well documented via log books and catch accounting systems. The Alaska Fishery Science Center and the North Pacific Fishery Management Council have developed elements for identifying and classifying specific habitats as "habitat areas of particular concern" on the basis of rarity, ecological importance, sensitivity and level of disturbance (NPFMC 2010b). Coarse grain habitat mapping is already available and on-going efforts are seeking to provide finer grained, depth and habitat-specific information by sharing platforms with AFSC survey and NOAA vessels (AFSC, 2008). There is an effort to compile and organize habitat data, and summarized information is presented in McConnaughey *et al.* 2009; Martin (2009) describe trends in deep water corals and other biogenic habitat based on trawl survey bycatch and find little evidence for persistent trends in corals in the Bering Sea, Aleutian Islands or Gulf of Alaska.

Based on this information, we feel all three conditions for SG 80 are met. Fine scale information however is lacking, changes in habitat distribution have not been assessed, and physical impacts of gear on habitat have not been fully quantified.

| 2.5.1 |
|---|
| The fishery does not cause serious or irreversible harm to the key elements of ecosystem structure and |

| function. | | |
|---|---|---|
| **SG 60** | **SG 80** | **SG 100** |
| The fishery is unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm. | The fishery is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm. | There is evidence that the fishery is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm. |

**Score: 90**

**2.5.1 Scoring Rationale:**
Like most large marine ecosystems, resolving interaction strengths among food web constituents in Alaska is made difficult by limited data and confounding effects of environmental forcing (Essington 2009). Two primary concerns are germane to evaluating the effects of halibut fishing on ecosystem functioning. The first is whether depletion of halibut causes a release of top-down control on halibut prey species, potentially leading to cascading effects on the food web. The second is that removal of halibut reduces the productivity of any species that relies on halibut for forage. Other indirect effects can arise if retained or bycatch species play key "top –down" or "bottom-up" roles in the ecosystem and thereby act to regulate food web structure.

Halibut are high trophic level predators, and their feeding habits are well described. Halibut undergo ontongenetic shifts in feeding, consuming numerous small-bodied prey (fish, crustaceans and other invertebrates) when small and consuming larger fish when they reach adulthood (Best and St. Pierre 1986). Primary fish prey include walleye pollock, sand lance and smaller flatfish species (Yang *et al.* 2001). Crabs may also be important components in halibut diets in some locations (Best and St. Pierre 1986). Accounts of halibut as prey are less frequent, but juveniles are occasionally consumed by larger –bodied halibut, and also Pacific cod (Best and St. Pierre 1986). Large sharks (e.g. sleeper sharks) may consume halibut and pinnipeds may also be predators on halibut.

Gaichas and Francis (2008) built food web models and applied network theory to identify potentially important species on the basis of their patterns of connectivity with other food web components. Halibut was identified as a potentially important species because of their high connectivity. Ecologists have struggled with linking these topographic network approaches and metrics to robust predictions of interaction strengths (Paine 1988). Indeed, the high connectivity of Pacific halibut may simply reflect their opportunistic feeding patterns.

The North Pacific Fisheries Management Council includes a chapter on ecosystem considerations in the annual assessment of stocks. This report provides an extensive accounting of the dynamics of key biophysical drivers and indicators of ecosystem and community structure (Boldt and Zador 2009). Apex predator biomass in the Eastern Bering Sea has been relatively stable over the past decade at a level roughly 35% less than the peak values witnessed in the late 1980s. Trends in biological trophic indicators for the Gulf of Alaska largely reflects the dynamics of arrowtooth flounder and walleye pollock. Diversity and species richness in the Gulf of Alaska show no trend, and apex predator biomass has been increasing (Bold and Zador 2009). Moreover, indicators of community structure in the Eastern Bering Sea (e.g. species richness, community size-spectra) do not suggest that groundfish fisheries are having significant adverse effects but instead are more responsive changes in spatial distribution of stocks and environmental conditions (Mueter and Lauth 2009; Boldt *et al.* 2008).

To date there has been no direct and explicit attempt to test the hypothesis of removals of halibut have caused changes in ecosystem structure, either through effects on habitats, non-target species, or by reducing halibut

density and thereby diminishing their role in ecosystem structuring and functioning. Still, there has also been no evidence of widespread ecological change caused by fishing, as has been documented elsewhere (Frank et al. 2006; Casini et al. 2008). The fact that the halibut population has not been depleted to very low levels implies that they are likely to maintain their ecological functioning.

**2.5.1 Trace References**

Paine, R.T., 1988; Best, E.A. and St. Pierre, G., 1986; Boldt, J.S., et al., 2008; Boldt, J. and Zador, S., 2009; Mueter, F. and Lauth, R., 2009; Aydin, K., et al., 2008; Yang, M-S., et al., 2006; Gaichas, S.K. and Francis, R.C., 2008; Frank, K.T., et al., 2005; Casini, M. et al., 2008; Essington, T.E., 2009.

| **2.5.2** | | |
|---|---|---|
| There are measures in place to ensure the fishery does not pose a risk of serious or irreversible harm to ecosystem structure and function. | | |
| **SG 60** | **SG 80** | **SG 100** |
| There are measures in place, if necessary, that take into account potential impacts of the fishery on key elements of the ecosystem.<br><br>The measures are considered likely to work, based on plausible argument (eg, general experience, theory or comparison with similar fisheries/ ecosystems). | There is a partial strategy in place, if necessary, that takes into account available information and is expected to restrain impacts of the fishery on the ecosystem so as to achieve the Ecosystem Outcome 80 level of performance.<br><br>The partial strategy is considered likely to work, based on plausible argument (eg, general experience, theory or comparison with similar fisheries/ ecosystems).<br><br>There is some evidence that the measures comprising the partial strategy are being implemented successfully | There is a strategy that consists of a plan, containing measures to address all main impacts of the fishery on the ecosystem, and at least some of these measures are in place. The plan and measures are based on well-understood functional relationships between the fishery and the Components and elements of the ecosystem.<br><br>This plan provides for development of a full strategy that restrains impacts on the ecosystem to ensure the fishery does not cause serious or irreversible harm.<br><br>The measures are considered likely to work based on prior experience, plausible argument or information directly from the fishery/ecosystems involved.<br><br>There is evidence that the measures are being implemented successfully. |

**Score: 95**

**2.5.2 Scoring Rationale:**

The Pacific Halibut fishery is managed by the International Pacific Halibut Commission, but the larger ecosystem context and management is overseen by the North Pacific Fisheries Management Council. The North Pacific Fisheries Management Council is one of the national leaders in implementing ecosystem-based management. The council's Fishery Management Plans specify a strategy to address, monitor and regulate ecosystem impacts of the fishery. Ecosystem-level constraints also factors into management decisions via a cap in total ecosystem removals for the Eastern Bering Sea and Gulf of Alaska based on considerations of the maximum surplus production of these ecosystems (Mueter *et al.* 2009 ).

The fisheries management plan specifies ecosystem goals: Develop indices of ecosystem health as targets for management; Improve the procedure to adjust acceptable biological catch levels as necessary to account for uncertainty and ecosystem factors; Continue to protect the integrity of the food web through limits on

harvest of forage species.; Incorporate ecosystem-based considerations into fishery management decisions, as appropriate (North Pacific Fisheries Management Council 2009). A central component of the plan to meet these goals is the "ecosystem considerations" chapter that accompanies the annual compilation of stock assessment documents (Boldt and Zador 2009). Here, relevant biophysical and ecological indicators are tracked. Stock assessments include specific consideration of ecosystem impacts of each fishery, and the annual catch limits (total allowable catch) are based on scientific advice that first estimates total allowable biological catch based on single-species perspectives that are then modified downwards to account for ecosystem considerations.

Perhaps the most effective element that will act to prevent ecosystem impacts is a precautionary strategy to setting harvest levels: presently most stocks are well above their reference points, and only a small number of fisheries are part of overfishing rebuilding plan (e.g. king crab). Most groundfish, including sablefish, are either near or well above biomass levels that would produce maximum sustainable yield (Worm *et al.* 2009). Across all groundfish stocks, exploitation rates are between 10 and 13 % (Mueter 2009), and that groundfish biomass is above the level that would produce total aggregate maximum sustainable yield (Mueter 2009).

**2.5.2 Trace References**
Mueter, F. 2009; Boldt, J. and Zador, S., 2009; Worm, B., et al., 2009.

| **2.5.3** | | |
|---|---|---|
| There is adequate knowledge of the impacts of the fishery on the ecosystem. | | |
| **SG 60** | **SG 80** | **SG 100** |
| Information is adequate to identify the key elements of the ecosystem (e.g. trophic structure and function, community composition, productivity pattern and biodiversity).<br><br>Main impacts of the fishery on these key ecosystem elements can be inferred from existing information, but have not been investigated in detail. | Information is adequate to broadly understand the functions of the key elements of the ecosystem.<br>Main impacts of the fishery on these key ecosystem elements can be inferred from existing information, but may not have been investigated in detail.<br><br>The main functions of the Components (i.e. target, Bycatch, Retained and ETP species and Habitats) in the ecosystem are known.<br><br>Sufficient information is available on the impacts of the fishery on these Components to allow some of the main consequences for the ecosystem to be inferred.<br><br>Sufficient data continue to be collected to detect any increase in risk level (e.g. due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the measures). | Information is adequate to broadly understand the key elements of the ecosystem.<br><br>Main interactions between the fishery and these ecosystem elements can be inferred from existing information, and have been investigated.<br><br>The impacts of the fishery on target, Bycatch, Retained and ETP species and Habitats are identified and the main functions of these Components in the ecosystem are understood.<br><br>Sufficient information is available on the impacts of the fishery on the Components and elements to allow the main consequences for the ecosystem to be inferred.<br><br>Information is sufficient to support the development of strategies to manage ecosystem impacts. |

**Score: 90**

**2.5.3 Scoring Rationale:**
Information on ecosystem structure and effects of halibut fishing therein derives from data collected as part of Alaska Fisheries Science Center trawl and longline surveys, an extensive annual food habits collection program that dates to the 1980s , assessments for all main retained and discarded species, and monitoring of susceptible and vulnerable seabird populations. Moreover, ongoing research has been synthesizing this information via quantitative modeling (Aydin *et al.* 2008; Gaichas and Francis 2008) and via comparative analyses (Gaichas *et al*. 2009, Link *et al*. 2009). Ecosystem indicators are tracked annually and reported in the Ecosystem Considerations appendix of the Stock Assessment and Fishery Evaluation (SAFE) report (Boldt and Zador 2009.

Key limitations in the knowledge are imprecise estimates of total impacts to non-target species and their ecological roles. Effects of the fishery on biogenic structures are not precisely determined, and any secondary effects that these may induce are also not well known. The absence of an observer program implies that any increased risk due to changes in incidental catch may not be recognized until the ecosystem responses (as represented through ecosystem indicators) respond.

On the whole, there is a relatively high amount of information on the ecosystems in which this fishery operates and on the main impacts that the fishery might have. While we do not conclude that this information is perfect we view it to be sufficient to permit the identification of profound ecological effects of this fishery on the ecosystem.

**2.5.3 Trace References**
Boldt, J. and Zador, S. 2009; Link, J.S., et al., 2009; Gaichas, S., et al., 2009.

### 11.3 MSC Principle 3

**The fishery is subject to an effective management system that respects local, national and international laws and standards and incorporates institutional and operational frameworks that require use of the resource to be responsible and sustainable.**

| **3.1.1** | | |
|---|---|---|
| The management system exists within an appropriate and effective legal and/or customary framework which ensures that it:<br>- Is capable of delivering sustainable fisheries in accordance with MSC Principles 1 and 2;<br>- Observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and<br>- Incorporates an appropriate dispute resolution framework. | | |
| **SG 60** | **SG 80** | **SG 100** |
| The management system is generally consistent with local, national or international laws or standards that are aimed at achieving sustainable fisheries in accordance with MSC Principles 1 and 2.<br><br>The management system | The management system incorporates or is subject by law to a transparent mechanism for the resolution of legal disputes which is considered to be effective in dealing with most issues and that is appropriate to the context of the fishery. | The management system incorporates or is subject by law to a transparent mechanism for the resolution of legal disputes that is appropriate to the context of the fishery and has been tested and proven to be effective.<br><br>The management system or |

| | | |
|---|---|---|
| incorporates or is subject by law to a mechanism for the resolution of legal disputes arising within the system.<br><br>Although the management authority or fishery may be subject to continuing court challenges, it is not indicating a disrespect or defiance of the law by repeatedly violating the same law or regulation necessary for the sustainability for the fishery.<br><br>The management system has a mechanism to generally respect the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2. | The management system or fishery is attempting to comply in a timely fashion with binding judicial decisions arising from any legal challenges.<br><br>The management system has a mechanism to observe the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2. | fishery acts proactively to avoid legal disputes or rapidly implements binding judicial decisions arising from legal challenges.<br><br>The management system has a mechanism to formally commit to the legal rights created explicitly or established by custom on people dependent on fishing for food and livelihood in a manner consistent with the objectives of MSC Principles 1 and 2. |

**Score: 95**

### 3.1.1 Scoring Rationale:

The North Pacific Halibut Act[1] and the Magnuson-Stevens Act[2] (MSA), in combination with other laws, currently form the legal framework governing management of the Pacific halibut fishery in the US. The North Pacific Halibut Act of 1982 implements the Convention for the Preservation of the Halibut Fishery of the Northern Pacific Ocean and Bering Sea between Canada and the US.[3] The Convention established the International Fisheries Commission, now known as the International Pacific Halibut Commission (IPHC). The Halibut Act provides for the appointment of US Commissioners[4] to the IPHC, specifies the responsibilities of that the US Secretary of Commerce has for carrying out the treaty, and provides for the regulation of the US portion of fishery by the North Pacific and Pacific Fishery Management Councils.

[1] 16 U.S.C. §§ 773-773k.

[2] Public Law 94-265 as contained in 16 U.S.C. 38).

[3] The Convention (available at http://www.iphc.washington.edu/halcom/history/1923us.htm) was first signed in 1923, subsequently modified by the parties in 1930, 1937 and 1953, and added a protocol to the Convention in 1979. Much of the original wording and intent of the treaty remains in effect. The Convention mandates the IPHC to conduct research on and 'make recommendations as to the regulation of the halibut fishery of the North Pacific Ocean, including the Bering Sea, which may seem desirable for its preservation and development.' (http://www.iphc.washington.edu/halcom/about.htm).

[4] The three US Commissioners consist of an official of NOAA, and two persons who are knowledgeable or experienced concerning the fishery, with one an Alaskan resident and one an Alaska nonresident. At least one of the three Commissioners has to be a voting member of the North Pacific Fishery Management Council.

The Commission submits its recommended regulatory measures to the two governments for approval and fishers of both nations are required to observe the approved regulations. The IPHC recommends regulations for halibut fishing in 10 areas of the EEZs of Canada and the US.[5] Although the IPHC technically recommends regulations, both governments usually – with only a few exceptions – approve and implement the recommended regulations. Some of the IPHC regulations apply generally to all halibut fishers; and other regulations apply specifically to commercial fishers, sport fishers, US Treaty Indian Tribes, Canadian Aboriginal groups, and those engaged in customary and traditional fishing. For 2010, the IPHC set total catch limits for each area, daily bag limits for sport fishing, and specified periods in which fishing is allowed, closed areas, limits on fish size, gear restrictions, and others (IPHC 2010).[6]

The MSA created eight regional fishery management councils, including the North Pacific Fishery Management Council and Pacific Fishery Management Council that produce fishery management plans that govern fishing operations in the Pacific halibut fishery. First passed in 1976, Congress further strengthened the ability of the MSA to rebuild overfished fisheries, protect essential fish habitat, and reduce bycatch with a set of amendments in 1996. As reauthorized by Congress in 2007, the MSA now requires the use of annual catch limits[7], accountability measures to end overfishing,[8] and provides for widespread use of limited access privilege programs (such as the halibut IFQ programs that is the focus of this report).

The 2007 amendments to the Magnuson-Stevens Fishery Conservation and Management Act requires fishery management plans to establish mechanisms for specifying annual catch limits at levels such that overfishing does not occur. Additionally, the act calls for measures to ensure accountability with these limits, and that the limits do not exceed the scientific recommendations made by the Regional Fishery Management Councils' scientific committees.

The Marine Mammal Protection Act (MMPA),[9] the Endangered Species Act (ESA),[10] the Migratory Bird Treaty Act, National Environmental Policy Act (NEPA),[11] Administrative Procedures Act (APA),[12] and other treaties, laws, and policies also are critical elements in the framework that governs the management system for

[5] Area 2A is off the coasts of Washington, Oregon and California, Area 2B off the Coast of British Columbia, and the other eight areas (Areas 2C, 3A 3B, 4A, 4B, 4C, 4D, 4E) are off the coast of Alaska.

[6] Other regulations include fishing period limits, procedures for the careful release of halibut, vessel clearance in Area 4, fishing logs, receipt and possession of halibut, fishing in multiple areas, supervision of unloading and weighing of halibut, retention of tagged halibut, and fishing by US Treaty Indian Tribes, customary and traditional fishing in Alaska, and fishing by Aboriginal groups in British Columbia.

[7] Annual catch limits are amounts of fish that are allowed to be caught in a year (National Standard Guidelines, 50 CFR 600.310 (f)).

[8] Accountability measures are management controls to prevent catches from exceeding the annual catch limit, and to correct or mitigate overages if they occur (National Standard Guidelines, 50 CFR 600.310 (g)).

[9] The MMPA protects marine mammals by prohibiting take of marine mammals in U.S. waters and by U.S. citizens on the high seas, and the importation of marine mammals and marine mammal products into the U.S.

[10] The ESA conserves species that are in danger of extinction.

[11] NEPA requires Federal agencies to integrate environmental values into their decision-making processes by considering the environmental impacts of their major proposed actions.

[12] The APA insures that the public is kept informed of the organization, procedures, and rules of Federal agencies, provides for public participation, and prescribes uniform standards.

the Alaskan halibut fishery.[13] The US laws are fully consistent with and supportive of several international laws and agreements related to fisheries management.[14] The policies and practices based on these legal foundations constitute an appropriate and effective legal framework for delivering sustainable fisheries in accordance with MSC Principles 1 and 2.

Two regional councils, the North Pacific Fishery Management Council (NPFMC) and the Pacific Fishery Management Council (PFMC), play an active role in the management of Pacific halibut. The Halibut Act allows the two Fishery Management Councils to develop regulations, including limited access regulations, that do not conflict with the regulations adopted by the Commission (16 U.S.C. §§ 773c, (c)). Although neither Council has developed a Pacific halibut fishery management plan, each Council has approved provisions that supplement IPHC regulations. Their principal actions to date have centered on allocating the IPHC's area-based catch limits to commercial, sport, tribal, and community user groups.

### *NPFMC*

The NPFMC developed and approved an individual fishing quota program – implemented in 1995 – for the commercial Pacific halibut fishery to allocate portions of the IPHC's catch limits in the regulatory areas off Alaska (Pautzke and Oliver 1997). For regulatory Area 4 (the Bering Sea and Aleutian Islands), the NPFMC has approved a Catch Sharing Plan (CSP)[15] that allocates a percentage of the Pacific halibut quota to six Community Development Quota groups.[16] For regulatory Areas 2C and 3A (in the Gulf of Alaska), the NPFMC approved a CSP in 2008, which would allocate percentage shares of a total catch limit for each Subarea between commercial and sport charter fisheries. The CSP has not yet been implemented, however. In regulatory Areas 2C and 3A, the sport charter fishery operates under a Guideline Harvest Level (GHL), which is a target catch limit often exceeded in recent years. The NPFMC approved, and NOAA Fisheries has implemented, a limited access program for sport charter fishing in Areas 2C and 3A. The program sets a limit on the total number of sport charter permits, which are transferable, to control the expansion of this fishery. Combined with daily bag limits, the limit on sport charter operations are the principal means for controlling sport charter catches.

### *PFMC*

In addition to the IPHC regulations, the PFMC developed and approved a catch sharing plan for halibut that allocates the IPHC's catch limit for Area 2A (waters off Washington, Oregon, California) among all user groups (non-Treaty Indian commercial and sport users, and Treaty Indian commercial, ceremonial and

[13] Including the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), Convention on the Conservation and Management of Pollock Resources in the Central Bering Sea, Coastal Zone Management Act, Fur Seal Act, and Fish and Wildlife Coordination Act.

[14] These include the Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas, an integral part of the FAO Code of Conduct for Responsible Fisheries (implemented in the US through the High Seas Fishing Compliance Act (16 U.S.C. 5501 *et seq.*), the UN Straddling and Highly Migratory Fish Stocks Agreement, the Convention on Biological Diversity, and the Convention for the Conservation of Anadromous Stocks in the North Pacific Ocean, the basic instrument for the North Pacific Anadromous Fish Commission, which serves as a forum for promoting the conservation of anadromous stocks and ecologically-related species, including marine mammals, sea birds, and non-anadromous fish, in the high seas area of the North Pacific Ocean (Cialino 2010).

[15] Available at http://alaskafisheries.noaa.gov/npfmc/current_issues/halibut_issues/Area4CSP605.pdf.

[16] The CDQ allocations of halibut are available at http://alaskafisheries.noaa.gov/ram/ifqreports.htm#qspools.

subsistence users).[17] The IPHC regulations control catches in the Area 2 Pacific halibut non-Treaty Indian fisheries with a limited number of 10-hour fishing periods for the directed commercial halibut fishery, and limited fishing periods, combined with the daily bag limits, to control sport catches.[18]

There are four scoring issues to be considered for performance indicator 3.1.1: (1) whether an appropriate legal and effective legal and/or customary framework is present that is capable of delivering sustainable fisheries in accordance with MSC's Principles 1 and 2; (2) whether there is a transparent and effective dispute mechanism in place; (3) whether the management system acts to avoid legal disputes or rapidly implements judicial decisions; and (4) whether the management system observes the legal rights created of people dependent on fishing for food or livelihood.

The evidence above clearly demonstrates that the management framework in place has all the essential elements necessary for delivering sustainable fisheries in accordance with MSC's Principles 1 and 2. There are formal laws and regulations and organizational arrangements in place that result in a coherent, logical rule-making process. As explained below, the existing management framework focuses on long-term management concerns as well as on short-term issues, and has established practices and procedures to managing risk and uncertainty. The fishery management council system is highly transparent and open to scrutiny and review, and adapts to new information in systematic ways.

The management system resolves most disputes within its highly participatory, open, and transparent structure and processes. Section 302 of the MSA, and the APA, mandate the Regional Fishery Management Councils follow specific procedures for discussing and resolving disputes on fisheries policy. Dissatisfied parties affected by Council and NMFS decisions can appeal the decision to the Appeals Office in the NMFS Alaska Regional Office, which adjudicates appeals of initial administrative determinations made under the authority of 50 C.F.R. Part 679 and Part 680.[19] The jurisdiction of the Appeals Office's includes the Individual Fishing Quota (IFQ) Program for Pacific halibut and sablefish, the Western Alaska Community Development Program, and other management programs.

These dispute resolution mechanisms have proven to be effective at dealing with most issues, avoiding legal disputes, and are appropriate for the context of the halibut fishery. In cases where the Council processes have not resolved disputes, the parties involved can and do, by law, resolve the disputes in the federal court system.[20] There is ample evidence (c.f. NAPA 2002) that the management system attempts to comply with binding judicial decisions; however, it is not clear whether and to what extent the system 'acts proactively to avoid legal disputes' as required by SG100.

The fishery management system explicitly recognizes and accounts for the rights of people dependent on marine fishing in the form of the Western Alaska Community Development Quota Program and a subsistence halibut fishery in waters in and off Alaska. As authorized and governed by the MSA as amended in 2006, the CDQ Program receives annual allocations of quota for groundfish, halibut, crab, and prohibited species in the Bering Sea and Aleutian Islands Management Area to allow these communities to 'start and support regionally based, commercial seafood or other fisheries-related

[17] The PFMC's catch sharing plan is available at http://www.nwr.noaa.gov/Groundfish-Halibut/Pacific-Halibut/Index.cfm.

[18] PFMC Fact Sheet 'Backgrounder: Pacific Halibut', available at http://www.pcouncil.org/resources/fact-sheets/.

[19] A chief administrative judge, one administrative judge, an appeals specialist and an administrative assistant staff the Appeals Office.

[20] NAPA (2002, 2005) provides an account and analysis of many of the legal disputes litigated in the federal court system.

businesses' (Section 305(i)(1) of the MSA).[21] Implemented in 2003, the subsistence halibut fishery allows rural and Alaska native persons to 'practice the long-term customary and traditional harvest of Pacific halibut for food in a non-commercial manner'.[22]

The management system satisfies all of the conditions for SG 80, and nearly all for SG 100. The management system, specifically NMFS, is reforming its institutional arrangements to reduce the burden of legal disputes and expedite the implementation of binding judicial decisions from legal challenges (NAPA 2005). Since there is no evidence that the system proactively acts to avoid legal disputes, this indicator gets a score of 95.

### 3.1.1 Trace References

Cialino, K., 2010; Clark, W. and Hare, S., 2006, IPHC, 2007; NAPA, 2002; NAPA, 2005.

## 3.1.2

The management system has effective consultation processes that are open to interested and affected parties.

The roles and responsibilities of organizations and individuals who are involved in the management process are clear and understood by all relevant parties.

| SG 60 | SG 80 | SG 100 |
|---|---|---|
| Organizations and individuals involved in the management process have been identified. Functions, roles and responsibilities are generally understood.<br><br>The management system includes consultation processes that obtain relevant information from the main affected parties, including local knowledge, to inform the management system. | Organizations and individuals involved in the management process have been identified. Functions, roles and responsibilities are explicitly defined and well understood for key areas of responsibility and interaction.<br><br>The management system includes consultation processes that regularly seek and accept relevant information, including local knowledge. The management system demonstrates consideration of the information obtained.<br><br>The consultation process provides opportunity for all interested and affected parties to be involved. | Organizations and individuals involved in the management process have been identified. Functions, roles and responsibilities are explicitly defined and well understood for all areas of responsibility and interaction.<br><br>The management system includes consultation processes that regularly seek and accept relevant information, including local knowledge. The management system demonstrates consideration of the information and explains how it is used or not used.<br><br>The consultation process provides opportunity and encouragement for all interested and affected parties to be involved, and facilitates their effective engagement. |

**Score: 95**

[21] For more information on the CDQ program see NRC (1999) and the websites by the NPFMC (http://www.fakr.noaa.gov/npfmc/current_issues/CDQ/CDQ.htm), the NMFS Alaska Regional Office (http://www.fakr.noaa.gov/cdq/default.htm), and the Western Alaska Community Development Association (http://www.wacda.org/).

[22] Federal Register Vol 68, No 72, April 15, 2003; p. 18145. Also see http://www.fakr.noaa.gov/ram/subsistence/faq.htm and 50 CRF Part 300, 600 and 679, which contain regulations relating to subsistence halibut fishing in Alaska.

### 3.1.2 Scoring Rationale:

Under Article III of the Halibut Convention, the Commissioners of the IPHC are authorized to submit fishery management regulations to the two governments for approval.[23] The Commissioners annually review the regulatory proposals made by the scientific staff and consider proposals from the industry, the Conference Board, and the Processors Advisory Group. The Conference Board (representing Canadian and American commercial, sport, subsistence, and first nations/native American harvesters) and the Processor Advisory Group (representing halibut processors) offer fishers' and processors' perspectives on the regulatory proposals presented at IPHC annual meetings. Union and vessel owner organizations from both nations select members of the Board.

The MSA (Section 302(g)) directs each Fishery Management Council to 'establish, maintain, and appoint members to committees and advisory panels', and specifies the roles and responsibilities of the individuals involved in the management process. The NPFMC and PFMC consult with a variety of interested and affected parties through its committees, advisory panels, plan teams, and workgroups (NPFMC 2008, PFMC 2004). In response to Executive Order 13175, NMFS and the NPFMC have developed a formal framework for consultation and collaboration with Alaska Native representatives in the development of policies, legislation, regulations, and programs.[24] The FMPs for GOA and BSAI groundfish include the objective to increase Alaska Native consultation by collecting and incorporating local and traditional knowledge, and increase Alaska Native participation and consultation in fishery management. One of the eight appointed members of the PFMC is from an Indian tribe with federally recognized fishing rights from California, Oregon, Washington, or Idaho (PFMC 2004). In addition, one of the PFMC's Ad-Hoc committees is the Coastal Pelagic Species Tribal Allocation Committee. By law, all Councils must conduct public hearings "to allow all interested persons an opportunity to be heard in the development of fishery management plans and amendments" (16 USC 38 Section 1852(h)).

The fishery management system for Alaska halibut has effective consultative processes that are open to all parties, provides clear guidance to organizations and individuals involved in the management process (NPFMC 2008), with their roles and responsibilities explicitly defined for key areas of responsibility and interaction. The processes, which include regular meetings of the consultative groups and widely distributed documents, regularly seek and accept relevant information, including local knowledge. The system exhibits consideration of the information and explains how it is used, but not necessarily how it is not used.

The evidence indicates that the fishery management system satisfies all of the conditions for SG 80 and some of the conditions for SG 100. Therefore, this indicator receives a score of 95.

### 3.1.2 Trace References

NPFMC, 2008; PFMC, 2004; Pautzke, C.G. and Oliver, C.W., 1997.

[23] The US Secretary of Commerce may accept or reject the Commission's recommended regulations. However, the Secretary has the legal obligation to carry out the terms of the Convention.

[24] Specific information on this effort is available on the NMFS Alaska Regional Office website on Tribal Consultation in Alaska (http://alaskafisheries.noaa.gov/tc/).

| 3.1.3 | | |
|---|---|---|
| The management policy has clear long-term objectives to guide decision-making that are consistent with MSC Principles and Criteria, and incorporates the precautionary approach. | | |
| **SG 60** | **SG 80** | **SG 100** |
| Long-term objectives to guide decision-making, consistent with MSC Principles and Criteria and the precautionary approach, are implicit within management policy. | Clear long-term objectives that guide decision-making, consistent with MSC Principles and Criteria and the precautionary approach, are explicit within management policy. | Clear long-term objectives that guide decision-making, consistent with MSC Principles and Criteria and the precautionary approach, are explicit within and required by management policy |

**Score: 100**

**3.1.3 Scoring Rationale:**

According to Leaman (2010), the IPHC has used a Slow Up Fast Down (SUFD) policy since 2001 to set annual harvest limits. Harvest limits are based on a constant exploitation yield (CEY) of 20% of the exploitable biomass when the estimated spawning biomass is above 30% of the unfished level; and that linearly declines towards zero as the estimated spawning biomass approaches 20% of the unfished level. The harvest policy is designed to avoid rapid increases or decreases in catch limits (Hare and Clark 2007). The SUFD policy sets the harvest limits as follows: When the fishery's CEY is above the previous year's harvest limit, 33.3% of the increase is allowed; and when the fishery's CEY is below the previous year's catch limit, 50% of the decrease is allowed.[25] In other words, the harvest limit is more responsive to estimated decreases in biomass than to estimated increases. This asymmetric policy follows the Precautionary Approach (Hare and Clark 2007, Hare 2010).

The MSA specifies the long-term objectives (especially National Standards 1, 8, 9) and establishes a formal set of processes for setting short-term objectives and management measures to achieve the long-term objectives. The National Standards Guidelines (50 C.F.R. 600.310 et seq.) direct the authorities that develop and approve Fishery Management Plans to apply the precautionary approach when setting control rules in a fishery. The Guidelines describe how to address uncertainty such that there is a low risk that limits are exceeded, and mandate that 'Control rules should be designed so that management actions become more conservative as biomass estimates, or other proxies, for a stock or stock complex decline and as science and management uncertainty increases' (50 CFR 600.310, National Standard 1). The policies, regulations and implementing guidelines explicitly mandate the application of the precautionary approach as defined and described by the international scientific community (FAO 1996).

The evidence indicates that the fishery management system clearly satisfies all of the conditions for SG 100.

**3.1.3 Trace References**

FAO, 1996; Hare, 2010; IPHC, 2010; Leaman, B., 2010.

| 3.1.4 |
|---|
| The management system provides economic and social incentives for sustainable fishing and does not operate |

[25] Leaman (2010) says that 'Many agencies utilize such a phased approach to changes in catch limits among years, often with limits on the maximum amount of change (e.g., the Common Fishery Policy of the European Union), however the Commission's policy is the only asymmetric policy I am aware of.'

| with subsidies that contribute to unsustainable fishing. | | |
|---|---|---|
| **SG 60** | **SG 80** | **SG 100** |
| The management system provides for incentives that are consistent with achieving the outcomes expressed by MSC Principles 1 and 2. | The management system provides for incentives that are consistent with achieving the outcomes expressed by MSC Principles 1 and 2, and seeks to ensure that negative incentives do not arise. | The management system provides for incentives that are consistent with achieving the outcomes expressed by MSC Principles 1 and 2, and explicitly considers incentives in a regular review of management policy or procedures to ensure that they do not contribute to unsustainable fishing practices. |

**Score: 85**

**3.1.4 Scoring Rationale:**

The US fisheries management system provides economic and social incentives for sustainable fishing as part of fishery rationalization (for example, individual fishing quotas, catch shares, limited access) and cost-recovery programs. The NPFMC developed and approved an individual fishing quota (IFQ) program for the commercial halibut and sablefish longline fisheries off Alaska that was implemented in 1995. The evidence indicates that the incentives under the IFQ program are consistent with achieving the outcomes expressed by MSC Principles 1 and 2.

According to Knapp (1997), the IFQ program 'dramatically changed the Alaska halibut fishery.' Before 1995 thousands of fishing vessels required only two or three 24-hour openings to catch the entire halibut quota set by the IPHC. After the IFQ program was implemented, the season expanded to nine months (March until November), the average crew size on vessels decreased, the product changed from primarily frozen to primarily fresh, ex-vessel prices increased, and safety at-sea improved.

The cost recovery program for the IFQ program ensures that fishing operations pay at least some of the costs of management and enforcement. The MSA (Section 304(d)(A)) requires that the NMFS cover the actual costs of managing and enforcing the Halibut and Sablefish IFQ program. The costs are the *incremental costs* of the program – the 'costs that would not have been incurred but for the IFQ Program. These costs amounted to $2.7 million in 2007 and $3.5 million in 2008. Approximately 2,400 IFQ permit holders pay a fee that can be no more than three percent of the annual ex-vessel value of the fish harvested under the program. Of the funds collected, 25% are deposited in the US Treasury and 75% are used only on IFQ program management and enforcement. The 2009 cost recovery fee was set at 1.6 percent of the 2009 ex-vessel value to cover the costs associated with management and enforcement of the IFQ Program in 2008. Two-thirds of the costs are attributed to NMFS Enforcement services, 11% to NMFS RAM, 9% to IPHC, with the balance (13%) scattered among five other sets of services. Personnel accounted for the largest component of costs at 73%, with the balance (27%) distributed almost evenly among five other categories. (RAM 2008)

In addition, the US implemented the National Plan of Action for Reducing the Incidental Catch of Seabirds in Longline Fisheries in 2001 that applies management measures to mitigate the incidental catch or bycatch and entanglement of seabirds. In Alaska, the fisheries management system has implemented measures to manage the ecological impacts of all hook-and-line fishing operations (including halibut) in the GOA and BSAI. To minimize the take of seabirds, the use of seabird avoidance devices (tori lines) are required by hook-and-line fishing vessels in areas where seabird interactions occur.26 According to the client (FVOA), tori lines are the only effective way to minimize seabird entanglement by hook-and-line fishing vessels. These measures have resulted in a significant decrease in seabird bycatch in recent years (Hanselman, et al. 2009).

[26] See http://www.fakr.noaa.gov/protectedresources/seabirds/guide.htm for details on the Seabird Bycatch Reduction Program.

The management measures in place for the sport fishing sector of the fishery do not, however, provide positive incentives for sustainable fishing. The daily bag limits and the limit on the number of sport charter permits do not provide incentives for the sector to maintain catches within the GHL (guideline harvest limit). As noted above, the sport fishery frequently exceeded the GHL in recent years. Also, as noted by a peer reviewer, the management system does not incentivize non-target vessels to minimize/avoid the bycatch of halibut.

Although Alaska fisheries receive some subsidies (Sharp and Sumaila 2009) none appear to affect operations in the halibut fishery. It is not clear whether the US fisheries management system has a policy or program in place to ensure that subsidies and other negative incentives do not contribute to unsustainable fishing practices.

Although the evidence indicates that the fishery management system satisfies all of the elements for SG 80 it does not fully satisfy the elements for SG 100. The management system has attempted to rationalize the sport charter sector – and thereby implement incentives to stay within the GHL – but has failed to do so as of this date. For this reason the score of 85 is given.

### 3.1.4 Trace References

Hanselman, D., et al., 2009; Knapp, G., 1997; RAM, 2009; Sharp, R. and Sumaila, U.R., 2009.

## 3.2.1

The fishery has clear, specific objectives designed to achieve the outcomes expressed by MSC's Principles 1 and 2.

| SG 60 | SG 80 | SG 100 |
|---|---|---|
| Objectives, which are broadly consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are implicit within the fishery management system. | Short and long term objectives, which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are explicit within the fishery management system. | Well defined and measurable short and long term objectives, which are demonstrably consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are explicit within the fishery management system. |

**Score: 90**

### 3.2.1 Scoring Rationale:

Article III of the Convention mandates the IPHC to 'make recommendations as to the regulation of the halibut fishery of the North Pacific Ocean, including the Bering Sea, which may seem desirable for its preservation and development'. The IPHC achieves this objective with its precautionary harvest policy (see 3.1.3, above). As explained in 3.1.1, above, the 1982 Halibut Act provides for the regulation of the US portion of fishery by the North Pacific and Pacific Fishery Management Councils. The PFMC manages the Commission's annual harvest limit for Area 2A under a catch sharing plan (see 3.1.1, above).

In addition to its catch sharing plan and IFQ program for halibut, the NPFMC has developed two management plans, the GOA and BSAI groundfish FMPs, that set supplemental management measures for Alaska halibut, and contain 46 short- and long-term objectives grouped into nine categories: (1) Prevent Overfishing; (2) Promote Sustainable Fisheries and Communities; (3) Preserve Food Web; (4) Manage Incidental Catch and Reduce By-Catch and Waste; (5) Avoid Impacts to Seabirds and Marine Mammals; (6) Reduce and Avoid Impacts to Habitat; (7) Promote Equitable and Efficient Use of Fishery Resources; (8) Increase Alaska Native Consultation; (9) Improve Data Quality, Monitoring and Enforcement. These objectives are well-defined and

measurable, consistent with achieving the outcomes expressed in MSC Principles 1 and 2, and are explicit within the fishery management system. The annual SAFE reports, and other assessments, provide measures of the extent to which the specific objectives are being achieved.

Although the Commission has an outstanding record of preserving the Pacific halibut resource, its objectives are not especially well defined and, hence, not measurable. Therefore, we conclude that the fishery management system satisfies all of the conditions for SG 80, and part of the conditions for SG 100, which yields a score of 90.

**3.2.1 Trace References**
NPFMC, 2009a; NPFMC, 2009b

| **3.2.2** | | |
|---|---|---|
| The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives. | | |
| **SG 60** | **SG 80** | **SG 100** |
| There are informal decision-making processes that result in measures and strategies to achieve the fishery-specific objectives.<br><br>Decision-making processes respond to serious issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take some account of the wider implications of decisions. | There are established decision-making processes that result in measures and strategies to achieve the fishery-specific objectives.<br><br>Decision-making processes respond to serious and other important issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions.<br><br>Decision-making processes use the precautionary approach and are based on best available information.<br>Explanations are provided for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity. | There are established decision-making processes that result in measures and strategies to achieve the fishery-specific objectives.<br><br>Decision-making processes respond to all issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions.<br><br>Decision-making processes use the precautionary approach and are based on best available information.<br><br>Formal reporting to all interested stakeholders describes how the management system responded to findings and relevant recommendations emerging from research, monitoring, evaluation and review activity. |

**Score: 95**

**3.2.2 Scoring Rationale:**

As explained above (3.1.2, 3.1.3, 3.2.1), the IPHC and the Pacific and North Pacific Fishery Management Councils have clearly demonstrated that there are established and effective decision-making processes that result in measures and strategies to achieve fishery-specific objectives.

The IPHC has an established decision-making process for setting annual catch limits and other measures for the management of the North Pacific halibut fishery. Both the NPFMC and the PFMC have established decision-

making processes that has produced management measures and strategies to achieve specific objectives for their halibut fisheries. The NPFMC decision-making processes, as specified in the MSA, and APA, have produced two fishery management plans for the long-line fishery (including halibut) in the Gulf of Alaska and in the Bering Sea and Aleutian Islands. The plans contain a suite of management regulations to achieve the objectives. Both Councils have developed catch sharing plans to distribute the IPHC total harvest limits among various user groups.

The decision-making processes the Councils follow have a proven record of responding to serious and other important issues that are identified by research, monitoring, evaluation studies, and by consultations with stakeholders and other interested parties. The decision-making process relies heavily on the Council's Scientific and Statistical Committee, Advisory Panels, Plan Teams, Workgroups, and regular public hearings to identify issues of concern for fishery managers to address. All of these groups meet regularly and reports the serious and important issues to the Council for consideration in its decision-making deliberations. As mandated by the MSA, and APA, the processes must be open and transparent, with supporting documents, minutes of meetings, and testimony published on the Council's website.

There are three key steps in the decision-making process that produces the management plans and regulations to achieve the objectives: First, a Council develops a fishery management plan employing processes that proactively identify the issues and examines the implications of the proposed regulations may have beyond the fishery (other fisheries, the ecosystem, coastal communities, etc.). Second, the Secretary of Commerce evaluates the proposed plan, its wider implications, and whether it is consistent with all relevant laws. Third, NMFS, the US Coast Guard and their partners implement the provisions of the plan.

Adaptive management of fisheries and other natural resources is a well-established practice at all levels of government in the US. For marine resources, the President's Interagency Ocean Task Force produced several recommendations, since incorporated in Executive Order 13547, to apply ecosystem-based management and adaptive management to address ocean resource challenges (CEQ 2010). For marine fisheries specifically, the National Standards Guidelines for Standard 2 require that Fishery Management Councils amend FMPs 'as new information indicates the necessity for change in objectives or management measures' (Sec. 600.315(d)) and 'prepare and review annually a Stock Assessment and Fisheries Evaluation (SAFE) report for each fishery management plan' (Sec. 600.315(e)). SAFE reports contain information on the most recent condition of fish stocks, ecosystems, and the social and economic status of user groups.

The Councils follow the National Standards Guidelines (50 C.F.R. 600.310 et seq.) when developing fishery management measures. The Guidelines for National Standard 1 instruct each Council and NMFS to apply the precautionary approach when setting control rules in a fishery. The Councils also are subject to National Standard 2 of the MSA, which mandates that 'conservation and management measures shall be based on the best available scientific information' (50 CFR 600.315).

Each Council and its committees, panels, teams and advisory groups, often provide explanations for actions taken or not taken on findings and recommendations considered at their meetings. The explanations are provided orally, in the form of minutes, and in the case of proposed management alternatives, in Environmental Assessments, Regulatory Impact Reviews, and Regulatory Flexibility Analyses. In addition, replies to comments submitted in connection with proposed regulations are published in the Federal Register. The Councils and NMFS Regional Offices provide links to these documents on their websites.

This evidence demonstrates that the fishery-specific management system fully satisfies all of the conditions for SG 80 and most, but not all, of the conditions for SG 100.

### 3.2.2 Trace References

CEQ, 2010.

| 3.2.3 | | |
|---|---|---|
| Monitoring, control and surveillance mechanisms ensure the fishery's management measures are enforced and complied with. | | |
| **SG 60** | **SG 80** | **SG 100** |
| Monitoring, control and surveillance mechanisms exist, are implemented in the fishery under assessment and there is a reasonable expectation that they are effective.<br><br>Sanctions to deal with non-compliance exist and there is some evidence that they are applied.<br><br>Fishers are generally thought to comply with the management system for the fishery under assessment, including, when required, providing information of importance to the effective management of the fishery. | A monitoring, control and surveillance system has been implemented in the fishery under assessment and has demonstrated an ability to enforce relevant management measures, strategies and/or rules.<br><br>Sanctions to deal with non-compliance exist, are consistently applied and thought to provide effective deterrence.<br><br>Some evidence exists to demonstrate fishers comply with the management system under assessment, including, when required, providing information of importance to the effective management of the fishery.<br><br>There is no evidence of systematic non-compliance. | A comprehensive monitoring, control and surveillance system has been implemented in the fishery under assessment and has demonstrated a consistent ability to enforce relevant management measures, strategies and/or rules.<br><br>Sanctions to deal with non-compliance exist, are consistently applied and demonstrably provide effective deterrence.<br><br>There is a high degree of confidence that fishers comply with the management system under assessment, including, providing information of importance to the effective management of the fishery.<br><br>There is no evidence of systematic non-compliance. |

**Score: 85**

**3.2.3 Scoring Rationale:**

Enforcement authorities operate a comprehensive monitoring, control and surveillance (MCS) system in the Pacific halibut fisheries. The MSA charges two federal agencies with the authority to implement provisions of the Act: the National Marine Fisheries Service (NMFS) and the US Coast Guard. The Coast Guard enforces fisheries law and regulations at sea in conjunction with NOAA's Office of Law Enforcement and other federal, state, tribal, interstate and international organizations.[27] The State of Alaska Department of Public Safety (Wildlife Troopers, Marine Enforcement Section) also enforces federal regulations under the Magnuson-Stevens Fishery Conservation and Management Act and other laws[28] through a Joint Enforcement Agreement with NMFS (RAM 2009).

Little is known about MCS activities in Area 2A of the Pacific halibut fishery. There are no available reports on NMFS OLE or USCG patrols, inspections, violations, etc. specific to the fishery. The Oregon State Patrol, Fish and Wildlife Division, and the Washington Department of Fish and Wildlife Enforcement Program also enforce

[27] The Coast Guard and other enforcement authorities are also responsible for enforcing provisions of the MMPA, ESA, and international fisheries agreements.

[28] Other laws include the Endangered Species Act of 1973; the Lacey Act Amendments of 1981; and the Northern Pacific Halibut Act of 1982. Source: http://www.gov.state.ak.us/omb/11_omb/budget/PublicSafety/enacted/2011proj35825.pdf.

fisheries regulations under NMFS Joint Enforcement Agreements, but little is known about their activities in the Pacific halibut fishery of Area 2A.

***Ability to enforcement management regulations***

The Alaska Enforcement Division (AKD) of the NOAA Office of Law Enforcement (OLE), Alaska Wildlife Troopers (AWT) and the US Coast Guard (USCG) report the results of their MCS activities for the halibut and sablefish IFQ fisheries as a whole, since the boardings and other inspections are 'intended to ensure compliance with all IFQ and IPHC regulations and do not focus on collecting species-specific data' (RAM 2009, p. 39).

The enforcement program for the Alaska fishery has clearly demonstrated the ability to enforce the fishery's management regulations. In 2009, for example, the AKD and AWT inspected 663 of the 7355 offloads of IFQ and CDQ landings of halibut and sablefish.[29] During the past 5 years, 10% of all offloads of IFQ and CDQ halibut and sablefish have been inspected (AKD 2010). The inspections by AKD and AWT in 2009 resulted in 103 IFQ halibut, 20 charter halibut fishing, 15 sport halibut fishing, and 23 subsistence halibut fishing violations or suspected violations (ADK 2009).

The USCG, which focuses its MCS efforts at-sea, reports the results of its IFQ enforcement at-sea cutter and air patrols. For the period 2005-2009, the USCG conducted an average of 155 cutter and patrol boat days and 984 air patrol hours (RAM 2009). The patrols produced in average of 172 at-sea boardings of IFQ fishing vessels and resulted in an average of about 12 of the boardings involved violations or suspected violations (USCG 2010, Reichl 2009).

A serious shortcoming of the MCS program to date is the ability to monitor where halibut fishing takes place with vessel monitoring systems or monitor bycatch and discards of seabirds and other protected species. This is due to change in the near future. At its October 2010 meeting, the NPFMC approved a program that that will allow for placing observers and/or electronic monitoring devices on portions of the halibut fleet (Oliver 2010).

***Sanctions and deterrence***

Under the published policy for assessing civil penalties (GCEL 2010), there are three options available to an investigating agent for pursuing a violation of fisheries law and regulations. If a violation is not significant or is technical, the agent may issue a 'Fix-It Ticket' that allows the violator to correct the violation within a specified time period. For modestly significant violations, the agent may issue a 'Summary Settlement' notice, which allows the violator to pay a reduced penalty. Fix-It Ticket allowances and Summary settlement penalties follow the guidelines developed and published by NOAA's Offices of Law Enforcement and of General Counsel.[30]

For violations that are significant[31], or for repeat violators, the agent refers the case to the NOAA General Counsel's Office for Enforcement and Litigation (GCEL) for further action. Penalty schedules, which specify the civil penalties for violations of federal fisheries regulations, have been developed for each region's fisheries.[32] The penalty schedule Groundfish & Individual Fishing Quota Fisheries off The Coast of Alaska contains sanctions for various violations of halibut IFQ regulations.

As an example, the possession or sale of 300 to 1,500 pounds of IFQ halibut without an annual quota share carries a fine of $15,000 to $50,000, plus forfeiture or value of the illegal fish. For a person holding an IFQ, an

[29] An 'offload' is the removal of fish from a harvesting vessel to a specific buyer on a specific date and time.

[30] The Fix-IT Ticket and Summary Settlement Schedules are available at http://www.gc.noaa.gov/enforce-office3.html and at http://www.gc.noaa.gov/docs.html.

[31] The term 'significant' is related to the potential harm a violation may have on the resource (GCEL 2010).

[32] Available at http://www.gc.noaa.gov/enforce-office3.html.

overage during the final voyage of the year carries a civil penalty ranging from $1 - $6 per pound, plus forfeiture of the entire catch overage or its value.

By law, sanctions should be consistently applied, in other words comparable sanctions should be issued for comparable violations. There is no evidence either way whether or not sanctions are consistently applied in the Alaska Region; however, no complaints of inconsistent or arbitrary treatment by enforcement authorities have come to our attention.

For US federal fisheries as whole, a review of NOAA's fisheries enforcement program and operations found that fishers, particularly in the Northeast, perceive enforcement processes to be arbitrary and lack transparency, 'resulting in inconsistent penalties for similarly situated respondents' (OIG 2010). To overcome these concerns, NOAA recently issued a Draft Penalty Policy (GCEL 2010) for public comment.

Most observers of the fishery believe that the sanctions provide effective deterrence. Susan Auer, an attorney in the Alaska Regional General Counsel's Office, reported that there is very little recidivism – 'once charged, we don't see them again.' The evidence on non-compliance supports this claim.[33]

***Evidence on compliance;***

The observers we interviewed (the client, enforcement authorities, managers, researchers) confidently report high levels of compliance in the Alaska halibut fishery, and *some* evidence appears to confirm that halibut fishers generally comply with management measures in the fishery.

The evidence on non-compliance in the fishery consists of the number of violations and civil penalty cases relative to the number of inspections and boardings. Over the past five years the AKD and AWT have annually inspected an average of 738 offloads of IFQ and CDQ halibut and sablefish, which resulted in an annual average of 527 individual civil penalty cases with a total of 770 violations, including 207 IFQ or CDQ violations.

Two reports by AKD (2009, 2008) present a breakdown of the data on the numbers of cases with IFQ halibut and sablefish violations in 2008 and 2009. Of the average annual 655 total violations for these two years, 23% involved IFQ halibut, 3% charter halibut, 2% sport halibut, and 3% subsistence halibut. AKD (2009, 2008) also report the numbers of boardings and detected violations during the boardings broken down by halibut fishing categories. There was an average of 861 boardings for 2008 and 2009 by AKD and AWT that detected 131 violations or suspected violations, for an apparent non-compliance rate of 15%. IFQ/CDQ halibut fishing had an apparent non-compliance rate of 15%, sport halibut 16%, charter halibut 33%, and subsistence halibut 40%. Almost half of the violations (47%) involved violations of the GOA or BSAI groundfish FMP regulations.

Seven percent of the at-sea boardings of IFQ fishing vessels by the USCG detected violations over the period 2005-2009. As explained above, there is no breakdown among sablefish, halibut, and other types of violations (USCG 2010, Reichl 2009).

These 'apparent rates of non-compliance' suggest there are no serious concerns of widespread or systematic non-compliance in the Alaska halibut fishery.[34]

***Fishers providing information;***

[33] It should be noted, however, that King, et al. (2009) and Nordstrom, et al. (2006) criticize the effectiveness of the USCG fisheries enforcement program on a national scale.

[34] Unfortunately, the apparent rates of non-compliance used by enforcement authorities are not recognized as reliable measures of illegal behavior in fisheries (see King, et al. 2009; Nordstrom, et al. 2006, Sutinen, et al. 1990).

Regulations for the IFQ halibut fishery require that fishers maintain logbooks and regularly report their catches, landings, and other measures of fishing activity to NMFS. There is generally widespread compliance with the logbook requirement, with only a few violations of the requirement every year (AKD 2009).

In sum, there is ample evidence that the MCS program in Alaska waters satisfies all of the conditions for SG80 and, to a more limited extent, some of the conditions for SG 100. Unfortunately, there is no evidence on the MCS program for Area 2A of the Pacific halibut fishery. The score of 85 could be improved with (a) some evidence on MCS in Area 2A; (b) by more comprehensive analysis of data currently collected by enforcement authorities, and strategically allocating MCS resources to test and measure the program's ability to produce deterrence and compliance; and (c) the implementation of an observer program, now planned for 2013.

### 3.2.3 Trace References

AKD, 2008; AKD, 2009; GCEL, 2010; King, D., et al., 2009; Nordstrom, K.J., et al., 2006; OIG, 2010; Oliver, C., 2010; RAM, 2009; Reichl, R., 2009; Sutinen, J.G., et al., 1990; USCG, 2010.

| **3.2.4** | | |
|---|---|---|
| The fishery has a research plan that addresses the information needs of management. | | |
| **SG 60** | **SG 80** | **SG 100** |
| Research is undertaken, as required, to achieve the objectives consistent with MSC's Principles 1 and 2. Research results are available to interested parties. | A research plan provides the management system with a strategic approach to research and reliable and timely information sufficient to achieve the objectives consistent with MSC's Principles 1 and 2. Research results are disseminated to all interested parties in a timely fashion. | A comprehensive research plan provides the management system with a coherent and strategic approach to research across P1, P2 and P3, and reliable and timely information sufficient to achieve the objectives consistent with MSC's Principles 1 and 2. Research plan and results are disseminated to all interested parties in a timely fashion and are widely and publicly available. |

**Score: 90**

### 3.2.4 Scoring Rationale:

Article III of the Convention directs the Halibut Commission to conduct and coordinate scientific studies relating to the halibut fishery. In addition to assessment of stocks, the IPHC is currently involved in research on incidental catch and mortality, bycatch mortality, size distribution, development of halibut excluder devices, population structure and recruitment patterns, and decadal changes in growth and recruitment of Pacific halibut. The IPHC has an annual research budget of approximately US$4 million to carry out this research (IPHC 2009). The Commission employs a strategic approach to research to 'ask the right questions'; and using the results of the research to adapt regulations to the best scientific information available. As explained in IPHC (2008, pp 5-6), the research plan and results of the research are disseminated to all interested parties in a timely fashion and made widely available (in annual meeting documents and on the Commission's website).

The Alaska Fisheries Science Center of NMFS operates an active research program on halibut and related issues, such as seabirds bycatch by longline fishing vessels. Much of the research conducted on halibut and other species is guided by the research priorities (NPFMC 2010) promulgated by the NPFMC (which are required by the MSA).[35] The results of the research are timely in that they regularly feed into

[35] Details on the research program are available at http://www.afsc.noaa.gov/abl/MESA/mesa_sa_sable.php.

preparation of annual SAFE and other management reports, and they are widely disseminated on websites of the NPFMC, NMFS, and the Alaska Fisheries Science Center (http://www.afsc.noaa.gov). Similarly, the Northwest Fisheries Science Center of NMFS conducts some research on Pacific halibut bycatch and discards in Area 2A fisheries (c.f., Wallace and Hastie 2009). This and other research is in response to research priorities developed by the PFMC, and made available at meetings and on the Center's website (http://www.nwfsc.noaa.gov/).

The evidence indicates that the fishery management system satisfies all of the conditions for SG 80 and most of the conditions for SG 100. It is not clear whether all the research plans are sufficiently 'comprehensive', which, needless to say, is a value judgment.

**3.2.4 Trace References**
NPFMC, 2010c.

| **3.2.5** | | |
|---|---|---|
| There is a system for monitoring and evaluating the performance of the fishery-specific management system against its objectives.<br>There is effective and timely review of the fishery-specific management system. | | |
| **SG 60** | **SG 80** | **SG 100** |
| The fishery has in place mechanisms to evaluate some parts of the management system and is subject to occasional internal review. | The fishery has in place mechanisms to evaluate key parts of the management system and is subject to regular internal and occasional external review. | The fishery has in place mechanisms to evaluate all parts of the management system and is subject to regular internal and external review. |

**Score: 95**

**3.2.5 Scoring Rationale:**
The IPHC monitors the Pacific halibut fishery on an almost continuous basis, and annually evaluates the performance of the Commission's management measures. The analyses and measures are subjected to regular internal and external reviews.[36]

The NPFMC revised its groundfish management policy in 2004 after a review of its management program. The policy is explained in Chapter 2 of the GOA and BSAI groundfish FMPs, which include halibut long-line fishing. The policy involves 45 objective grouped into major goals. The status of work plan is updated and evaluated at each Council meeting.[37] Key parts of the management system are reviewed and evaluated on a regular basis. These are considered both internal and external since the review and evaluation is conducted at Council meetings, which are open and transparent, and involve numerous external participants.

The PFMC has incorporated in its official Operating Procedure (PFMC 2010, chapters 9 and 11) processes for identifying issues and, in response, developing fishery management plans and amendments to the plans that are initiated. Although there appears to be no formal centralized system for monitoring

[36] Reviewers comments are available in the materials circulated for the annual meetings (c.f., RARA 2008, available at http://www.iphc.int/index.php?option=com_content&view=article&id=102:rara-2008&catid=6:raras&Itemid=62).

[37] The February 2010 status report is available at http://www.fakr.noaa.gov/npfmc/Tasking.htm

and evaluating the fishery-specific management system, the system effectively achieves the same end through its use of advisory panels, public hearing, and meeting procedures.

It is not clear to the assessment team, however, that *all* parts of the system are reviewed and evaluated. Therefore, we conclude that the fishery management system nearly satisfies the elements for SG 100 and score this indicator at 95.

### 3.2.5 Trace References

PFMC, 2010; NPFMC, 2010d.

## 11.4 Certification Recommendations and Performance Scores

The fishery achieved a normalized score of 80 or above on each of the three MSC Principles independently (Principle 1 – 88.1, Principle 2 – 83.3, and Principle 3 – 93.0). Although the evaluation team found the fishery in overall compliance, it also found the fishery's performance on 5 indicators (2.2.1, 2.2.3, 2.3.1, 3.3.2, and 2.3.3) to be below the established compliance mark (an un-weighted score of 80 for a single indicator). In these specific cases, the MSC requires that the Certification Body set 'Conditions for Continued Certification' that when met bring the level of compliance for the select indicator up to the 80-level score. **Table 4** below shows the overall results of the evaluation for Principle 1, 2 and 3.

**Table 4**. Performance Indicator & Principle Scores

| Principle | Component | Wt (L2) | PI No. | Performance Indicator (PI) | Wt (L3) | Weight in Principle | Score | Contribution to Principle |
|---|---|---|---|---|---|---|---|---|
| One | Outcome | 0.5 | 1.1.1 | Stock status | 0.5 | 0.25 | 90 | 22.50 |
| | | | 1.1.2 | Reference points | 0.5 | 0.25 | 85 | 21.25 |
| | | | 1.1.3 | Stock rebuilding | | | N.A | |
| | Management | 0.5 | 1.2.1 | Harvest strategy | 0.25 | 0.125 | 85 | 10.63 |
| | | | 1.2.2 | Harvest control rules & tools | 0.25 | 0.125 | 90 | 11.25 |
| | | | 1.2.3 | Information & monitoring | 0.25 | 0.125 | 85 | 10.63 |
| | | | 1.2.4 | Assessment of stock status | 0.25 | 0.125 | 90 | 11.25 |
| Two | Retained species | 0.2 | 2.1.1 | Outcome | 0.333 | 0.0667 | 90 | 6.00 |
| | | | 2.1.2 | Management | 0.333 | 0.0667 | 90 | 6.00 |
| | | | 2.1.3 | Information | 0.333 | 0.0667 | 80 | 5.33 |
| | Bycatch species | 0.2 | 2.2.1 | Outcome | 0.333 | 0.0667 | 70 | 4.67 |
| | | | 2.2.2 | Management | 0.333 | 0.0667 | 80 | 5.33 |
| | | | 2.2.3 | Information | 0.333 | 0.0667 | 70 | 4.67 |
| | ETP species | 0.2 | 2.3.1 | Outcome | 0.333 | 0.0667 | 75 | 5.00 |
| | | | 2.3.2 | Management | 0.333 | 0.0667 | 75 | 5.00 |
| | | | 2.3.3 | Information | 0.333 | 0.0667 | 70 | 4.67 |
| | Habitats | 0.2 | 2.4.1 | Outcome | 0.333 | 0.0667 | 80 | 5.33 |
| | | | 2.4.2 | Management | 0.333 | 0.0667 | 90 | 6.00 |
| | | | 2.4.3 | Information | 0.333 | 0.0667 | 80 | 5.33 |
| | Eco-system | 0.2 | 2.5.1 | Outcome | 0.333 | 0.0667 | 90 | 6.00 |
| | | | 2.5.2 | Management | 0.333 | 0.0667 | 95 | 6.33 |
| | | | 2.5.3 | Information | 0.333 | 0.0667 | 90 | 6.00 |
| Three | Governance and policy | 0.5 | 3.1.1 | Legal & customary framework | 0.25 | 0.125 | 95 | 11.88 |
| | | | 3.1.2 | Consultation, roles & responsibilities | 0.25 | 0.125 | 95 | 11.88 |
| | | | 3.1.3 | Long term objectives | 0.25 | 0.125 | 100 | 12.50 |
| | | | 3.1.4 | Incentives for sustainable fishing | 0.25 | 0.125 | 85 | 10.63 |
| | Fishery specific management system | 0.5 | 3.2.1 | Fishery specific objectives | 0.2 | 0.1 | 90 | 9.00 |
| | | | 3.2.2 | Decision making processes | 0.2 | 0.1 | 95 | 9.50 |
| | | | 3.2.3 | Compliance & enforcement | 0.2 | 0.1 | 85 | 8.50 |
| | | | 3.2.4 | Research plan | 0.2 | 0.1 | 90 | 9.00 |
| | | | 3.2.5 | Management performance evaluation | 0.2 | 0.1 | 95 | 9.50 |

| **Overall weighted Principle-level scores** | | Average Scores |
|---|---|---|
| Principle 1 - Target species | Stock rebuilding PI not scored | 87.5 |
| Principle 2 - Ecosystem | | 80.3 |
| Principle 3 - Management | | 92.4 |

## 12. ACTION PLAN FOR MEETING CONDITIONS

The Client for this fishery assessment, the Fishing Vessel Owner's Association in conjunction with Eat on the Wild Side, has submitted an Action Plan for meeting all conditions and requirements under the MSC program. Where the action plan requires commitment from a government organization, the organization has been consulted and has signed off on the plan. The certifying body, Scientific Certification Systems and the assessment team reviewed the client action plan to determine whether the plan was sufficient to close all conditions within five years of MSC certification. The conditions for the US Pacific halibut fishery are all under Principle 2, ecosystem considerations. One action plan was submitted to close all five conditions.

# ACTION PLAN FOR MEETING THE CONDITIONS FOR

# CONTINUED CERTIFICATION

## Fishing Vessel Owner's Association

*PI 2.2.1: The fishery does not pose a risk of serious or irreversible harm to the bycatch species or species groups and dies not hinder recovery of depleted bycatch species or species groups.*

Condition 2.2.1
The fishery shall provide scientifically defensible and comprehensive evidence to the CB that all the main bycatch species are highly likely to be within biologically based limits by the third surveillance audit.

**2.2.1 Client Action Plan**

Eat on the Wild Side (FVOA and DSFU) as part of the action plan will provide a series of 9-month updates to SCS regarding the implementation process of the observer amendments recommended by the NPFMC.

The reports will include the specific design features and the sampling protocols that the NMFS observer program intends to implement; the methodology of choosing vessels for observation; rationale for length of observation per vessel and an analysis of costs of the program that are made available through regulatory implementation process. We are anticipating an initial information document that will specify the different bycatch species including sharks, skates, and birds. As new information is made available regarding sharks, skates and birds, we will incorporate that information in our reports.

We would propose that should the data indicate an additional bycatch beyond current assumptions for endangered species, such as albatross, or for a fin fish species that has been identified as being in critical condition, we would submit a suggested action to mitigate any adverse bycatch activities.

**2.2.1 Responsible Parties**

We have contacted the Executive Director of the North Pacific Fishery Management Council (NPFMC), Mr. Chris Oliver, and he has indicated he would assist in periodic updates for SCS. It is anticipated that there will be an initial observer report in the fall of 2014 produced by the NMFS observer program that would include the new bycatch data.

**2.2.1 Timeline for Progress**

This would result in four (4) updated reports by the client of the progress of implementation of the amendments to the NPFMC observer program. Each report will contain the specific information outlined in the client action plan section, above. The first observer update would be presented to SCS January of 2012; second updated November 1, 2012; third updated August of 2013; and a fourth April of 2014.

*PI 2.2.3: Information on the nature and amount of bycatch is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage bycatch*

Condition 2.2.3
Information shall be collected and provided to the CB by the third surveillance audit, to support a partial strategy to manage main bycatch species and sufficient data shall continue to be collected to detect any increase in risk to main bycatch species throughout the certification period.

**2.2.3 Client Action Plan**

Eat on the Wild Side (FVOA and DSFU) as part of the action plan will provide a series of 9-month updates to SCS regarding the implementation process of the observer amendments recommended by the NPFMC.

The reports will include the specific design features and the sampling protocols that the NMFS observer program intends to implement; the methodology of choosing vessels for observation; rationale for length of observation per vessel and an analysis of costs of the program that are made available through regulatory implementation process. We are anticipating an initial information document that will specify the different bycatch species including sharks, skates, and birds. As new information is made available regarding sharks, skates and birds, we will incorporate that information in our reports.

We would propose that should the data indicate an additional bycatch beyond current assumptions for endangered species, such as albatross, or for a fin fish species that has been identified as being in critical condition, we would submit a suggested action to mitigate any adverse bycatch activities.

**2.2.3 Responsible Parties**

We have contacted the Executive Director of the North Pacific Fishery Management Council (NPFMC), Mr. Chris Oliver, and he has indicated he would assist in periodic updates for SCS. It is anticipated that there will be an initial observer report in the fall of 2014 produced by the NMFS observer program that would include the new bycatch data.

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This would result in four (4) updated reports by the client of the progress of implementation of the amendments to the NPFMC observer program. Each report will contain the specific information outlined in the client action plan section, above. The first observer update would be presented to SCS January of 2012; second updated November 1, 2012; third updated August of 2013; and a fourth April of 2014.

*PI 2.3.1: The fishery meets national and international requirements for protection of ETP species. The fishery does not pose a risk of serious or irreversible harm to ETP species and does not hinder recovery of ETP species.*

Condition 2.3.1
The fishery shall provide evidence to the CB that the effects of the fishery are highly likely within limits of national and international requirements for the protection of ETP species. This evidence should be provided by the third surveillance audit.

**2.3.1 Client Action Plan**

Eat on the Wild Side (FVOA and DSFU) as part of the action plan will provide a series of 9-month updates to SCS regarding the implementation process of the observer amendments recommended by the NPFMC.

The reports will include the specific design features and the sampling protocols that the NMFS observer program intends to implement; the methodology of choosing vessels for observation; rationale for length of observation per vessel and an analysis of costs of the program that are made available through regulatory

implementation process. We are anticipating an initial information document that will specify the different bycatch species including sharks, skates, and birds. As new information is made available regarding sharks, skates and birds, we will incorporate that information in our reports.

We would propose that should the data indicate an additional bycatch beyond current assumptions for endangered species, such as albatross, or for a fin fish species that has been identified as being in critical condition, we would submit a suggested action to mitigate any adverse bycatch activities.

**2.3.1 Responsible Parties**

We have contacted the Executive Director of the North Pacific Fishery Management Council (NPFMC), Mr. Chris Oliver, and he has indicated he would assist in periodic updates for SCS. It is anticipated that there will be an initial observer report in the fall of 2014 produced by the NMFS observer program that would include the new bycatch data.

**2.3.1 Timeline for progress**

This would result in four (4) updated reports by the client of the progress of implementation of the amendments to the NPFMC observer program. Each report will contain the specific information outlined in the client action plan section, above. The first observer update would be presented to SCS January of 2012; second updated November 1, 2012; third updated August of 2013; and a fourth April of 2014.

*PI 2.3.2: The fishery has in place precautionary management strategies designed to:*
*- meet national and international requirements;*
*- ensure the fishery does not pose a risk of serious or irreversible harm to ETP species;*
*- ensure the fishery does not hinder recovery of ETP species; and*
*- minimize mortality of ETP species.*

Condition 2.3.2
By the third surveillance audit the fishery shall show that the strategy to manage impacts on ETP species is working, with an objective basis for confidence.

**2.3.2 Client Action Plan**

Eat on the Wild Side (FVOA and DSFU) as part of the action plan will provide a series of 9-month updates to SCS regarding the implementation process of the observer amendments recommended by the NPFMC.

The reports will include the specific design features and the sampling protocols that the NMFS observer program intends to implement; the methodology of choosing vessels for observation; rationale for length of observation per vessel and an analysis of costs of the program that are made available through regulatory implementation process. We are anticipating an initial information document that will specify the different bycatch species including sharks, skates, and birds. As new information is made available regarding sharks, skates and birds, we will incorporate that information in our reports.

We would propose that should the data indicate an additional bycatch beyond current assumptions for endangered species, such as albatross, or for a fin fish species that has been identified as being in critical condition, we would submit a suggested action to mitigate any adverse bycatch activities.

**2.3.2 Responsible Parties**

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**2.3.2 Timelines for Progress**

This would result in four (4) updated reports by the client of the progress of implementation of the amendments to the NPFMC observer program. Each report will contain the specific information outlined in the client action plan section, above. The first observer update would be presented to SCS January of 2012; second updated November 1, 2012; third updated August of 2013; and a fourth April of 2014.

*PI 2.3.3: Relevant information is collected to support the management of fishery impacts on ETP species, including:*
*- information for the development of the management strategy;*
*- information to assess the effectiveness of the management strategy; and*
*- information to determine the outcome status of ETP species.*

Condition 2.3.3
The fishery shall have sufficient data to allow fishery related mortality and the impact of fishing to be quantitatively estimated in a scientifically defensible manner for ETP species and provide these estimates to the CB by the third surveillance audit.

**2.3.2 Client Action Plan**

Eat on the Wild Side (FVOA and DSFU) as part of the action plan will provide a series of 9-month updates to SCS regarding the implementation process of the observer amendments recommended by the NPFMC.

The reports will include the specific design features and the sampling protocols that the NMFS observer program intends to implement; the methodology of choosing vessels for observation; rationale for length of observation per vessel and an analysis of costs of the program that are made available through regulatory implementation process. We are anticipating an initial information document that will specify the different bycatch species including sharks, skates, and birds. As new information is made available regarding sharks, skates and birds, we will incorporate that information in our reports.

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**2.3.2 Responsible Parties**

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**2.3.2 Timelines for Progress**

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# 13. PEER REVIEW, PUBLIC COMMENT AND OBJECTIONS

## 13.1 Peer Reviewers

A peer review has been conducted by two peer reviewers. Their comments and the response to the comments by the team can be found in Appendix II. As required, scientists nominated as peer reviewers for this report are posted on the MSC web site for stakeholder comment. Although unattributed in the Appendix II, the report was reviewed by the following experts:

Dr. Patrick Sullivan, Associate Professor, Cornell University, Ithaca, New York, USA
Dr. Patrick Sullivan is an associate professor of quantitative population and community dynamics at the department of natural resources at Cornell University in Ithaca, New York. His objective is to understand what drives the spatial and temporal dynamics of natural populations and how they respond to anthropogenic influences. He focuses changes in population abundance in association with ecosystem and sampling variability. He was the population dynamicist for the International Pacific Halibut Commission for the years 1988-1998 before joining the faculty in Natural Resources at Cornell University. He is currently on the Scientific and Statistical Committee that advises the New England Fisheries Management Council. He is also on the steering committee for the Center for Independent Experts that oversees the peer reviews of NMFS and other agencies' assessments of managed fisheries populations. He has provided external peer reviews for fisheries agencies in Iceland, New Zealand, Australia, Canada and Japan.

Dr. Terrance J. Quinn II, Professor, School of Fisheries and Ocean Sciences, University of Alaska, Fairbanks, Alaska, USA.
Dr. Terrance J Quinn II has been a professor at the University of Alaska Fairbanks since 1985. His main fields of expertise include estimation of abundance of fish and marine mammal populations, fisheries stock assessments methods, quantitative ecology, and harvest strategies for sustainable fisheries. He is the co-author or co-editor of four books and about 100 scientific publications. He has been a member of the Statistical and Scientific Committee of the NPFMC since 1986 and a former chair of that body. He is a former member of the Ocean Studies Board of the National Academy of Sciences and served on five of their committees, including two as chair or co-chair. He is also an Associate Editor of the Canadian Journal of Fisheries and Aquatic Sciences.

## 13.2 Comment Period of the Public Comment Draft Report

This Public Comment Draft Report is available for comment for a period of 30 days after which time all comments will be appended to the report and responded to by the assessment team. A final certification decision will be made and a final report posted after the closing of the comment period ending 24 June, 2011.

## 13.3 Objections

After a final report is posted, objection to the final certification decision must be made within 15 days. Objections may only be undertaken by persons that were previously engaged in the process including but not limited to commenting on the Public Comment Draft Report. If the certification decision is favorable and no objections are received, the fishery may be certified as providing sustainable seafood and products originating from the fishery may enter further chains-of-custody.

## 14. MSC LOGO LICENSING RESPONSIBILITIES

As the "applicant" for certification of the fishery, Fishing Vessel Owner's Association, is the only entity that has the right to apply for a license to use the MSC logo. It is also the case that Fishing Vessel Owner's Association has the right to approve the use of the logo for other fishery participants at its discretion and by a means that is considered fair and equitable (based on MSC requirements). The MSC as the logo license owner has the sole right and responsibility to review and enforce its requirements with regard to the fair and equitable sharing of access to the fishery certificate. SCS as the certification body does not have any obligations to review, approve, or enforce the MSC requirements in this regard.

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## APPENDIX I –NPFMC FINAL MOTION ON OBSERVER RESTRUCTURING

**North Pacific Fishery Management Council**

Eric A. Olson, Chairman
Chris Oliver, Executive Director

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October 25, 2010

Mr. Stan Rhodes
Scientific Certification Systems
Watergate Office Towers, Suite 725
2200 Powell Street
Emeryville, CA 94608

Dear Mr. Rhodes:

I have been requested to apprise you of the status of the North Pacific Fishery Management Council's efforts at restructuring the groundfish observer program, as it relates to potential inclusion of the halibut/sablefish fisheries. Previous certifications of these fisheries noted the lack of observer coverage in these fisheries, and I understand they are now in the process of additional review for certification. At its recent October meeting, the Council approved a restructuring of the program which would levy a fee on exvessel value of all groundfish landed in federal waters, as well as all halibut landed by the longline fishery off Alaska. Importantly, the program would also allow for placement of fisheries observers, and/or electronic monitoring devices, on portions of the halibut fleet. Due to requirements for start-up funding of this program, full implementation of the program is anticipated in year 2013. The full Council motion is attached for your reference. We hope this information is useful to you in your certification review of these fisheries.

Sincerely,

Chris Oliver
Executive Director

CC: James Hekkers, Monterey Bay Aquarium
Robert Alverson, Fishing Vessel Owner's Association

## Council Final Motion on Observer Restructuring

BSAI Amendment 86/GOA Amendment 76
October 8, 2010

The Council adopts Alternative 3, the "coverage-based" restructuring alternative as its preferred alternative, with the following components that include a modified version of Option 2:

**Two tier system for general coverage categories:** All vessels and processors in the groundfish and halibut fisheries off Alaska would be placed into one of two observer coverage categories. These categories would be established in regulation:

1. the "greater than or equal to 100%" ($\geq$100%) coverage category, and
2. the "less than 100 percent" (<100%) coverage category.

**Vessels and processors in the $\geq$100% coverage category** would not be included under the ex-vessel fee-based program and would continue to obtain observers by contracting directly with observer providers ("status quo").

Vessels and processors that would be placed in the $\geq$100% include:

1. all catcher/processors and motherships participating in the groundfish and halibut fisheries,
2. all catcher vessels while fishing under a management system that uses prohibited species caps in conjunction with a catch share program, and
3. all shoreside and floating processors when taking deliveries of AFA or CDQ pollock.

100% coverage would not be mandated for vessels <60' with a history of CP and CV activity in a single year or any catcher processor vessel with an average daily production of less than 5,000 pounds[1], in the most recent full calendar year of operation prior to January 1, 2010. These vessels would make a one-time election as to whether they will be in the <100% coverage and ex-vessel based fee structure or the $\geq$100% coverage and (status quo) fee structure category.

**All other catcher vessel landings in the groundfish and halibut fisheries, and processors taking deliveries of this catch, would fall into the <100% coverage category.** Observer coverage for vessels and processors in the <100% coverage category would be managed under an ex-vessel fee based observer service delivery model with the following features:

**Basis of the fee assessment:** A fee would be assessed on the ex-vessel value of the landed catch weight of groundfish and halibut. The landed catch weight would be the weight equivalents used to debit quotas (e.g., round weight for groundfish and headed and gutted net weight for halibut) which are reported on the processor's or registered buyer's landing report submitted to NMFS.

**Ex-vessel value fee percentage of 1.25%:** The fee percentage would be set in regulation at 1.25% of the ex-vessel value of groundfish and halibut. The fee percentage will be reviewed annually by the Council after the second year of the program (see Option 2 annual reports, below).

**Selection of vessels and processors for observer coverage:** The selection of vessels and processors that must carry an observer under the restructured program would be determined through a sampling and deployment plan. Observer coverage rates (trips or vessels) would not be in regulation.

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[1]Staff note: The 5,000 pounds would be calculated as the round weight equivalent. The Council clarified that this would be calculated by dividing total annual production by the number of days of processing activity.

**Standard ex-vessel prices to apply to (non-IFQ) groundfish landings to determine the ex-vessel value based fee liability** would be based on standardized ex-vessel nominal prices calculated using data derived from COAR using the methodology developed by the CFEC for their gross earnings estimates.

Standard ex-vessel prices would be established for groundfish by species, port of landing, and gear. Three gear type categories would be established: pelagic trawl gear, non-pelagic trawl gear, and fixed gear (everything else besides trawl gear). Because of data confidentiality issues, standardized price data must be aggregated if there are fewer than 3 entities in a price category.

**A 3-year rolling average would be used to calculate the standard ex-vessel prices for groundfish** (excluding fixed gear IFQ/CDQ sablefish).

**Standard annual ex-vessel prices for halibut and sablefish IFQ and CDQ:** The most recent available standard annual ex-vessel price for IFQ halibut and IFQ sablefish developed for the IFQ cost recovery program would be applied to landings by:

- catcher vessels in the <100% observer coverage category of halibut IFQ,
- halibut CDQ,
- sablefish IFQ, and
- sablefish that accrues against the fixed gear sablefish CDQ allocation.

This standard ex-vessel price is established annually by port or port group from registered buyer reports.

**How to define a catcher/processor:** The determination of whether a vessel is a catcher/processor or a catcher vessel for assignment to an observer coverage category would be based on the designation that is on that vessel's Federal Fisheries Permit (FFP). Once established prior to the beginning of each fishing year, the designation as a catcher/processor or catcher vessel determines the vessel operation category assignment within the restructured observer program sampling and deployment plan for the calendar year. A different approach would be used for vessels that are included in the program, but not required to obtain an FFP. The appropriate approach would be determined during development of the proposed rule

<u>The following exclusions would be made</u>:

**State water GHL and state-managed fisheries:** Vessels participating in GHL groundfish fisheries and other state managed non-groundfish fisheries (e.g., lingcod) would be excluded from Federal observer coverage requirements, but non-GHL groundfish incidentally caught in the State GHL and other non groundfish managed fisheries that are landed by vessels with FFPs would be subject to the fee assessment.

Vessels with an FFP fishing in the State of Alaska parallel groundfish fisheries would be subject to the Federal observer coverage requirements and the ex-vessel fee assessment.

**Catcher vessels delivering unsorted cod ends to a mothership:** As is the case under status quo, observers would not be required on catcher vessels delivering groundfish in unsorted codends to a mothership. Because all motherships are in the ≥100% observer coverage category, no fee would be assessed on these groundfish landings, and observer coverage of the catch would occur on the mothership under the status quo system of observer coverage requirements.

Landings from catcher vessels in the <100% coverage category that deliver groundfish or halibut catch that is retrieved onboard the catcher vessel before delivery to the mothership ("sorted catch") would be subject to the fee assessment and observer coverage under the restructured program.

**Start-up funding:** Funds must be collected prior to deployment of observers under the restructured portion of the program to initiate contracts for observer deployment. Alternative 3 is expected to provide start-up funding in one year. During the start-up period ("year-0"), vessels and processors subject to the 1.25% fee assessment would continue to pay for current observer coverage requirements. Processors would be billed at the end of the year. Vessels and processors will only be required to pay the difference between the fee assessment and the actual year-0 observer costs under the status quo deployment model.

**Federal funding for start-up costs:** The Alaska Region NMFS will continue to seek federal funding for start-up costs of implementation of the restructured observer program. If federal funding is available, it would be used towards the initial deployment of observers under a restructured program.

**Modified Option 2: Annual Report and Review of the Sampling and Deployment Plan and the 1.25% fee assessment:**

The following statement replaces the existing language for Option 2:

NMFS will release an observer report by September 1 of each year. The report will contain the proposed stratum and coverage rates for the deployment of observers in the following calendar year, as well as a detailed financial spreadsheet by budget category on the financial aspects of the program. The Council may request its Observer Advisory Committee, Groundfish Plan Teams and/or the SSC to review and comment on this draft plan. NMFS will consult with the Council each year on the draft plan for the upcoming year, at a meeting of the Council's choosing that provides sufficient time for Council review and input to NMFS.

NMFS also would prepare an annual report on the observer program for presentation to the Council each year, including information on how industry participants have adapted to and been able to accommodate the new program. As part of this annual report, the 1.25% fee percentage would be reviewed by the Council after completion of the second year of observer deployment in the restructured program. The Council could revise the fee assessment percentage in the future through rulemaking after it had an opportunity to evaluate program revenues and costs, observer coverage levels, fishery management objectives, and future sampling and observer deployment plans. This report would be provided to the Council at the same time the annual deployment plan is being provided.

**Development of regulations (deeming):**

The Council requests to see the draft proposed regulations prior to their submission to the Secretary of Commerce.

**Program review:**

The Council approved a review of the observer program, to begin five years after implementation (i.e., first year of deployment is year one), to assess whether the goals and objectives of the problem statement to restructure the observer program have been achieved.

## APPENDIX II – PEER REVIEW COMMENTS

In accordance with FCM v6.1 section 3.8.2, peer reviews are unattributed.

### Peer Reviewers Overall Opinion

| Overall Opinion of the Report | | |
|---|---|---|
| | **Peer Reviewer 1** | **Peer Reviewer 2** |
| **Has the assessment team arrived at an appropriate conclusion based on the evidence presented in the assessment report? (Yes/No)** | Yes | In part |
| **Peer Reviewer Justification** | Yes, the fishery seems to be in good condition and well managed. The assessment appears to be consistent with fishery conditions. | In my opinion, the assessment team has been unduly strict in its assessment of the fishery relative to the PIs related to seabird bycatch and insufficiently cautious in its assessment of the fishery relative to the PIs related to the management system. (Please see notes on individual PIs.) |
| **Certification Body Response** | Unduly strict with respect to seabird bycatch. After reviewing our scores and further consideration of the scoring guideposts, we conclude that our scores were appropriate and that while specific suggestions would indeed provide some valuable information, they would not be sufficient to reach the SG 80 guidepost. In our opinion, an analysis of the Pacific Cod fishery bycatch rates would not provide sufficient information on the Pacific Halibut fishery to justify a score above 80 (i.e., we could not conclude that bycatch rates are highly likely to be within biological limits). Without data on actual bycatch rates in this fishery, it would be impossible to validate any method that used data from a different fishery. No change made. | |
| **Do you think the condition(s) raised are appropriately written to achieve the SG80 outcome within the specified timeframe? (Yes/No)** | Yes | Yes/No |
| **Peer Reviewer Justification** | Yes, the monitoring and assessment of bycatch seems to be an issue with this fishery. | In my opinion, the recommended conditions are unnecessary for achievement of SG80. However, I am concerned that overages in the sport fishery have not been adequately addressed and that incentive structures related to the sport fishery and to bycatch of halibut in non-target fisheries are |

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| | | not adequately considered and that addressing those issues may warrant conditions. |
| **Certification Body Response** | The take of halibut in other fisheries is taken into account by the IPHC when they conduct their stock assessment and set TACs for the region. | |

**Client Action Plan Comments**

| **Client Action Plan Comments (if included)** | | |
|---|---|---|
| | **Peer Reviewer 1** | **Peer Reviewer 2** |
| **Do you think the client action plan is sufficient to close the conditions raised? (Y/N)** | NA | NA |
| **Peer Reviewer Justification** | The client action plan section of the report does not have specific action plan items outlined. (These sections of the report are blank.) Conceivably, the Appendix I that outlines the observer restructuring offers a plan whose elements would satisfy the action plan requirements, but it would be better if the action plan form were filled out to allow this reviewer to connect the restructuring to the action items identified. | |
| **Certification Body Response** | The action plan was being drafted at the time the report went out for peer review. It is an MSC requirement that the Client Action Plan is included in the Public Comment Draft Report. | |

**Peer Reviewers General Comments**

| **Peer Reviewer General Comments (optional)** | |
|---|---|
| **Peer Reviewer 1** | **Peer Reviewer 2** |
| The assessment report is clear, well written and scientifically sound. However, I have a couple of general comments that should be pursued:<br>1) The proper species name for halibut is *Hippoglossus stenolepis* and not *Hippoglosus stenlolepis* as has been used throughout the report.<br>2) The assessment of the fishery in the lower U.S. seems to be lumped too closely with the Alaskan component, but I am not sure that the conclusions for the Alaska can always be attributed to the southern management areas. I believe that Pacific halibut are caught off of | In general, this is a thorough and well considered assessment. I did not identify any major gaps in information used in the assessment. In those few instances where I disagree with the conclusions of the assessment team, it may be due to my naïveté regarding the assessment criteria and their application or it may be a simple difference of professional judgment. This is a well-managed fishery that could be improved by additional attention to monitoring and evaluation of bycatch in the fishery and or better monitoring and enforcement in sport fisheries that take halibut and a better structuring of incentives in those sport fisheries and in the (mostly) trawl |

| | |
|---|---|
| Oregon. Are these not included? Only Alaska and Washington are mentioned. I believe that the Washington-Oregon Pacific halibut fisheries are not managed under an IFQ, yet page 17 seems to indicate that they all are. Only in the MCS section (page 65) do I see some differentiation taking place, but I think that other differences could be noted.<br>3) I noticed that nearly the same wording was used for the ecosystem sections as for sablefish (2.5, particularly 2.5.2 and 2.5.3) as the fisheries are nearly identical and under more or less the same management protocols governing ecosystem impact. Yet, the halibut assessment received lower scores. Perhaps not enough to make a difference, but lower nevertheless. Perhaps the score is lower because of the uncertainty associated with bycatch. If that is the case, then this should be identified in this section. Otherwise, I suggest they might be given a more consistent score. | fisheries that take halibut as Prohibited Species Catch (bycatch that must be discarded). |

**Certifying Body Response**

PR 1, 1: amended

PR 1, 2: Management of the Pacific halibut fishery in waters off Washington, Oregon, and California is explained in the scoring rationale for PI 3.1.1.

PR 1, 3: The report states, in our opinion, the rationale for each scoring. There are important differences between these two fisheries (notably differences in degree of observer coverage) that led to different scores on some performance indicators. No change made.

PR 2: The text has been amended to reflect the reviewer's concerns about the lack of positive incentives for sustainable fishing in the sport halibut sector.
"Unduly strict with respect to seabird bycatch:" After reviewing our scores and further consideration of the scoring guideposts, we conclude that our scores were appropriate and that while specific suggestions would indeed provide some valuable information, they would not be sufficient to reach the SG 80 guidepost. In our opinion, an analysis of the Pacific Cod fishery bycatch rates would not provide sufficient information on the Pacific Halibut fishery to justify a score above 80 (i.e., we could not conclude that bycatch rates are highly likely to be within biological limits). Without data on actual bycatch rates in this fishery, it would be impossible to validate any method that used data from a different fishery. No change made.

**Peer Reviewers Comments Related to Scores and Rationales**

# Principle 1

| **Performance Indicator 1.1.1** | | |
|---|---|---|
| | **Peer Reviewer 1** | **Peer Reviewer 2** |
| **Has all the relevant information available been used to score this indicator? (yes/no)** | Yes | Yes |

| | | |
|---|---|---|
| **Does the information and/or rationale used to score this indicator support the given score? (yes/no)** | Yes | Yes |
| **Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)** | NA | NA |
| **Peer Reviewer Justification** | No spawner-recruit relationship | |
| **Certification Body Response** | NA | |

| **Performance Indicator 1.1.2** | | |
|---|---|---|
| | **Peer Reviewer 1** | **Peer Reviewer 2** |
| **Has all the relevant information available been used to score this indicator? (yes/no)** | Yes | Yes |
| **Does the information and/or rationale used to score this indicator support the given score? (yes/no)** | Yes | Yes |
| **Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)** | NA | NA |
| **Peer Reviewer Justification** | NA | NA |
| **Certification Body Response** | NA | |

| **Performance Indicator 1.1.3** | | |
|---|---|---|
| | **Peer Reviewer 1** | **Peer Reviewer 2** |
| **Has all the relevant information available been used to score this indicator? (yes/no)** | Yes | Yes |
| **Does the information and/or rationale used to score this indicator support the given score? (yes/no)** | Yes | Yes |
| **Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)** | NA | NA |
| **Peer Reviewer Justification** | NA | NA |
| **Certification Body Response** | NA | |

| **Performance Indicator 1.2.1** |
|---|

| | Peer Reviewer 1 | Peer Reviewer 2 |
|---|---|---|
| **Has all the relevant information available been used to score this indicator? (yes/no)** | Yes | Yes |
| **Does the information and/or rationale used to score this indicator support the given score? (yes/no)** | Yes | Yes |
| **Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)** | NA | NA |
| **Peer Reviewer Justification** | New coastwide assessment | NA |
| **Certification Body Response** | NA | |

| **Performance Indicator 1.2.2** | | |
|---|---|---|
| | **Peer Reviewer 1** | **Peer Reviewer 2** |
| **Has all the relevant information available been used to score this indicator? (yes/no)** | Yes | Yes |
| **Does the information and/or rationale used to score this indicator support the given score? (yes/no)** | Yes | Yes |
| **Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)** | NA | NA |
| **Peer Reviewer Justification** | Effective control rule | NA |
| **Certification Body Response** | NA | |

| **Performance Indicator 1.2.3** | | |
|---|---|---|
| | **Peer Reviewer 1** | **Peer Reviewer 2** |
| **Has all the relevant information available been used to score this indicator? (yes/no)** | Yes | Yes |
| **Does the information and/or rationale used to score this indicator support the given score? (yes/no)** | Yes | No |
| **Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)** | NA | NA |
| **Peer Reviewer Justification** | Sound harvest strategy | Monitoring of recreational catches is imprecise and does not take place in real time. This has resulted in regular exceedance of annual |

| | | |
|---|---|---|
| | | sportfishing targets. These exceedances create potential for total removals to exceed overall reference values even though the commercial fishery is within its allocation. Therefore a score of 90 is not warranted. |
| **Certification Body Response** | Revised this score downward from 90 to 85. Rational: need to account for the possibility that the recreational fishery could exceed its annual catch limit. | |

| **Performance Indicator 1.2.4** | | |
|---|---|---|
| | **Peer Reviewer 1** | **Peer Reviewer 2** |
| **Has all the relevant information available been used to score this indicator? (yes/no)** | Yes | Yes |
| **Does the information and/or rationale used to score this indicator support the given score? (yes/no)** | Yes | Yes |
| **Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)** | NA | NA |
| **Peer Reviewer Justification** | I don't think that the CIE reviews Pacific halibut. Perhaps independent peer reviewers are brought in periodically, but I don't believe it is through CIE. | NA |
| **Certification Body Response** | This was confirmed. | |

# Principle 2

| **Performance Indicator 2.1.1** | | |
|---|---|---|
| | **Peer Reviewer 1** | **Peer Reviewer 2** |
| **Has all the relevant information available been used to score this indicator? (yes/no)** | Yes | Yes |
| **Does the information and/or rationale used to score this indicator support the given score? (yes/no)** | Yes | Yes |
| **Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)** | NA | NA |
| **Peer Reviewer Justification** | Retained species in ok condition | NA |
| **Certification Body Response** | NA | |

| Performance Indicator 2.1.2 | | |
|---|---|---|
| | **Peer Reviewer 1** | **Peer Reviewer 2** |
| **Has all the relevant information available been used to score this indicator? (yes/no)** | Yes | Yes |
| **Does the information and/or rationale used to score this indicator support the given score? (yes/no)** | Yes | Yes |
| **Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)** | NA | NA |
| **Peer Reviewer Justification** | Management strategy in place for retained species | NA |
| **Certification Body Response** | NA | |

| Performance Indicator 2.1.3 | | |
|---|---|---|
| | **Peer Reviewer 1** | **Peer Reviewer 2** |
| **Has all the relevant information available been used to score this indicator? (yes/no)** | Yes | Yes |
| **Does the information and/or rationale used to score this indicator support the given score? (yes/no)** | Yes | No |
| **Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)** | NA | NA |
| **Peer Reviewer Justification** | information on retained species ok | In addition to satisfying all of the SG80 conditions, there is sufficient information to quantitatively estimate upper bounds on likely bycatch impacts in relation to annual stock assessments conducted for the retained bycatch species. Therefore a score greater than 80 is warranted for this PI. |
| **Certification Body Response** | A score of 80 requires that "main bycatch species are highly likely to be within biologically based limits". In our opinion, this level of certainty cannot be obtained without data directly from this fishery. This data limitation was expressed continually in meeting workshops. For this reason we score a 70 to indicate that there is a reasonable basis to believe that the catches are within biological limits. In our view, the absence of observer-based data directly from this fishery on bycatch rates precludes any judgement of bycatch rates being "highly likely" within biologically | |

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| | based limits.<br>No Change. |

| Performance Indicator 2.2.1 | | |
|---|---|---|
| | **Peer Reviewer 1** | **Peer Reviewer 2** |
| **Has all the relevant information available been used to score this indicator? (yes/no)** | Yes | Yes |
| **Does the information and/or rationale used to score this indicator support the given score? (yes/no)** | Yes | No |
| **Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)** | Yes | Yes, the suggested conditions will improve the fishery's performance, above its current performance level |
| **Peer Reviewer Justification** | Better monitoring of bycatch needed | This section is inconsistent. Based on extrapolation of bycatch rates in the few observed vessel, the fishery is assigned a score of 80 for performance vis a vis sharks and skates, but the same data could be, but is not, applied to seabirds. If these data are inadequate for seabirds, they should also be viewed as inadequate for inferring catch rates for sharks and skates. This is particularly true because, as noted in the document, critical seabird populations are monitored and seabird deterrence measures have been widely adopted. I believe that the fishery conforms to SG80 for seabirds and bait and that it exceeds SG80 for sharks and skates. |
| **Certification Body Response** | The reviewer is correct that we applied an inconsistent standard: we considered self reported and extrapolated bycatch rates for fish species to be highly likely to be within biological limits, but we concluded that the same method was inappropriate for seabirds. The rationale for this distinction was that fish species are, in general, far more productive than sea birds and that therefore the level of uncertainty in catches of the former were less likely to exceed biologically-based limits. Upon reflection, we feel this distinction is unnecessary. Rather it is more appropriate to include that without data from a well designed at-sea observer program, it is not possible to conclude that bycatch rates of any species are "highly likely" to be within biologically base limits. Change: changed text to reflect that we are applying the same standard to all non retained species. | |

| Performance Indicator 2.2.2 | | |
|---|---|---|
| | **Peer Reviewer 1** | **Peer Reviewer 2** |
| **Has all the relevant information available been used to score this indicator? (yes/no)** | Yes | Yes |
| **Does the information and/or rationale used to score this indicator support the given score? (yes/no)** | Yes | Yes |
| **Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)** | NA | NA |
| **Peer Reviewer Justification** | Bycatch management ok | NA |
| **Certification Body Response** | NA | |

| Performance Indicator 2.2.3 | | |
|---|---|---|
| | **Peer Reviewer 1** | **Peer Reviewer 2** |
| **Has all the relevant information available been used to score this indicator? (yes/no)** | Yes | Yes |
| **Does the information and/or rationale used to score this indicator support the given score? (yes/no)** | Yes | No |
| **Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)** | Yes | Yes, the suggested conditions will improve the fishery's performance, above its current performance level |
| **Peer Reviewer Justification** | Better bycatch information needed | Like 2.2.1, this score seems to be primarily driven by concern over seabird bycatch. It seems inconsistent to argue that information used to show that bycatch of sharks and skates is unlikely to be of significance and yet that the same data is inadequate for demonstrating the same conclusion for the bycatch of seabirds for which there are much better estimates and monitoring of populations. I think that performance relative to this PI supports SG 80. |
| **Certification Body Response** | As above, we agree with this point but here we did not distinguish different benchmarks for fish vs. sea birds. We state more clearly that we conclude that sufficient data are not collected to detect any increase | |

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| | in risk and implement a partial strategy for all bycatch species.<br><br>No change in score. |

| Performance Indicator 2.3.1 | | |
|---|---|---|
| | **Peer Reviewer 1** | **Peer Reviewer 2** |
| **Has all the relevant information available been used to score this indicator? (yes/no)** | Yes | Yes |
| **Does the information and/or rationale used to score this indicator support the given score? (yes/no)** | Yes | No |
| **Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)** | Yes | Yes, the suggested conditions will improve the fishery's performance, above its current performance level |
| **Peer Reviewer Justification** | Observer coverage would help ETP species as well. I note that in section 2.3.1 on page 41 the second and third paragraphs are almost identical. One might be removed. | Given that FWS concludes that it would take an annual mortality of over 120 short-tailed albatross per year to pose a risk of a population decline (Modeling efforts indicate that 5-6% additional annual mortality would be needed before this species would begin to decline in numbers.) and given that annual mortality in the longline fisheries off Alaska is ~0.5 (11 birds in 21 years), it would seem that this fishery exceeds SG80. Moreover, because the population of Short-tailed albatross is closely monitored the effect of any increase in unobserved fishing mortality would be quickly detected. This fishery would seem to meet most of the conditions of SG100. |
| **Certification Body Response** | PR1: Change: second redundant paragraph deleted<br>PR2: We disagree with the reviewer's more optimistic assessment of the knowledge of halibut fishing impacts on short-tailed albatross. Although FWS indicates that mortality rates need to be 120 birds / year to make population growth rates equal to 0, bycatch rates far less than that will still have impacts on the recovery of this species that is well below historical levels. For that reason, the annual limit of bycatch mortality is 2 / year. Plausible argument and comparison to other species leads us to conclude that it is likely that the fishery is within these limits, but without direct at-sea observer monitoring of this fishery we cannot conclude that it is "highly likely" that the halibut fishery is within limits.<br>No Change. | |

| Performance Indicator 2.3.2 | | |
|---|---|---|
| | **Peer Reviewer 1** | **Peer Reviewer 2** |
| **Has all the relevant information available been used to score this indicator? (yes/no)** | Yes | Yes |
| **Does the information and/or rationale used to score this indicator support the given score? (yes/no)** | Yes | No |
| **Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)** | Yes | Yes, the suggested conditions will improve the fishery's performance, above its current performance level |
| **Peer Reviewer Justification** | No clear evidence that strategy is effective for ETP species | The halibut fishery has been operating in a largely similar fashion since 1995 when IFQs were first introduced. Fleet consolidation was largely completed by 2000. STA numbers have been monitored from that time period to the present and it has been concluded that population growth rates are about 6% per annum. Evidently, the level of unobserved mortality in the halibut fishery, if any, has not been sufficient to jeopardize recovery of the STAs. Moreover, the adoption of bycatch deterrence measures can only have further reduced the probability that this fishery adversely affects recovery of STA. This fishery clearly exceeds SG 80 for this PI. |
| **Certification Body Response** | Reviewer 2 notes that because surveys indicate that current rates of population growth of short-tailed albatross are high (ca. 6% per year), that it is unlikely that halibut fishing is having adverse effects on population recovery. Thus, a combination of plausible arguments based on effectiveness of tori lines, comparison to other fisheries, and spatial overlap of halibut fishing with short tailed albatross constitute evidence that the strategy (tori line, albatross bycatch limits) is working. We agree with much of this line of reasoning, which explains the high score (75) that we assigned. In our view, because there is no monitoring of albatross bycatch, it is not possible conclude with certainty that the fishery is operating within limits (2 kills / year). Thus, it falls just short of meeting the SG80 criteria that "there is evidence that the strategy is being implemented successfully". We have added a statement clarifying this rationale. | |

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| | The reviewer made a more detailed comment on this section to better explain the rationale for a higher score": It would seem that probably upper limits of bycatch mortality could be arrived at by noting that the Cod fishery is larger and takes place in areas that have greater potential interaction with STA and yet has exhibited very bycatch rates. Applying bycatch rates from the cod fishery to the halibut fishery almost certainly overestimates bycatch mortalities of STA in the halibut fishery but would serve as a reasonable basis fort deriving a quantitative estimate of the impact of the halibut fishery and thus satisfy SG80 for this PI. Moreover, contrary to the assessment, most changes to the halibut management strategy are not subject to review by the NPFMC's SSC. The recent role of the SSC and Plan Teams has been to provide review of biological matters; changes in regulations that affect the incentive structure of the fishery such as rules related to IFQ ownership and transfer, the suite of communities eligible to hold IFQ, restrictions on leasing IFQ, etc., are processed by the NPFMC without SSC input or review of economic and social impacts."<br><br>We agree with the assessment by the reviewer, but also note that although the reasoning is sound, it would require that we base our evaluation on a series of assumptions. Most importantly, this reasoning assumes that halibut fishing operations are in all other ways similar to those targeting cod i.e. all else being equal, bycatch rates in halibut are less than or equal to those in cod fisheries. We feel that this line of reasoning is sufficient to meet SG60, but is not sufficient to meet SG80 for the reasons stated in the assessment document.<br><br>We made no statement in this section regarding the NPFMC SSC involvement in the halibut management stategy. We made reference to the NPFMC consideration of an amendment to the FMP that would extent observer program to include halibut-directed trips.<br><br>No Change |

| **Performance Indicator 2.3.3** | | |
|---|---|---|
| | **Peer Reviewer 1** | **Peer Reviewer 2** |
| **Has all the relevant information available been used to score this indicator? (yes/no)** | Yes | Yes |
| **Does the information and/or rationale used to score this indicator support the given score? (yes/no)** | Yes | No |
| **Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)** | Yes | Yes, the suggested conditions will improve the fishery's performance, above its current performance level |
| **Peer Reviewer Justification** | Strategy not necessarily | Probable upper limits of bycatch |

| | | |
|---|---|---|
| | comprehensive or verifiable for ETP species | mortality could be arrived at by noting that the Cod fishery is larger and takes place in areas that have greater potential interaction with [Short Tailed Albatross] STA and yet has exhibited very bycatch rates. Applying bycatch rates from the cod fishery to the halibut fishery almost certainly overestimates bycatch mortalities of STA in the halibut fishery but would serve as a reasonable basis fort deriving a quantitative estimate of the impact of the halibut fishery and thus satisfy SG80 for this PI |
| **Certification Body Response** | We address this comment above in the statement made for 2.3.2. We add the following comment to more fully explain our scoring: "Additional information on likely rates of bycatch might be derived from a comparative analysis of bycatch rates in other demersal longline fisheries that operate in similar regions but have observer coverage. We view this information to be helpful to provide a range of plausible bycatch rates, but do not consider this sufficient to constitute a quantitative estimate of bycatch rates of ETP species. This analysis would need to be validated by direct comparison to halibut fishing, but data are not available to support this comparison."<br><br>No change in score. | |

| **Performance Indicator 2.4.1** | | |
|---|---|---|
| | **Peer Reviewer 1** | **Peer Reviewer 2** |
| **Has all the relevant information available been used to score this indicator? (yes/no)** | Yes | Yes |
| **Does the information and/or rationale used to score this indicator support the given score? (yes/no)** | Yes | Yes |
| **Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)** | NA | NA |
| **Peer Reviewer Justification** | No serious harm to habitat | NA |
| **Certification Body Response** | NA | |

| **Performance Indicator 2.4.2** | | |
|---|---|---|
| | **Peer Reviewer 1** | **Peer Reviewer 2** |

| | | |
|---|---|---|
| **Has all the relevant information available been used to score this indicator? (yes/no)** | Yes | Yes |
| **Does the information and/or rationale used to score this indicator support the given score? (yes/no)** | Yes | Yes |
| **Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)** | NA | NA |
| **Peer Reviewer Justification** | Management consistent with low or no harm to habitat | NA |
| **Certification Body Response** | NA | |

| **Performance Indicator 2.4.3** | | |
|---|---|---|
| | **Peer Reviewer 1** | **Peer Reviewer 2** |
| **Has all the relevant information available been used to score this indicator? (yes/no)** | Yes | Yes |
| **Does the information and/or rationale used to score this indicator support the given score? (yes/no)** | Yes | No |
| **Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)** | NA | NA |
| **Peer Reviewer Justification** | VMS data might be helpful | There are three SG100 conditions and none have anything to do with direct monitoring using VMS. Moreover, the logbook data is considered to provide credible representation of where fishing occurs and is subject to Coast Guard inspection. Consequently a higher score is warranted for this PI. |
| **Certification Body Response** | We agree that VMS information is not directly relevant to the three SC 100 indicators, and that the more important consideration is that fine scale information on habitat is not available. This is the most important consideration in concluding that the SC 100 indicators are not met.<br><br>Our final paragraph now states:<br>"Based on this information, we feel all three conditions for SG 80 are met. Fine scale information however is lacking, changes in habitat distribution have not been assessed, and physical impacts of gear on habitat has not been fully quantified." | |

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|---|---|
| | No Change. |

| Performance Indicator 2.5.1 | | |
|---|---|---|
| | **Peer Reviewer 1** | **Peer Reviewer 2** |
| **Has all the relevant information available been used to score this indicator? (yes/no)** | Yes | Yes |
| **Does the information and/or rationale used to score this indicator support the given score? (yes/no)** | Yes | Yes |
| **Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)** | NA | NA |
| **Peer Reviewer Justification** | Fishery does not pose a risk to ecosystem | NA |
| **Certification Body Response** | NA | |

| Performance Indicator 2.5.2 | | |
|---|---|---|
| | **Peer Reviewer 1** | **Peer Reviewer 2** |
| **Has all the relevant information available been used to score this indicator? (yes/no)** | Yes | Yes |
| **Does the information and/or rationale used to score this indicator support the given score? (yes/no)** | Yes | Yes |
| **Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)** | NA | NA |
| **Peer Reviewer Justification** | Management is ecosystem aware. Note here and in 2.5.3 the scoring might be made more consistent with sablefish. | |
| **Certification Body Response** | We agree that the management system for broader scale ecosystem impacts is the same between sablefish and halibut fisheries, but note that only the Alaska sablefish fishery is in consideration but the entire U.S. Pacific Halibut fishery is under assessment. The Pacific Fisheries Management Council is not yet as advanced as the NPFMC in implementing an ecosystem-based approach. Still, we feel a marginally greater score (95) is warranted.<br><br>Embedded reviewer comment<br>"This might be the post-hoc rationale, but it had nothing to do with the historic decisions ca. 1980 to cap BSAI and GOA catches, decisions that | |

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| | were made as seat-of-the-pants calculations by the NPFMC's SSC as a necessary condition for setting TALFF. Once established, these limits have spawned many post-hoc legends about sagacious management."<br><br>We agree, and we have changed the wording to avoid implying such a rationale. |

| **Performance Indicator 2.5.3** | | |
|---|---|---|
| | **Peer Reviewer 1** | **Peer Reviewer 2** |
| **Has all the relevant information available been used to score this indicator? (yes/no)** | Yes | Yes |
| **Does the information and/or rationale used to score this indicator support the given score? (yes/no)** | Yes | Yes |
| **Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)** | NA | NA |
| **Peer Reviewer Justification** | Ecosystem knowledge is good. | NA |
| **Certification Body Response** | NA | |

# Principle 3

| **Performance Indicator 3.1.1** | | |
|---|---|---|
| | **Peer Reviewer 1** | **Peer Reviewer 2** |
| **Has all the relevant information available been used to score this indicator? (yes/no)** | Yes | No |
| **Does the information and/or rationale used to score this indicator support the given score? (yes/no)** | Yes | No |
| **Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)** | NA | NA |
| **Peer Reviewer Justification** | Legal framework is sound | Because the limits imposed on sport fisheries are indirect control measures, their efficacy is not assured. Indeed, the charter sector of the sport fishery has consistently exceeded the Guideline Harvest Limit (GHL) set by the NPFMC. Thus while the commercial fishery is closely held to its limits, the management system does not effectively |

| | | |
|---|---|---|
| | | control removals within a season. The fact that the management system adjusts to be more restrictive in allocations to all user groups in subsequent years results in a *de facto* transfer of fishing rights from the commercial fishery to the charter sector of the sport fishery, in conflict with stated management policy and regulation. Moreover, the delay in estimates of sportfishing removals is likely to induce serial correlation in the management error. Consequently a score of 95 seems overly high for a management system that lacks efficacious controls on a significant component of fishing mortality. |
| **Certification Body Response** | We have not changed the score of 95 for this performance indicator.<br><br>We agree – and have said in the text – that sport fishing mortality is not well controlled by the existing set of policies and regulations; and agree – but not noted in the text – that, in practice, there is a *de facto* transfer of fishing *privileges* (not legal rights) from the commercial to the sport fishing sector. Unfortunately, guidelines in the MSC Fisheries Assessment Methodology instruct assessors to score this performance indicator on whether the management system is 'capable of delivering sustainable fisheries in accordance with MSC Principles 1 and 2.' In other words Performance Indicator 3.1.1 does not score how well the system is working now. The exact wording of the relevant guidelines follows.<br>8.2.4 The scoring issue for this performance indicator relates to the presence or absence of an appropriate and effective legal and/or customary framework that is capable of delivering sustainable fisheries in accordance with MSC's Principles 1 and 2.<br>8.2.5 Scoring this part of the indicator means focusing on the existence of a framework itself *and* whether it is capable of delivering sustainable fisheries. This may be determined by examining the presence or absence of the essential features of an appropriate and effective structure within which management takes place, and whether those features are hard (formal laws, regulations, etc) or soft (accepted practice, tradition or custom), whether the framework has a focus on long term management rather the short term and how it manages risk and uncertainty. Also important is whether the framework is transparent and open to scrutiny, review and adaptation as new information becomes available. | |

| **Performance Indicator 3.1.2** |
|---|

| | Peer Reviewer 1 | Peer Reviewer 2 |
|---|---|---|
| **Has all the relevant information available been used to score this indicator? (yes/no)** | Yes | Yes |
| **Does the information and/or rationale used to score this indicator support the given score? (yes/no)** | Yes | Yes |
| **Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)** | NA | NA |
| **Peer Reviewer Justification** | Process open and transparent | NA |
| **Certification Body Response** | NA | |

| Performance Indicator 3.1.3 | | |
|---|---|---|
| | **Peer Reviewer 1** | **Peer Reviewer 2** |
| **Has all the relevant information available been used to score this indicator? (yes/no)** | Yes | Yes |
| **Does the information and/or rationale used to score this indicator support the given score? (yes/no)** | Yes | Yes |
| **Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)** | NA | NA |
| **Peer Reviewer Justification** | Clear longterm objectives | NA |
| **Certification Body Response** | NA | |

| Performance Indicator 3.1.4 | | |
|---|---|---|
| | **Peer Reviewer 1** | **Peer Reviewer 2** |
| **Has all the relevant information available been used to score this indicator? (yes/no)** | Yes | No |
| **Does the information and/or rationale used to score this indicator support the given score? (yes/no)** | Yes | No |
| **Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)** | NA | NA |
| **Peer Reviewer Justification** | Incentives and subsidies appear ok | While this is true for the commercial longline fishery it is not true for the charter-based |

| | | |
|---|---|---|
| | | component of the sport fishery. Overt subsidies are not present, but the incentive structure of regulation has not been efficacious at constraining catches by the charter sector. In addition, the management system does not include incentives for non-target vessels to minimize their bycatches of halibut. Halibut bycatch caps have been set for many BSAI and GOA fisheries but these caps do not create incentives for bycatch avoidance. Even in fisheries that have been rationalized for their target species (e.g., BSAI flatfish) the caps serve only as upper bounds and do not exercise inframarginal incentives to minimize bycatch. In addition, as noted above, the charter-based sport fishery is not properly incentivized to stay within its GHL. Consequently, I am unconvinced that SG 80 is fully satisfied for this PI. |
| **Certification Body Response** | Note that the original score assigned was 90, not 80 as indicated in Peer Reviewer 2's comment.<br><br>The score and rationale for PI 3.1.4 have been revised to account for the reviewer's comments. We note that the MSC guidance on this PI says that if the management system 'opens the door' for the possibility for positive incentives it achieves a score of 80. At a score of 100, 'the "theoretically perfect" fishery, the expectation is that the management system actively and explicitly considers and reviews management policies and procedures with particular attention paid to the issue of incentives to make sure they are not contributing to unsustainable fishing practices.' The evidence is clear that the management system actively and explicitly pay attention to incentives – positive and negative – and, in the case of the NPFMC and NMFS, have attempted to reform the incentive structure in the sport fishing sector of the fishery. To date, the system has not yet succeeded in this reform effort. | |

| **Performance Indicator 3.2.1** | | |
|---|---|---|
| | **Peer Reviewer 1** | **Peer Reviewer 2** |
| **Has all the relevant information available been used to score this** | Yes | Yes |

| | | |
|---|---|---|
| **indicator? (yes/no)** | | |
| **Does the information and/or rationale used to score this indicator support the given score? (yes/no)** | Yes | Yes |
| **Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)** | NA | NA |
| **Peer Reviewer Justification** | I am not sure I see what the difference is between management objectives (3.1.3) and fishery objectives (3.2.1), but reviewers seem to find issues with management objectives here, but not earlier. Not sure I understand difference in sections or differenece in conclusions. Perhaps reviewers don't see that either. | NA |
| **Certification Body Response** | PIs 3.1.1 through 3.1.4 relate to the overall fishery governance and policy system or framework in the US. PIs 3.2.1 through 3.2.5 relate to the fishery-specific (Pacific halibut) management system or framework. | |

| **Performance Indicator 3.2.2** | | |
|---|---|---|
| | **Peer Reviewer 1** | **Peer Reviewer 2** |
| **Has all the relevant information available been used to score this indicator? (yes/no)** | Yes | No |
| **Does the information and/or rationale used to score this indicator support the given score? (yes/no)** | Yes | No |
| **Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)** | NA | NA |
| **Peer Reviewer Justification** | Decision making process ok | Evidence of effective decision-making processes requires more than the observation that decisions are made, it requires that the decisions that are made are efficacious. As noted above, evidence suggests that decisions made to limit exceedances in the charter-based sport fishing sector have been ineffective. Moreover, formal reporting to stakeholders |

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| | | has lacked meaningful quantitative estimates of the magnitude of changes in net national benefits and in the distribution of benefits and costs among various classes of stakeholders. A PI score of 95 is too high. |
| **Certification Body Response** | The MSC guidance on scoring PI 3.2.2 states that 'the relevant performance-related issue is whether the decision-making processes actually produce measures and strategies, *not an evaluation of the quality of those measures and strategies* (italics added) which is covered under Principles 1 and 2.' We believe that the score and rationale for this PI is faithful to the MSC guidance, and no changes have been made. | |

| **Performance Indicator 3.2.3** | | |
|---|---|---|
| | **Peer Reviewer 1** | **Peer Reviewer 2** |
| **Has all the relevant information available been used to score this indicator? (yes/no)** | Yes | No |
| **Does the information and/or rationale used to score this indicator support the given score? (yes/no)** | Yes | No |
| **Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)** | NA | NA |
| **Peer Reviewer Justification** | Management measures appear enforceable | There is evidence of systematic non-compliance by the charter-based sportfishing sector. While that sector is not being reviewed in this assessment, it has spillover consequences for the longline fishery and should be discussed in this section |
| **Certification Body Response** | The IPHC takes this into account in their stock assessment. | |

| **Performance Indicator 3.2.4** | | |
|---|---|---|
| | **Peer Reviewer 1** | **Peer Reviewer 2** |
| **Has all the relevant information available been used to score this indicator? (yes/no)** | Yes | Yes |
| **Does the information and/or rationale used to score this indicator support the given score? (yes/no)** | Yes | Yes |
| **Will the condition(s) raised** | NA | NA |

| | | |
|---|---|---|
| **improve the fishery's performance to the SG80 level? (yes/no/NA)** | | |
| **Peer Reviewer Justification** | Research plan in place. Not sure what comprehensive means. | NA |
| **Certification Body Response** | According to the MSC guidance on scoring this PI, a 'comprehensive research plan, in the context of SG100, refers to research that goes beyond the immediate short term needs of management to create a strategic body of research relevant to the long term management needs of the fishery.' There is no practical means of measuring the extent to which research is going beyond immediate short term need, etc. We have done so subjectively. Instead of 90, should the score be closer to 100, closer to 80? We believe the score lies somewhere in between and have merely split the difference. | |

| **Performance Indicator 3.2.5** | | |
|---|---|---|
| | **Peer Reviewer 1** | **Peer Reviewer 2** |
| **Has all the relevant information available been used to score this indicator? (yes/no)** | Yes | Yes |
| **Does the information and/or rationale used to score this indicator support the given score? (yes/no)** | Yes | Yes |
| **Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)** | NA | NA |
| **Peer Reviewer Justification** | Consequences of management monitored and evaluated | NA |
| **Certification Body Response** | NA | |

| **Any Other Comments (optional)** | | |
|---|---|---|
| | **Peer Reviewer 1** | **Peer Reviewer 2** |
| | Pg 27, IHPC should be IPHC | The assessment needs to be edited to eliminate grammatical and typographic errors and redundant sections of the introduction. I was surprised to see that the list of stakeholders contacted did not include sportfishing associations, community organizations, CDQs, or Alaska native associations. The binding requirements of the SFA (2007) are not sufficiently represented in section 5.2. Under SFA, Council's are required to |

| | | |
|---|---|---|
| | | establish catch limits that do not exceed the SSC recommended ABC. That is, the science recommendations related to upper limits on removals are binding on the Councils. Section 3.1.1 should include a discussion of the subsistence halibut fishery that provides opportunity for residents of small remote communities to use commercial gear to harvest halibut for personal consumption and customary trade. |
| **Certification Body Response** | PR 1: Amended.<br>PR 2: Section 3.1.1 now includes a brief discussion of the subsistence halibut fishery. | |

## APPENDIX III – PUBLIC COMMENTS

SCS was available for comments from stakeholders throughout the assessment process. These comments were received through direct email from individuals and remain anonymous to prohibit any discrimination for the individuals in their personal lives. The names referenced in the text have also been removed by SCS for the same reason. The stakeholders comments were considered in the assessment and the stakeholders were informed that their comments would be appended to the report after the public comment period. The Assessment Team and SCS responses are in red text.

| **Stakeholder Comment: Anonymous. Sent July 20, 2010** |
|---|
| I have been a commercial halibut fisherman for 30 years in Alaska. Halibut has one of the most ideal management system. International Halibut Commission has been managing it for over 50. They conduct research and surveys paid for by landings. However Halibut are caught incidently in the Trawl cod Pollock and Flatfisheries are discarded dead back into the sea. Half the Halibut quota is just wasted. While there is some observer coverage to document this the observer system is easily manipulated so trawlers can conduct fishing in sensitive Halibut areas. While longline halibut stakeholder organizations such Fishing Vessel Owners association have tried to fight for more conservation. The trawler groups who dominate the North Pacific Fisheries Management Council for the past 20 years have blocked any serious attempt to limit bycatch. The Trawler Processor Lobbyists have often Bypass the Fish council and gone to Congress to get more bycatch allocations of Black Cod and thus kill more Halibut. New Trawler fisheries such as the Arrowtooth flounder fishery and the Rockfish Bycatch lease system have Killed even more halibut. I feel halibut is close to being a threatened species along with that Black Cod.<br><br>The issue is not just observer coverage its effective observer coverage. Currently the observer coverage is manipulated. I am not a lobbyist. I was an observer on Kodiak Draggers in the late 70's. and I worked as a deckhand in the Drag fisheries for 5 years 3 in Alaska.<br>I know the Dragger Processor Lobbyists personally. [names removed by SCS] They work for Trident Seafoods Ocean Beauty Seafoods North Pacific Seafoods etc and their individual catcher boats. They are not beatable with the current council make up. The system is screwed and getting worse. The trawlers say they own Lisa Murkowski. They owned Ted Stevens and took care of his son Ben. Now they brag about owning Lisa. Its always too little to late for the resource. I fish all spring summer fall run my own boat I really have to wait till winter for any meetings.<br><br>I just got back from a halibut trip in an area I have fished for 20 years(chiniak gully) it was completely dead probably due to a trawler who was dragging a few miles away. It was closed to dragging for 4 years and they reopened It last year. |
| **Certifying Body Response:** |
| Estimating unreported discard mortality is important for stock assessment. The assessment group concluded that the IPHC has met the required elements to meet certification with respect to stock assessment and uncertainty therein. |
| **Stakeholder Comment: Anonymous. Sent to MSC and forwarded to SCS via email August 18, 2010** |
| I worked on the boat and witnessed pummeling of bycatch as a standard practice when the company is engaged in sable harvesting and pacific (true) cod in the bering sea.<br><br>The owner [name removed by SCS] claims that his interpretation of bycatch laws allow him to destroy all the bycatch as long as he gets it off the hook of his longline before the fish (bycatch) |

crosses the threshold of their boats railing.

I and possibly another individual are willing to testify.

**Certifying Body Response:**

This comment is relevant to non-target catch and discarding in the sablefish fishery. As stated above, the assessment team concluded that the current assessment process and data availability for halibut stock assessment meets requirements for certification. We base our analysis on evaluation of the science and methods used by the IPHC (halibut) and NOAA – fisheries (sablefish). It is not possible to address or confirm claims made against individual vessel operators.

**Stakeholder Comment: Anonymous. Sent to SCS via email April 18, 2011**

The MSC certified flat [trawl] fishery in the Gulf of Alaska is open. The amount of Halibut/Cod bycatch in this fishery remains the same as last year despite the fact that the Commercial Halibut Quota is down 26 percent . One ten pound halibut is worth over $60.
This incredible waste discarding high amounts of dead valuable fish in the pursuit of low price high volume fish should be criminal. It make the Orange Roughy fishery example seem tame. So we have a fishery that wastes a million dollars worth of halibut and cod for the sake of 100k worth of flatfish such and arrowtooth or rex sole. Obviously bycatch and waste are not anything the MSC concerns itself with.

**SCS Response April 18, 2011. Sent via email.**

You are referring to the amount of Pacific halibut and Pacific cod that are caught and released (dead or alive) by the flatfish trawl fisheries that are MSC certified. There are two certificates that cover these other fisheries. One certificate covers the Bering Sea and Aleutian Islands (BSAI) and the other certificate covers the Gulf of Alaska (GOA).

This current assessment that SCS is working on is separate and covers all Pacific halibut in US waters in Alaska and Washington, but the issue you are referring to would be addressed under Principle 1, stock status. The IPHC accounts for mortality caused by other fisheries when they set the TACs for the year. Their coastwide model has been peer reviewed and it takes into account additional fishing mortality from other fisheries.

As for the other certifications, the assessments were completed by the certifying body Moody Marine Int. There are 5 reports for the BSAI. You can find the link to the assessment downloads HERE. If you scroll down on the page you will find links to the reports. Looking at their Public Certification Report for Alaska plaice (HERE). Criteria 2.1.2.2 and 2.1.2.3 address bycatch of non-target species (p. 98 and 99). Their rationale includes the 2 million lb. total removal cap for all biomass as well as the limit on the bycatch being no more than 5% of the target species by weight. References they provide are below:

Aydin, K., S. Gaichas, I. Ortiz, D. Kinzey, and N. Friday. 2007. A comparison of the Bering Sea, Gulf of Alaska, and Aleutian Islands large marine ecosystems through food web modeling. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-AFSC-178, 298 p.

NPFMC. 2008a. Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands Management Area. North Pacific Fishery Management Council, 605 West 4th Ave., Suite 306, Anchorage, AK 99501. June 2008, is available at:
http://www.fakr.noaa.gov/npfmc/fmp/bsai/BSAI.pdf

Further discussion is provided in Peer Reviewer 2's comments of that report. Peer reviewer 2 addresses the non-target species issue there.

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| **Stakeholder Comment: Anonymous. Sent to SCS via email April 18, 2011** |
| Halibut stocks are in trouble. I have fished Halibut commercially for over 30 years and I have flatfished and Pollock trawled and been and observer and. I can tell you the stocks are threatened. Not just my opinion. Soon the IPHC will figure this out too. The Halibut fishery in the Gulf of Maine was 14 million pounds in 1938 then they started trawling with engines. 1939 the fishery was at 1 million and has never recoverd. The bycatch numbers are a matter of record nothing is being done to reduce bycatch . And common practice is for trawlers to clean fish with observers. Thirty five percent observer coverage and only 12 hours of the day are observed. So this partial observer coverage occurs in about twenty percent of the fishing time. So the bycatch rates are not accurate. The Gulf of Alaska Pollock fishery bycatch of King Salmon is another issue. Fisheries closed down and a great public concern The council is processor controlled by the governor has let it be known he wanted something done about that. |
| **Certifying Body Response:** |
| We applied the MSC default assessment tree, which considers current stock status as well as consideration of the scientific basis of assessment. Moreover, the assessment process also judges the management system and the plans adapting to changes in stock size. We conclude that the scientific stock assessments and management plan meets scoring guideposts for all performance indicators relevant to these topics (see detailed treatment in assessment document) |
| **Stakeholder Comment: Anonymous. Sent to SCS via email 19 April, 2011** |
| I really think the Halibut fishery in areas 3a and 3b are threatened. Not just a trawler bycatch thing. They also started a longline cod fishery which has expanded over the last five years and 90 percent of the boats have no observers. I just think bycatch is Alaska's dirty little secret. More fish are wasted in Alaska than anywhere. Most all trawl bycatch is dead and probably a fair amount of longline bycatch. |
| **Certifying Body Response:** |
| Estimating unreported discard mortality is important for stock assessment. The assessment group concluded that the IPHC has met the required elements to meet certification with respect to stock assessment and uncertainty therein. |

## APPENDIX IV – MSC COMMENTS TO PCDR AND TEAM RESPONSE

24th June 2011

*Sent via email*

**SUBJECT: MSC Review and Report on Compliance with the scheme requirements**

Dear Sabine Daume,

Please find below the results of our partial review of compliance with scheme requirements.

| | |
|---|---|
| CB | Scientific Certification Systems |
| Lead Auditor | Sabine Daume |
| Fishery | US North Pacific halibut |
| Fishery Assessment Product Type | Public Comment Draft Report Posted |
| Type of Review | Desk Study |

| No. | Type of Finding | Scheme Requirement | | Requirement Description | Report Reference | Description and Evidence of non-conformity |
|---|---|---|---|---|---|---|
| 1 | Major | TAB | D-029: 9 | CBs shall include the following in a separate section or appendix to the Public Comment Draft Report: a. Written submissions from stakeholders received during consultation opportunities on the announcement of full assessment; proposed assessment team membership; proposed peer reviewers; proposal on the use or modification of the FAM and use of the RBF.<br>b. All written and a detailed summary of verbal submissions received during site visits pertaining to issues of concern material to the outcome of the assessment regarding the specific assessment.<br>c. Explicit responses from the assessment team to submissions described in a. and b. above. | | The report does not include information obtained from consultations. |
| Team response: The information has been included in the final report with the team response to each individual comment. | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 2 | Major | FCMv 6 | Appendix 1: 4.4 | The report shall.....…provide a detailed rationale which justifies the scores assigned to each of the performance indicators and contain a reference to the source of information | Page 25, 27, 47 | For example, PI 1.1.1: No references to the sources of information used in scoring are presented. Rationale does not directly reference the scoring guideposts. PI 1.2.1: Simulation modelling used to justify scoring is not referenced PI 2.4.2: The rationale does not justify the score of 90. There is no reference to testing of the strategy and evidence of the success of the strategy is not presented. The rationales for all PIs in the report should be amended where relevant. |
| Team response:<br>Amendments have been made to the rationales of 1.1.1 and 1.2.1 and references have been included. | | | | | | |
| 3 | Major | TAB | D-015 v2: 2.4 | Where a fishery assessment overlaps with a certified fishery or fishery in assessment that has already been scored, the assessment team shall base their assessment on the rationale and scores detailed for the previously scored fishery. Any difference in the scores shall be clearly detailed and justified in the scoring rationale for all relevant performance indicators. | | The report makes no reference to harmonisation with the Canadian Pacific Halibut fishery. There is therefore no consideration of the scoring or justification of differences. |
| Team response:<br>Special care was taken that harmonization of the findings of this assessment with the Canadian Pacific Halibut Fishery in British Columbia, first certified in 2009 by SCS, continued. In recognition of the linkages and similarities between the two fisheries, SCS already applied the principles of MSC TAB Directive D-015 V2 during the BC Halibut assessment in order ensure consistency between the scoring of the Alaskan halibut fishery and the BC halibut fishery with respect to Principle 1. While the wording of Principles 2 and 3 in the BC report were also similar these two principles were still assessed and scored in their own right, though in the case of Principle 2, broadly within the context of harmonization. A paragraph has been added under section 2.1 of the report. | | | | | | |
| 4 | Major | TAB | D-033: 3.4.9 | Consultation on setting conditions should be complete prior to the release for peer review (see Section 3.7) | Pg 90 | The client action plan was not available for peer reviewers. |
| Team response:<br>The client action plan was included in the PCDR and Final report. The report went out for peer review right at the time when the new TAB Directive came into effect and this new requirement was overlooked. | | | | | | |
| 5 | Major | FAMv 2.1 | 7.2.2 | Assessment Teams shall use their expert judgement to determine and justify in writing which species are considered 'main' and which are not. | Pg 30 | PI 2.1.1: The rationale does not justify the score of 90. Detail is required on all retained species. |

| | | | | | | |
|---|---|---|---|---|---|---|
| Team response:<br>We have amended the report to provide catch levels of all retained species. Because the level of catch of remaining species are very low (< 10 mt / year, most < 1 mt / yr), we conclude that this fishery is highly unlikely to have significant impacts on these populations. The score 90 has been justified by the fact that the main retained species meet the first element of the SG 100 (as well as all the elements of the SG60 and 80) but that the remaining species only meet all the elements of the SG 60 and 80. | | | | | | |
| 6 | Major | FAMv 2.1 | 7.2.3 | SG 100 does not use the qualifier 'main' and all retained species are included in the assessment. | Pg 30 | PI 2.1.1: Without specifying all retained species the SIs cannot be assessed at SG 100 level. 'Major' retained species are defined but a comprehensive list of by-catch is not included here or in section 6.1.1. |
| Team response:<br>We have amended the report to include a table of retained catch for all species based on data from NOAA's catch accounting system. Catch levels of non-assessed species are extremely low (< 10 mt / year). | | | | | | |
| 7 | Major | PA | 18 v1: 4 | g) 90: all elements meet SG80; some achieve higher performance at SG100 but some do not. | Pg 30 | PI 2.1.1: Scores should be presented for each of the 'main' species assessed to justify how the final PI score of 90 was reached. |
| Team response:<br>We have changed the text here to clarify that the main species (those that capture > 10 mt / yr) meet the first element of the SG 100 (as well as all the elements of the SG60 and 80) but that the remaining species only meet all the elements of the SG 80. | | | | | | |
| 8 | Major | PA | 18 v1: 3d | To contribute to the scoring of a PI, each scoring issue shall be fully and unambiguously met and rationale presented to support the assessment team's conclusion. This rationale shall make direct reference to each scoring issue and whether it is or is not fully met. An exception to this requirement is permitted only for those PIs that include only a single scoring issue at each SG level. | Pg 25 | PI 1.1.1: The rationale for the scoring of this PI does not make direct reference to each scoring issue and whether or not it is fully met. Rationale for all relevant PIs in the report should be amended using guidance in PA 18 and the FAM. |
| Team response:<br>The rationales have been amended in the report. | | | | | | |
| 9 | Guidance | | | | Pgs 25,27, 29 | For information, there appears to be a problem with the formatting of some text in the report. |
| Team response:<br>The formatting has been fixed. | | | | | | |
| 10 | Guidance | | | | | Aggregations of fish species recorded in catch are referenced (e.g. "other slope rockfish" and "demersal shelf rockfish" and "other skates"). Has consideration been given to whether the non-dominant species of these groups are vulnerable? |
| Team response: There is little information on the vulnerability of these groups, but note that the species are grouped by life history attributes so we anticipate vulnerabilities to be similar. Moreover, the catch levels of these species groups are extremely low and thereby highly unlikely to place the populations past biological limits. | | | | | | |

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|---|---|---|---|---|---|---|
| 11 | Guidance | FCMv 6 | Appendix 1: 5.1 | The report shall set out the scope of the fishery | page 20 | The section 8.4 does not refer to the list of fishers belonging to the client group Fishing Vessels Owner's Association and an updated list can be found. |
| Team response:<br>A list of fishers that belong to the Association has now been referred to Section 8.4. and can be found in Appendix VI. | | | | | | |

This report is provided for action by the Certification Body and ASI in order to improve consistency with the MSC scheme requirements; MSC does not review all Certification Bodies work products and this review should not be considered a checking service. If any clarification is required, please contact Suzi Hawkins on +44 (0)20 7246 8935 for more information.

Best regards,

Maylynn Nunn
Senior Fisheries Certification Manager
Marine Stewardship Council

cc: Accreditation Services International

**APPENDIX V:** LIST OF CURRENT ACTIVE MEMBERS OF THE FISHING VESSEL OWNER`S ASSOCIATION

| *Vessel Name* | *First Name* | *Last Name* |
|---|---|---|
| Aleutian Isle | Jim | Bodding |
| Allstar | Chris | Johnson |
| Alrita | Bill | Curtain |
| Alrita | Dave | Hedrick |
| Alrita | Rich | Wheeler |
| Alrita | Scott | Raphael |
| Angelique | Joe | Smatlan |
| Angelique | Dave | Clark |
| Arrow | David | Kelly |
| Augustine | Paul | Clampitt |
| Augustine | Dave | Olsen |
| Ballyhoo | Leonard | Herzog |
| Cormorant Isle | Laureen | Knutsen |
| Cormorant Isle | Donald | Knutsen |
| Cormorant Isle | Daryl | Knutsen |
| Evening Star | Arne | Lee |
| Falcon | Dwight | Riederer |
| Grant | Jack | Knutsen |
| Judi B | Nick | Delaney |
| Keltie | Arnold | Jardstrom |
| Kristiana | John | Crowley |
| Kristiana | Michael | Offerman |
| Lorelei II | Eric | Olsen |
| Martin | Rick | Gillman |
| Memories | Dave | Ericksen |
| Northern Prince | Kevin | Sather |
| Polaris | Wade | Bassi |
| Polaris | Rolf | McCartney |

| *Vessel Name* | *First Name* | *Last Name* |
|---|---|---|
| Republic | Duane | Torgeson |
| Resolute | Steve | Lindahl |
| Sea Angel | Charles | Noggle |
| Seymour | John | McHenry |
| St. John II | James R. | Olsen |
| St. John II | Gary | Olsen |
| Sunward | Norman | Ness |
| Tordenskjold | Marvin | Gjerde |
| Vansee | Per | Odegaard |
| Vigorous | Otto | Bogen |
| Woniya | Randy | Hawkinson |
| Woniya | Jeffrey | Smith |