



## Certification summary

11<sup>th</sup> October 2011

## Alaska Sablefish (Black-cod) Commercial Fishery Certification

### Certification Recommendation

A positive Certification determination has been awarded for the U.S. *Alaska Sablefish (commonly known as black cod) Commercial Fishery*, against the United Nations, Food and Agriculture Organization (FAO) based Responsible Fisheries Management (RFM) Conformance Criteria, by a Global Trust Certification Committee on October 11<sup>th</sup> 2011, after independent assessment of the Alaska sablefish commercial fishery. The assessment was performed at the request of Alaska Seafood Marketing Institute (ASMI).

The Certification covers the Alaska sablefish (*Anoplopoma fimbria*) commercial fishery employing demersal longline, pot and trawl gear within Alaska jurisdiction (200 nautical miles EEZ) under federal [National Marine Fisheries Service (NMFS)/North Pacific Fishery Management Council (NPFMC)] and state [Alaska Department of Fish and Game (ADFG) & Board of Fisheries (BOF)] management.

A Global Trust Certification Committee, composed of fishery, certification and accreditation experts, was tasked with a qualitative review of the formal processes, assessment reports and recommendations provided by the fishery Assessment Team and Peer Reviewers appointed to assess this fishery. The Certification Committee unanimously agreed with the Assessment Team's findings that the applicant Alaska sablefish commercial fishery is responsibly managed by effective management organizations, using robust fishery management plans and practices based on objective science and information.

**The resulting certification communication for the Alaska sablefish commercial fishery is: '*Certified Responsible Fisheries Management*'.**

This Certification delivers high confidence that reliable management systems are in place to properly assess and respond to any current and evolving issues and allow the fishery to continue on the path of sustainable and responsible management. These management systems are certified as being in line with those recommended by the FAO Code of Conduct for Responsible Fisheries (1995) and FAO Guidelines for the Eco-Labeling of Fish and Fishery Products from Marine Capture Fisheries (2005) and amended/extended in 2009.

This Certification demonstrates responsible management for the sustainable use of the fisheries and is a realistic and tangible communication for this standard and process. The Certification lasts for five

years and it involves annual surveillance assessments of the fishery. This Certification means that the Alaska sablefish commercial fishery has met the criteria for certification of responsibly managed fisheries at the point in time of the assessment. This certification does not certify that the fisheries will remain responsibly managed in the future. Thus the reason there are annual surveillance assessments and a full re-assessment every 5 years.

The Alaska sablefish commercial fishery achieved high conformity against almost all FAO RFM Conformance Criteria. Clause 4.2 however, achieved a medium rating as the sablefish commercial fishery has limited observer coverage at present. Nonetheless, there is substantial evidence available that describes the on-going activities and plans that are under way to improve observer coverage in the sablefish fishery. The consequences of observer coverage mainly relate to the accuracy of the current bycatch estimates in the sablefish fishery. These bycatch species include mainly grenadiers and spiny dogfish.

The Assessment Team findings were supported by evidence from the various management organizations (NMFS, NPFMC) and outcomes from the NPFMC Scientific and Statistical Committee and Advisory Panel discussion documents. Various options have been investigated and debated. These include the use of on vessel video cameras, a possible solution to the difficulties of accommodating observers on relatively small vessels used in the sablefish fishery. Based on this information and through direct consultation and witnessing of NPFMC meetings, the Assessment Team were confident that management entities were following a responsible course with respect to fishery improvements. The separate peer review evaluations also supported a positive decision for certification. A vast amount of information has been collated and recorded regarding the applicant fishery, all of which were considered in the assessment. The assessment findings have been documented in a 250 page Full Assessment and Certification Report.

The assessment process has layers of governance and transparency. The assessment was conducted by Global Trust Certification according to (International Standards Organization) ISO Guide 65:1996 procedures for FAO-based Responsible Fisheries Management Certification. ISO Guide 65 is the international accreditation criteria for bodies offering product and process certification. The ISO Guide 65 assessment, certification and decision process is governed by the accreditation bodies of the International Accreditation Forum (IAF). Global Trust Certification is accredited the Irish National Accreditation Board (INAB) who is a member of IAF.

The established FAO Criteria for the fishery assessment were based on key standard documents. These documents included the FAO-based Responsible Fisheries Management Conformance Criteria (Version 1, July 2010), as derived from FAO Code of Conduct for Responsible Fisheries (1995), and the minimum criteria set out for marine fisheries in the FAO Guidelines for the Eco-Labeling of Fish and Fishery Products from Marine Capture Fisheries (2005/2009). Certification for the Alaska sablefish commercial fishery is for a 5-year period after which the fishery will re-enter full assessment. In the intervening years, the fisheries will be subject to annual surveillance assessments to confirm that the fishery continues to meet the requirements for certification. The Full Assessment and Certification Report will be made available for download on request at Global Trust and ASMI's websites:

[www.GTCERT.com](http://www.GTCERT.com) and <http://sustainability.alaskaseafood.org/black-cod-certification>

## Summary of the Process

ASMI, on behalf of Alaska sablefish commercial fishery, submitted an application to Global Trust Certification for a formal assessment of the Alaska sablefish commercial fishery to the requirements of the FAO-Based Responsible Fisheries Management (RFM) Certification Program. The Application was received in April 2010 (Table 1).

After an initial Validation Assessment (Table 2) was completed by Global Trust in October 2010, an expert Assessment Team was formed to undertake the full assessment. The five person team was composed of independent assessors (Table 3) with expert competency in fishery science, the Alaska sablefish fishery, the Alaska management system and the FAO-based RFM assessment criteria.

The Assessment Team's report was peer-reviewed by two additional independent experts (Table 4) before being submitted to a formal Global Trust Certification Committee (Table 5) for an independent certification decision.

Key factors and issues evaluated, documented and judged by the Assessment Team included:

### A. The Fisheries Management System

The Magnuson Stevens Act (MSA) is the primary domestic legislation governing management of the United States marine fisheries. In 1996, the United States Congress reauthorized the MSA to include, among other things, a new emphasis on the precautionary approach in U.S. fishery management policy. In federal waters (3-200 nm), Alaska sablefish fisheries are managed by the NPFMC and the NMFS Alaska Regional Office, subject to their Groundfish Fishery Management Plans (FMPs). NPFMC recommends regulations to govern the directed sablefish fisheries in waters off Alaska; and makes allocation decisions among sablefish users and user groups fishing off Alaska. NPFMC sablefish management measures include a TAC which is divided among gear types and an Individual Fishing Quota (IFQ) program for the majority of fixed gear. Fixed gear (longlines and pots) harvest around 85% of the sablefish quota and trawl gear about 15%.

In 1995, the NPFMC and NMFS implemented an IFQ system for the Alaska sablefish (and halibut) industry, which has significantly decreased the number of vessels in the fishery, increased season length and gross income, as well as decreasing bycatch and reducing gear losses and the related ghost fishing effects. The NMFS conducts stock surveys, stock assessment reports and a multitude of biological and environmental studies, and in connection with the United States Coast Guard (USCG) enforces regulations. These agencies, and all of their activities and decisions, are subject to the MSA. The Groundfish FMPs are written and amended subject to MSA and govern the management of the fisheries.

In state waters (0-3 nm), sablefish fisheries catch around less than 10% of the total Alaska landings and are managed and regulated by the ADFG and the BOF outside the IFQ program. State and federal management is interlinked and full cooperation between federal and state agencies allows effective and responsible management. State fisheries include two minor state fisheries in Cook Inlet and the Aleutian Islands and three major state fisheries in Prince William Sound, Chatham and Clarence Strait. These fisheries, similarly to the federal ones, are governed under state specific fishery management plans and/or regulations. These include the Aleutian Islands District and Western District of the South Alaska Peninsula Area Sablefish Management Plan (5 AAC 28.640). 5 AAC 28.360 defines the Cook Inlet Sablefish Management Plan. Sablefish harvest, possession, and landing requirements for Prince William Sound Area are governed under 5 AAC 28.272, and Southeast Alaska

State managed sablefish (Chatham and Clarence strait) regulations are specified under 5AAC28 Groundfish Commercial Fisheries Regulations. The Alaska Wildlife Troopers enforce fisheries regulations in state waters.

The NPFMC's management arrangements and decision making processes for the fishery are organized in a very transparent manner, and actively encourages stakeholder participation, and all Council deliberations are conducted in open, public session. Similarly, the BOF process is transparent, and open to all stakeholders. Both federal and state agencies provide a great deal of information on their websites, including agenda of meetings, discussion papers, and records of decisions. The GOA and BSAI sablefish stocks are both considered to be parts of the same stock, but separate from sablefish further south along the west coast of North America. They are not considered to be trans-boundary and hence there are no formal co- management arrangements with other countries.

The NMFS and the NPFMC participates in coastal area management-related institutional frameworks through the federal National Environmental Policy Act (NEPA) processes. The NEPA processes provide public information and opportunity for public involvement that are robust and inclusive at both the state and federal levels. Additionally, under the Coastal and Marine Spatial Planning (CMSP) framework objective of the National Ocean Policy, the U.S. will be subdivided into nine regional planning areas of which Alaska/Arctic region will be one entity. Each region will have a corresponding regional planning body consisting of Federal, State, and tribal representatives to develop regional goals, objectives, and ultimately regional CMS plans. CMSP has been initiated in some states. Other states, like Alaska, are in the development phase to implement CMSP.

The NPFMC assesses economic, social and cultural value of the fishery resources in order to assist decision-making, allocation and use. Also, the coastal zone is monitored as part of the coastal management process using physical, chemical, biological, economic and social parameters. Involvement includes a multitude of federal and state agencies and programs.

## **B. Science and Stock Assessment Activities**

The NMFS and ADFG collect fishery data and conduct fishery independent surveys to assess the sablefish fishery and ecosystems in GOA and BSAI areas. GOA and BSAI Stock Assessment and Fishery Evaluation (SAFE) reports provide complete descriptions of data types and years collected. Fishery data is collected from fixed gear (longline and pot) vessels which target sablefish in the IFQ fishery and trawl fisheries that catch sablefish as retained bycatch in other fisheries such as rockfish and sole. Records of catch and effort for these vessels are firstly recorded through the e-landing (electronic fish tickets) catch recording system, secondly collected by observers and thirdly, recorded by vessel captains in voluntary and required logbooks. The Restricted Access Management Division of NMFS tracks in-season catches and IFQ balances. Real-time accounting of individual harvests contributes significantly to accurate and timely management of each IFQ holder's IFQ accounts and supports in-season transfers.

Fishery data from the Observer Program are available since 1990. Observers report age, length, and CPUE data for selected vessels. Vessels between 60 and 125 feet carry an observer 30% of the time and vessels >125 feet carry an observer 100% of the time. Since 1999, logbooks have been required for vessels >60 feet. Vessels <60 feet are not required to carry observers or submit logbooks but many do participate in a voluntary logbook program formed in 1997. The NMFS implemented observer program is at present in restructuring phase. The new observer program aims at increasing

observer coverage in the <60 feet vessel portion of the fleet and employ the coverage more systematically to allow a scientifically sound catch recording coverage system.

The mission of the NMFS Alaska Fisheries Science Center (AFSC) is to plan, develop, and manage scientific research programs which generate the best scientific data available for understanding, managing, and conserving the region's living marine resources and the environmental quality essential for their existence. The AFSC operates several laboratories (including Auke Bay Biological Lab and the National Marine Mammal Lab), and extensive fisheries monitoring and analysis sections and divisions.

The NMFS's AFSC conducts longline sablefish surveys to collect catch, effort, age, length, weight, and maturity data. These domestic longline surveys provide an accurate index of sablefish abundance. AFSC describes survey protocol on their website. From 1979-1994, the AFSC conducted cooperative annual longline surveys initially with Japan, and then independently from 1987 to present. The fixed station positions are divided among six NPFMC management areas: Bering Sea, Aleutian Islands, Western GOA, Central GOA, West Yakutat, and East Yakutat/Southeast. Stations are placed 30-50 km apart, and gear is set from 150-1000 m at each slope station. Catches are pooled by management area and an abundance index is computed for use in stock assessment and fishery evaluation reports.

Trawl surveys of the upper continental slope that adult sablefish inhabit have been conducted biennially or triennially since 1980 in the Aleutian Islands, and 1984 in the GOA. Trawl surveys of the Eastern Bering Sea slope were conducted biennially from 1979-1991 and standardized for 2002, 2004, and 2008. Trawl surveys of the Eastern Bering Sea shelf are conducted annually.

The sablefish population is represented with an age-structured model. The assessment uses a statistical, forward-projecting age structured model which estimates population numbers and mortality rates separately for male and female sablefish. The model is fitted using data on catches, length/age compositions and CPUE from the fisheries, and several series of abundance indices and associated age or length compositions from longline and trawl surveys. The 2008 model represents an incremental improvement over the one developed in the 2007 assessment, by making better use of survey age data and reducing the number of parameters describing fishery selectivity. The current model configuration follows a more complex version of the GOA Pacific ocean perch model with split sexes to attempt to more realistically represent the underlying population dynamics of sablefish.

For state-managed fisheries, ADFG also has a well-developed research capacity. The state's Policy and Planning Committee establish research priorities. For example, in 1988, the department began annual longline research surveys in both NSEI and SSEI to assess the relative abundance of sablefish over time and differing environmental conditions. This data is used to describe the age and size structure of the populations and detect recruitment events. ADFG standardized survey methods with NMFS survey. Mark-recapture studies for sablefish are also carried out in Southeast Alaska. The two minor Cook Inlet and the Aleutian Islands open-access fisheries are managed using a Guideline Harvest Level (GHL), which is determined based on harvest history, fishery performance, and the federal survey for the area. The Prince William Sound sablefish fishery is managed using a GHL and derived from the estimated area of sablefish habitat and a yield-per-unit-area model.

The Essential Fish Habitat Environmental Impact Statement (EFH EIS) (NMFS 2005) concluded that the effects of commercial fishing on the habitat of sablefish is minimal or temporary in the current

fishery management regime primarily based on the criterion that sablefish are currently above Minimum Stock Size Threshold (MSST).

The Economic and Social Sciences Research Program within NMFS's Resource Ecology and Fisheries Management (REFM) Division provides economic and socio-cultural information that assists NMFS in meeting its stewardship programs. The AFSC's Economic and Social Sciences Research (ESSR) Program has been preparing the implementation of the Alaska Community Survey, an annual voluntary data collection program initially focused on Alaska communities for feasibility reasons, in order to improve the socio-economic data available for consideration in North Pacific fisheries management.

### **C. The Precautionary Approach**

The MSA is the primary domestic legislation governing management of the nation's marine fisheries. In 1996, the United States Congress reauthorized the MSA to include, among other things, a new emphasis on the precautionary approach in U.S. fishery management policy.

For the past 25 years, the Council management approach has incorporated forward-looking conservation measures that address differing levels of uncertainty. Recognizing that potential changes in productivity may be caused by fluctuations in natural oceanographic conditions, fisheries, and other, non-fishing activities, the Council states that it intends to continue to take appropriate measures to insure the continued sustainability of the managed species. It will carry out this objective by considering reasonable, adaptive management measures, as described in the MSA and in conformance with the National Standards, the Endangered Species Act, the National Environmental Policy Act, and other applicable law.

The NPFMC harvest control system is complex and multi-faceted in order to address issues related to sustainability, legislative mandates, and quality of information. The first element of the precautionary approach is the Optimum Yield (OY) for the groundfish complexes in the Bering Sea / Aleutian Islands (BSAI) and the GOA as a range of numbers. The sum of the TACs of all groundfish species (except Pacific halibut) is required to fall within the range. The range for BSAI is 1.4 to 2.0 million mt while the range for GOA is 116 to 800 thousand mt. These total groundfish harvest limits the total groundfish harvest that can be taken from the BSAI and GOA marine ecosystems, effectively adopting a conservative ecosystem approach to fisheries.

The second element of precautionary approach is the *Tier* system, based on knowledge and uncertainties of the stock in question. NPFMC inaugurated the Tier system in fisheries management: the harvest control rule depends on the amount of information available. The less the information about a given stock, the more conservative is the catch allowed. Currently, sablefish in Alaska is managed under tier 3, where sufficient information is available to determine a target biomass level, which would be obtained at equilibrium when fishing according to the control rule with recruitment at the average historical level.

The third element of the precautionary approach is the OFL, ABC and TAC system. Allowable Biological Catch (ABC) is a scientifically acceptable level of harvest based on the biological characteristics of the stock and its current biomass level. Overfishing Level (OFL) is a limiting catch level, corresponding to fishing at MSY level, higher than ABC, which demarcates the boundary beyond which the fishery is no longer viewed as sustainable. In application, the NPFMC sets  $TAC \leq ABC < OFL$ . Since 1981, actual groundfish harvests have averaged approximately 90% of the

cumulative TAC and 65% of the cumulative ABC because of the complex array of accountability measures governing these fisheries. By-catch from a given stock is limited by a Maximum Retainable By-catch amount (MRB), which is determined as a percentage of retained catch (not including arrowtooth flounder).

The harvest control rule is a biomass-based rule, for which fishing mortality is constant when biomass is above the target and declines linearly down to a limit value when biomass drops below the target. Model projections indicate that the sablefish stock is neither overfished nor approaching an overfished condition. Projected 2011 spawning biomass is 37% of unfished spawning biomass. Spawning biomass has increased from a low of 30% of unfished biomass in 2002 to 37% projected for 2011. NPFMC estimated the posterior probability that projected abundance will fall below thresholds of 17.5% [minimum stock size threshold (MSST) or limit reference point] of the unfished spawning biomass based on the posterior probability estimates over the next 14 years. The probability was 0. In NPFMC settings, thresholds are defined in the Council harvest rules. These are when the spawning biomass falls below MSY or *B*35% and when the spawning biomass falls below ½ MSY or *B*17.5% which calls for a rebuilding plan under the MSA. The harvest rate decreases to zero if spawning biomass reaches the MSST.

#### **D. Management Measures**

The management system for the NPFMC groundfish fisheries is a complex suite of measures comprised of harvest controls—e.g., OY, ABC, TAC, OFL—effort controls (ITQs, licenses, cooperatives), time and/or area closures (also known as habitat protection, marine reserves), by-catch controls (PSC limits, retention and utilization requirements), monitoring and enforcement (observer program, social and economic protections, and rules responding to other constraints (e.g., regulations to protect Steller sea lions and to avoid seabirds).

IFQ management of the sablefish fishery has increased fishery catch rates and decreased the harvest of immature fish. Catching efficiency (the average catch rate per hook for sablefish) increased 1.8 times with the change from an open-access to an IFQ fishery. The improved catching efficiency of the IFQ fishery reduced the variable costs incurred in attaining the quota from eight to five percent of landed value, a savings averaging U.S.\$3.1 million annually. The shift from an open-access to an IFQ fishery has nearly doubled catching efficiency, while it has reduced the number of hooks deployed. The IFQ fishery likely has also reduced discards of other species because of the slower pace of the fishery and the incentive to maximize value from the catch. Under the major State managed sablefish fisheries, the use of an equal quota share system is very much like individual fishery quotas, and produces similar efficiencies. Spawning potential of sablefish, expressed as spawning biomass per recruit, increased nine percent for the IFQ fishery. Additional goals of the IFQ Program were to keep the historic fleet structure of the fishery, limit and discourage corporate ownership, limit windfall profits to participants granted quota, discourage speculative entry, and reward participants who invested in the fishery (long-time participants and active participants).

MSFCMA's National Standard 9 governs federal regulators. It states that conservation and management measures shall, to the extent practicable, A) minimize bycatch and B) to the extent bycatch cannot be avoided; minimize the mortality of such bycatch. Regulations in place address waste, discard, bycatch, and endangered species interactions in the sablefish fisheries. The NMFS promulgates these regulations through the NPFMC. In this respect, specific regulations were put in place intended to reduce the incidental mortality of the short-tailed albatross and other seabird species with revision in 1998 and 2008. The short-tailed albatross is a listed species under the Endangered Species Act (ESA).

The BOF enacted changes to state law, mirroring regulations within state waters for groundfish fisheries. These measures now include the use of streamer (tory) lines, night setting, line shooter and lining tubes, have been shown to reduce seabird interactions when setting or retrieving gear.

The NMFS and the ADFG have well-established regulations on fishing seasons and legal gear use. Discards of sablefish in the longline fishery are small, typically less than 5% of total catch. The catch of sablefish in the longline fishery typically consists of a high proportion of sablefish, 90% or more. However at times grenadiers may be a significant catch and they are almost always discarded. The trawl fishery operates under strict maximum retainable allowances for sablefish. The discards from trawl fisheries decreased from a 1994-2003 average of 825 t to an average of 262 mt for 2004-2009, while hook and line fisheries decreased slightly from 525 t down to 462 t.

Three gear types may be used to harvest sablefish in the GOA and BSAI – demersal longline (a passive gear type), pots (= traps, another passive gear type), and trawl (an active gear type). All of these gear types must be marked and operated in accordance with federal fisheries regulations – 50 CFR Part 679: Fisheries of the Exclusive Economic Zone off Alaska. Similar requirements apply to sablefish fisheries in state waters. Longline gear is the gear that lands the vast majority of sablefish. Longline and the manner of fishing have been developed over a long period of time to be selective of target species. Pot gear use mandates the inclusion of escape devices, should the pot be lost. The Alaska Administrative Code 5 AAC 39.145, as well as federal regulations under 50 CFR 679.2 state that pot gear in Alaska crab and bottom fish fisheries is required to have an escape mechanism consisting of an opening closed by 100% cotton twine.

The IFQ fishery in Alaska is carried out by experienced and competent fisherman. Obtaining sablefish IFQ share most often will require the purchaser (aspirant fisherman) to enter into loan capital arrangements with banks that will require comprehensive fishing business plans supported by competent, professional fishermen with demonstrable fishing experience. This competence and professionalism is a learned experience with the culmination of entrants into the fishery starting at deck hand level working their way up through proof of competence.

Fishing specific training is available from places including the Alaska Maritime Training Center (AMTC). AMTC's goal is to promote safe marine operations by effectively preparing captains and crew members for employment in the Alaskan maritime industry. The AMTC is a United States Coast Guard (USCG) approved training facility located in Seward, Alaska, and offers USCG/STCW-compliant maritime training.

## **E. Implementation, Monitoring and Control**

The U.S. Coast Guard (USCG) and NMFS Office of Law Enforcement (OLE) monitor and enforce Alaska fisheries laws and regulation. Sablefish landings must be reported to NMFS via its mandatory “e-landings” reporting system. Commercial harvests of pollock, sablefish and halibut are the primary enforcement responsibilities of OLE. The IFQ, Observer and Record Keeping/Reporting programs are the foundations of the Alaska Division program responsibilities.

In any given year, OLE Agents and Officers spend an average 10,000-11,000 hours conducting patrols and investigations, and an additional 10,000-11,000 hours on outreach activities. The OLE maintains 19 patrol boats around the country to conduct a variety of patrols including Protected Resources Enforcement Team (PRET) boardings, protection of National Marine Sanctuaries and various undercover operations.

Information collection and monitoring of logbook information and fish tickets at landing is carried out by NMFS's OLE. In addition, they inspect and cross check at landings and processors records for reconciliation.

The MSA provides four basic enforcement remedies for violations (50CFR600.740 Enforcement policy). NOAA's OLE Agents and Officers can assess civil penalties directly to the violator in the form of Summary Settlements (SS) or can refer the case to NOAA's Office of General Counsel for Enforcement and Litigation (GCEL). GCEL can then assess a civil penalty in the form of a Notice of Permit Sanctions (NOPs) or Notice of Violation and Assessment (NOVAs), or they can refer the case to the U.S. Attorney's Office for criminal proceedings. For perpetual violators or those whose actions have severe impacts upon the resource criminal charges may range from severe monetary fines to boat seizures and/or imprisonment may be levied by the United States Attorney's Office.

Sanctions include the possibility of temporary or permanent revocation of fishing privileges. Withdrawal or suspension of authorizations to serve as masters or officers of a fishing vessel are also among the enforcement options. Within the USA EEZ, penalties can range up through forfeiture of the catch to forfeiture of the vessel, including financial penalties and prison sentences.

For the state fisheries, the Alaska Wildlife Troopers (AWT) have increased undercover fisheries operations for sport and commercial fisheries over last 3 years. A fully staffed investigations unit dedicates time to commercial investigations. This includes cooperation, as jurisdictionally appropriate, with USCG and NMFS OLE.

## **F. Serious Impacts of the Fishery on the Ecosystem**

NPFMC and NOAA/NMFS conduct assessments and research on environmental factors on sablefish and associated species and their habitats. Findings and conclusions are published yearly in Stock Assessment and Fishery Evaluation Report, the annual Ecosystem SAFE documents, and research reports. The SAFE reports include sections for 1) Ecosystem effects on the stock; and 2) Effects of the sablefish fishery on the ecosystem. SAFE reports also describe results of first-order trophic interactions for sablefish from the ECOPATH model, an ecosystem modeling software package. The Resource Ecology and Ecosystem Management group at the AFSC provides up-to-date ecosystem information and assessments in annual *Ecosystem Considerations* documents. These annual reports include an ecosystem assessment, contributions with updated status and trend indices, and ecosystem-based management indices and information for the Bering Sea, Aleutian Islands, and the Gulf of Alaska ecosystems. These documents accompany the groundfish stock assessment reports presented to the North Pacific Fishery Management Council each fall.

NOAA also supports the Fisheries And The Environment (FATE) program with focus on the development, evaluation, and distribution of leading ecological and performance indicators. In 2010, FATE projects included a study to integrate environmental variables into sablefish recruitment and stock assessment models. Furthermore, the *Final Programmatic Supplemental Environmental Impact Statement for the Alaska Groundfish Fisheries* (PSEIS) (NMFS 2004) provides information about the effects of the fishery on the ecosystem and effects of the ecosystem on the groundfish fishery. It evaluates the historical effects of the spatial concentration of the state fishery and regime changes on sablefish stocks.

The PSEIS document provides evidence that physical oceanographic factors, particularly climate, have a controlling influence on biological community composition in the BSAI and GOA. An important conclusion drawn from these studies is that any effects of human activities on the marine environment should be considered in the context of the powerful physical forces that appear to be driving the BSAI and GOA ecosystems. Total biomass of commercially-fished species in shelf and slope areas had increased since 1984, despite a considerable, concurrent increase in harvest effort. At the same time, the abundances of unexploited (or underexploited) species including skate, some shark species, forage species, arrowtooth flounder, and other flatfish had increased. The controlling factor for these increases appeared to be environmental, with changes in community species composition in nearshore areas linked to an increase in advection in the Alaska Coastal Current. Scientists concluded that cyclical weather patterns increased flow around the GOA and enhanced the supply of nutrients and plankton on the shelf and upper slope areas, resulting in higher productivity.

Young-of-the-year sablefish prey mostly on euphausiids and copepods while juvenile and adult sablefish are opportunistic feeders. Larval sablefish abundance has been linked to copepod abundance and young-of-the-year abundance may be similarly affected by euphausiid abundance because of their apparent dependence on a single species. The dependence of larval and young-of-the-year sablefish on a single prey species may be the cause of the observed wide variation in annual sablefish recruitment.

In considering the impacts of the fishery on the ecosystem, researchers have defined possible concern for benthic species in habitat areas of particular concern (HAPC), seabirds, and by-catch of grenadiers, spiny dogfish, and other shark species. The sablefish fishery catches the majority of grenadier total catch (average 66%) and the trend is stable. The trend in seabird catch is variable but appears to be decreasing, presumably due to widespread use of measures to reduce seabird catch. Sablefish fishery catches of other species is minor. In order to protect endangered short-tailed albatross in other North Pacific fisheries, NMFS required seabird avoidance measures to be used by vessels fishing for Pacific halibut and sablefish in U.S. EEZ waters off Alaska in 1998 (63 FR 11161). As of 2004, longline vessels over 26 ft LOA are required to use either single or paired streamer lines (or in some cases for smaller vessels, a buoy bag line) to reduce incidental take of seabirds.

In 1992, fisheries observers reported eight sea otters taken incidentally by the Aleutian Island sablefish pot fishery. No other sea otter takes were reported from observed fisheries in the range of the southwest stock from 1993 through 2000. Killer and sperm whales frequently take fish directly from commercial fishing gear as it is retrieved. Interactions with commercial longline fisheries are well-documented throughout the BSAI. The placing of metallic beads throughout longline gear is been experimented to repel whales from plucking sablefish off longlines.

While it is possible that longlines could move small boulders it is unlikely fishing would persist where this would often occur. Relative to the effect on living structures and relative to the effect by bottom tending mobile gear, a significant effect of longlines on bedrock, cobbles, or sand is not easily envisioned.

## Further Information

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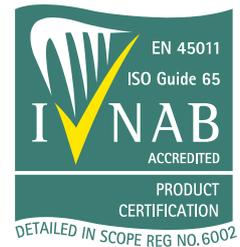
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**Table 1: Fishery Application Summary**

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State:	<b>Washington 98109-1634</b>		
Country:	<b>USA</b>		
Phone:	<b>(206) 352-8920</b>	E-mail Address:	<b><i>marketing@alaskaseafood.o rg</i></b>
Nominated Deputy:	<b>As Above</b>		
Deputy Phone:	As Above	Deputy E-mail Address:	<b>rrice@alaskaseafood.org</b>

**Table 2: Schedule of Key Assessment Activities**

Assessment Activities	Date (s)
Application Date	April 2010
Initial Site Visit Consultation Meetings	June –July 2010
Initial Validation Assessment Report	October 2010
Appointment of Full Assessment Team	September- October 2010
On-site Witnessed Assessment and Consultation Meetings	November and December 2010
Draft Assessment Report	August 2011
External Peer Review	September 2011
Final Assessment Report	October 2011
Certification Review/Decision	11 <sup>th</sup> October 2011

**Table 3: Global Trust Assessment Team Members**

Assessor	Role	Assessor	Role
<b>Dave Garforth,</b> Global Trust Certification Ltd. Quayside Business Park Dundalk, Co. Louth Ireland	Assessment Leader	<b>Deirdre Hoare,</b> Global Trust Certification Ltd. Quayside Business Park Dundalk, Co. Louth, Ireland	Assessor (Validation report only)
<b>Vito Ciccia Romito,</b> Global Trust Certification Ltd. Quayside Business Park Dundalk, Co. Louth Ireland	Technical support, Information management.	<b>Herman Savikko,</b> Douglas, Alaska USA	Assessor
<b>Stephen Grabacki,</b> Anchorage, Alaska USA	Assessor	<b>Steve Nelson</b> Arlington, Virginia USA	Assessor

<http://sustainability.alaskaseafood.org/black-cod-certification>

**Table 4: Peer Reviewers**

Alan Sinclair	Earl Krygier
<p>Alan Sinclair recently retired from a fisheries research career with Fisheries and Oceans Canada. His research included stock assessment methods and application with a recent emphasis on management strategy evaluation through feedback loop simulation and the application of the Precautionary Approach in achieving sustainable fisheries. He studied changes in fish population demographic characteristics including growth, juvenile survival, and adult natural mortality and the implications of these changes on productivity and management reference points. He investigated geologic and oceanographic factors influencing the spatial distribution of fish species, and the influence of environmental factors on recruitment. He worked with a number of national and international fisheries organizations including the Pacific Scientific Advice Review Committee (PSARC) chair of Groundfish Subcommittee; Canadian Atlantic Fisheries Advisory Committee (CAFSAC) chaired the Groundfish Subcommittee, the Statistics Sampling and Surveys Subcommittee; NAFO stock assessments and symposia; ICES annual science conferences, symposia and working groups; PICES annual science conference. He participated in fishery stock assessment meetings as reviewer and presenter in PSARC, CAFSAC, NAFO, ICES, and U.S. National Marine Fisheries Service (NMFS) Stock Assessment Review (STAR) Panels.</p> <p>Alan Sinclair is currently a member of the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) where he is the co-chair of the Marine Fishes Species Specialist Subcommittee.</p>	<p>Earl E. Krygier: BSc in Science, MSc from the Department of Fisheries and Wildlife, and a Ph.D Doctoral Thesis (on the role of nursery areas for juvenile english sole off Oregon) from the Oregon State University. From 1989 to 2008 he worked for ADFG’s Commercial Fisheries Division as Extended Jurisdiction Program Manager with primary responsibility on state policy coordination of state, national and international marine fishery matters (research, conservation and management, and policy development), provided support for the ADFG’s Commissioner in carrying out his NPFMC’s responsibilities/acting as his alternate (1989-1997). Earl represented ADFG at the IPHC for 19 years, and he was state representative at the Donut Hole and the U.S./Russian ICC meetings. He sat as alternate for the Commissioner on the North Pacific Research Board (NPRB), representing ADFG on Alaska’s CDQ Allocation Team; advising department staff, the Alaska BoF members, the Alaska Legislature and other state officials on NPFMC activities, proposed management plans, long-range policies and regulatory implications, or inter-jurisdictional issues arising from Council actions.</p> <p>Earl coordinated the State’s conservation and management policy for halibut at the NPFMC, the PFMC and the IPHC, that resulted in proper halibut bycatch management; stock utilization; equitable Alaska subsistence, sport and commercial harvests; helping ensure that development of CDQs and IFQ was done in accordance with conservation &amp; management objectives. From 2008 to present times he is the Owner/Manager of KEE Biological Consultants and served as the Marine Conservation Alliance Foundation’s (MCAF) Cooperative Research Coordinator.</p>

**Table 5: Certification Committee Members**

<p><b>Bill Paterson, Chairperson</b>  <b>Legal / Technical /Certification and Accreditation Expert</b>                  Global Trust Certification Ltd.</p>	
<p><b>Ciaran Kelly</b>  <b>Fishery Management Expert</b>                  Marine Institute. Ireland</p>	<p><b>Clare Murray</b>  <b>Fishery Scientist</b>                  Global Trust Certification Ltd.</p>
<p><b>Vito Ciccia Romito: Fishery Scientist /Information Management</b>                  Global Trust Certification Ltd. (Fishery Presentation to Certification Committee only)</p>	
<p><b>Dave Garforth: Fisheries and Certification Expert</b>                  Global Trust Certification Ltd. (Fishery Presentation to Certification Committee only)</p>	