FAO Based Responsible Fisheries Management Certification

Summary of the Certification of Alaska crab fisheries

Alaska Bering Sea King and Snow crab commercial fisheries are awarded certification to the FAO Based Responsible Fisheries Management Program.

Certification Determination

On the 16th April 2012 a positive Certification determination was awarded for the *fishery management of the U.S. Alaska Bering Sea King and Snow crab commercial fisheries,* against the FAO-based Responsible Fisheries Management (RFM) Certification Program (Conformance Criteria version 1.2)[1]. The assessment was performed at the request of the Alaska Seafood Marketing Institute (ASMI). This document provides a concise summary of the assessment information and certification decision.

The Full Assessment and Certification Report will be made available for download on request at Global Trust and ASMI's websites after the 25th May 2012: www.GTCERT.com and http://sustainability.alaskaseafood.org/crab-certification

The Units of Certification are the:

- **Alaska Bering Sea Bristol Bay Red King crab *(Paralithodes camtschaticus*) fishery fished by pot gear.**
- **Alaska Bering Sea St. Matthew Blue King crab (*Paralithodes platypus)* fishery fished by pot gear.**
- **Eastern Bering Sea Snow crab *(Chionoecetes opilio)* fishery fished by pot gear.**

All the units of certification are within Alaska jurisdiction (200 nautical miles EEZ) and subjected to a 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)] Joint management regime.

The resulting certification communication for the Alaska Bering Sea King and Snow crab commercial fisheries is: ***'Certified Responsible Fisheries Management'*.**

Following the 12 month assessment process, a Global Trust Certification Committee, composed of fishery, certification and accreditation experts, unanimously agreed with the Assessment Team's findings that the applicant Alaska Bering Sea King and Snow crab commercial fisheries are responsibly managed. The assessment and certification considered the effectiveness of management organizations, the robustness of fishery management plans and practices based on objective science and the outcomes of the management decisions and processes for these fisheries.

[1] Version 1.2 (Sept 2011), as derived by the United Nations Food and Agriculture Organization (FAO) Code of Conduct for Responsible Fisheries (1995), the FAO Guidelines for the Eco-Labeling of Fish and Fishery Products from Marine Capture Fisheries (2005) as amended/extended in 2009, and the FAO Fisheries Circular No. 917 by John. F. Caddy (1996).

Background to the FAO Based Responsible Fisheries Management (RFM) Certification

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 responsible management. These management systems are certified as consistent 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 Global Trust Certification lasts for five years and it involves annual surveillance assessments of the fishery. This Certification means that the Alaska Bering Sea King and Snow crab commercial fisheries have met the criteria for certification of responsibly managed fisheries at the point in time of the assessment. Annual surveillance assessments and a full re-assessment every 5 years will be used to verify that fishery management continues to perform responsibly.

The Alaska Bering Sea King and Snow crab commercial fisheries achieved high conformity against all clauses of the FAO-Based RFM Conformance Criteria. The separate peer review evaluations also supported a positive decision for certification. The information considered during the assessment has been collated and recorded. The assessment findings have been documented in a 250 page Full Assessment and Certification Report.

The assessment was conducted by Global Trust Certification according to the International Standards Organization (ISO) Guide 65:1996 procedures for FAO-based Responsible Fisheries Management Certification. ISO Guide 65 is the international general requirements for bodies operating product and process certification systems. 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 by the Irish National Accreditation Board (INAB) who is a member of the IAF.

Details of the Assessment

ASMI, on behalf of Alaska Bering Sea King and Snow crab commercial fisheries, submitted an application to Global Trust Certification for a formal assessment of the these fisheries to the requirements of the FAO-Based Responsible Fisheries Management (RFM) Certification Program.

After the initial site visits and validation assessments an expert Assessment Team was formed to undertake the full assessment. The Assessment Team was composed of independent assessors (Table 1) with expert competency in fishery science and management of commercial crab fisheries.

The Assessment Team's report was peer-reviewed by two additional independent experts (Table 2) before submission to a formal Global Trust Certification Committee (Table 3) for an independent certification decision.

The level of conformance of each fishery was scored against each clause of the FAO Based Conformance Criteria (version 1.2). Conformance ratings were assigned through consensus scoring by the assessment team, based on objective evidence derived and measured from each fishery and verified through on site meetings and consultations.

A. The Fisheries Management System

Fundamental 1

There shall be a structured and legally mandated management system based upon and respecting International, National and local fishery laws, for the responsible utilization of the stock under consideration and conservation of the marine environment.

No. Supporting clauses	**17**	**Non conformances**
Supporting clauses used	**9**	
Supporting clauses N/A	**6**	
Level of conformity	**HIGH**	**Zero**

Summarized evidence:

There is a structured, legally mandated management system based upon and respecting International, National and local fishery laws:

Alaska's Bering Sea and Aleutian Islands (BSAI) crab are managed under the Fishery Management Plan (FMP) for Commercial King and Tanner Crab approved by the United States Secretary of Commerce on June 2, 1989. The NPFMC is the regional council established by the Magnuson-Stevens Fishery Management and Conservation Act (MSFMCA or MSA) to oversee management of the Alaska's fisheries. MSA is the primary layer of governance for Bering Sea crab fisheries. While the NPFMC has responsibility for crab management in the BSAI, the BSAI crab FMP establishes a State/Federal cooperative management regime that defers crab management to the State of Alaska, specifically the department of Fish and Game (ADFG), with partial Federal oversight. The National Marine Fisheries Service (NMFS) Alaska Regional Office is responsible for the management, conservation, and protection of living marine resources within the Alaska EEZ (3-200 nm). The NMFS Alaska Fisheries Science Center (AFSC) in Seattle and the Kodiak Fisheries Research Center (KFRC) generate the scientific information and analysis necessary for the conservation, management, and utilization of the region's crab resources. The NMFS research is used by the NPFMC's Crab Plan Team (CPT) to recommend a Total Allowable Catch (TAC) in each fishery. ADFG uses their recommendations along with the best scientific data available at the time to establish catch limits for each of its crab fisheries in the Bering Sea. All fisheries activities and decisions are subject to conditions established by the MSA as well as actions taken by the Alaska Board of Fisheries (BOF) for all management Category 2 and 3 measures (e.g. size, season, sex, reporting requirements etc...) under the FMP. The BOF and the NPFMC's management arrangements and decision-making processes for the fishery are publically available and can be described as organized in a transparent manner. The Crab Rationalization program, first implemented in 1995, was subject to 18-month, two-year, and five-year program reviews. Refinements continue to occur as the program matures. The NMFS Office of Law Enforcement (OLE) with use of the United States Coast Guard's (USCG) at-sea platforms is primarily responsible for enforcing crab regulations at sea, while the NMFS OLE and the State of Alaska's Division of Wildlife Troopers (AWT) have that responsibility ashore.

The stocks under consideration are well defined:

These are well described and understood by the various science and management entities involved. The Bristol Bay Red King Crab *(Paralithodes camtschaticus)*, Eastern Bering Sea Snow Crab *(Chionoecetes opilio)* and St. Matthew Island Blue King Crab (*Paralithodes platypus)* stocks not considered common, shared, trans-boundary, straddling, highly migratory fish stocks or high seas fish stocks exploited by two or more States and bound by international agreements. The ADFG defines a succinct area under their regulation 5 AAC34.800 Description of Registration Area T, for the single stock Bristol Bay red king crab fishery. The St. Matthew Island blue king crab fishery is defined by

specific district boundaries encompassing the fishable population's location, under 5 AAC 34.905 (C)(2) Description of Registration Area Q districts, Saint Matthew Island Section. The district area boundaries for Eastern Bering Sea *C. opilio* snow crab are defined under 5 AAC 35.505 (e)(1) and (B)(2) Description of Registration Area J districts.

All sources of mortality and removals are considered by the management system and directed crab fisheries removals are well documented through the eLandings system. Crab bycatch in the groundfish bottom trawl fisheries is accounted for by the groundfish observer program, and crab bycatch caps are in place to limit take.

A. The Fisheries Management System

Fundamental 2

Management organizations shall participate in coastal area management institutional frameworks, decision-making processes and activities related to the fishery and its users, in support of sustainable and integrated resource use, and conflict avoidance.

No. Supporting clauses	**16**	**Non conformances**
Supporting clauses used	**15**	
Supporting clauses N/A	**1**	
Level of conformity	**HIGH**	**Zero**

Summarized evidence:

Participation in Institutional frameworks, decision making processes and activities:

The NMFS and the NPFMC participate in coastal area management-related institutional frameworks through the federal National Environmental Policy Act (NEPA) processes. This occurs whenever resources under their management may be affected by other developments and each time they create, renew or amend regulations. The fishery management agencies have processes, committees and groups that allow potential coastal zone developments and issues to be brought to formal review and engagement such as the NPFMC meetings or the BOF meetings. From witnessing the processes, interviews with representatives of these organizations, The Council and the BOF actively encourage stakeholder participation, and all their deliberations are conducted in open, public sessions. Decisions are transparently documented on the various websites of these organizations in a timely manner.

Fishery resource allocation and conflict avoidance:

The primary job of the NPFMC and the BOF is allocation of resources to different users. There is a clear and tangible separation of biological decisions from allocation of fishery opportunities. Rationalization of the fishery has been a long-term objective. Allocation and effort is appropriate to the available resource and promotes responsible fishing practice.

With a Congressionally approved approach creating Processor Quota Shares and Individual Fishing Quotas for rationalized crab fisheries in the BSAI in 2005, the numbers of buyers and sellers were capped, seasons were protracted and vessels were able to join cooperatives that resulted in fewer vessels deploying less gear on the grounds. The economic conditions under which fishing industries operate promote responsible fisheries, and these circumstances are actively reviewed and demonstrated in the analysis by NMFS. ADFG also track ex-vessel value of the fisheries they manage, and produce Annual Management Reports that support the analysis. Decisions are based on both biological and socio-economic information collected and analyzed by NPFMC, NMFS and ADFG staff economists that participate in the economic, social and cultural evaluation and review process of fishery management proposals. Allocation also considers subsistence and community development

initiatives. The Community Development Quota (CDQ) Program is a federal fisheries program that involves 65 communities within a fifty-mile radius of the Bering Sea coastline who participate in the BSAI crab fisheries and are allocated 10% of the harvest privileges for the crab species.

A. The Fisheries Management System

Fundamental 3

Management objectives shall be implemented through management rules and actions formulated in a plan or other framework.

No. Supporting clauses	**6**	**Non conformances**
Supporting clauses used	**6**	
Supporting clauses N/A	**0**	
Level of conformity	**HIGH**	**Zero**

Summarized evidence:

Long-term fisheries management objectives are clearly defined:

Long-term fisheries management objectives are outlined in the BSAI Crab FMP. State regulations for the king and snow/(& Tanner crab) fisheries are listed under the Alaska Administrative Code, Title 5, Chapter 34 and 35. The MSA, as amended, sets out ten national standards for fishery conservation and management (16 U.S.C. § 1851) to which all fishery management plans must be consistent.

In this respect, the BSAI king and Tanner crab FMP lists the following objectives - 1) Biological Conservation Objective: Ensure the long-term reproductive viability of king and Tanner crab populations; 2) Economic and Social Objective: Maximize economic and social benefits to the nation over time; 3) Gear Conflict Objective: Minimize gear conflict among fisheries; 4) Habitat Objective: To protect, conserve, and enhance adequate quantities of essential fish habitat (EFH) to support king and Tanner crab populations and maintain a healthy ecosystem; 5) Vessel Safety Objective: Provide public access to the regulatory process for vessel safety considerations; 6) Due Process Objective: Ensure that access to the regulatory process and opportunity for redress are available to all interested parties; 7) Research and Management Objective: Provide fisheries research, data collection, and analysis to ensure a sound information base for management decisions.

Conservation of aquatic habitats and biodiversity are integral parts of the NPFMC's management process. These concerns and decisions are summarized in the Ecosystems Considerations chapter of the Council's annual Stock Assessment and Fishery Evaluation (SAFE) and report. The annual Ecosystem SAFE reports outline the relative ecosystem considerations for the BSAI crab fisheries. Furthermore, Essential Fish Habitats (EFH) identification and protection constitute a key objective for the management system as outlined in the BSAI crab FMP. Many groundfish fisheries have closed areas or restricted harvest prescriptions to protect crab and their habitat. The pot gear deployed is demonstrated to be relatively selective, with ADFG mandated escape mechanisms for juvenile crabs and females, and biodegradable pot components to reduce ghost fishing from lost pots. Pots loss has decreased considerably since rationalization (and season extension) of the BSAI crab fisheries.

B. Science and Stock Assessment Activities

Fundamental 4

There shall be effective fishery data (dependent and independent) collection and analysis systems for stock management purposes.

No. Supporting clauses	**14**	**Non conformances**
Supporting clauses used	**9**	
Supporting clauses N/A	**5**	
Level of conformity	**HIGH**	**Zero**

Summarized evidence:

Data collection, aggregation and use

The collection, aggregation and use of data in stock assessments for the BSAI crab fisheries are undertaken through collaboration between primarily the NPFMC, the NMFS and ADFG. Data collection, analysis and stock assessment of the BSAI crab fisheries respect the NPFMC's BSAI crab FMP requirements. NMFS and ADFG collect fishery dependant data and undertake fishery-independent surveys for all BSAI crab fisheries providing the basis for the assessment of the crab stocks and their impact on the ecosystem. The NMFS annual trawl surveys of the eastern Bering Sea provide indices of relative abundance and biomass for all three fisheries. Full details of the datasets for the three fisheries and their time series can be found in the annual Stock Assessment and Fishery Evaluation (SAFE) reports.

Bristol Bay red king crab (BBRKC) and Eastern Bering Sea snow crab (EBSSC) bycatch data are collected by ADFG and NMFS, and fisheries-independent data from the NMFS annual trawl surveys of the eastern Bering Sea and two recent Bering Sea Fisheries Research Foundation (BSFRF) surveys. St Matthew blue king crab (SMBKC) fisheries data are collected by ADFG, bycatch data by ADFG and NMFS, and fisheries-independent data from the NMFS annual trawl surveys of the eastern Bering Sea and the triennial ADFG pot survey. ADFG runs and deploys ADFG observers on vessel participating in the BSAI crab fisheries as an important component of data collection and fishery management. Observers are deployed on all catcher-processor vessels in the crab fisheries, on randomly selected catcher vessels in the BBRKC and EBSSC fisheries, and in all vessels fishing for SMBKC. Observed pot lifts in 2009/10 represented 1.6%, 1.2% and 9.2% of the total pot lifts in the fishery for the BBRKC, EBSSC and SMBKC fisheries respectively. All three fisheries have effective fishery data collection systems in place and surveys providing fishery-independent estimates of stock biomass and there are sufficiently long time series of both fishery-dependent and fishery-independent data. In addition to fishery data, annual SAFE reports provide information on ecosystem indicators which may have an impact on BSAI crab stocks.

The socio-economic data requirements as set in the BSAI crab FMP include: 1) the value of crab harvested, 2) the future value of crab, based on the value of a crab as a member of both the parent and harvestable stock, 3) subsistence harvests within the registration area, and 4) economic impacts on coastal communities. The Economic and Social Sciences Research Program within NMFS's REFM division provides economic and socio-cultural information that assists NMFS in meeting its stewardship programs.

B. Science and Stock Assessment Activities

Fundamental 5

There shall be regular stock assessment activities appropriate for the fishery, its range, the species biology and the ecosystem, undertaken in accordance with acknowledged scientific standards to support its optimum utilization.

No. Supporting clauses	**11**	**Non conformances**
Supporting clauses used	**10**	
Supporting clauses N/A	**1**	
Level of conformity	**HIGH**	**Zero**

Summarized evidence:

Stock assessment activities:

The NMFS undertakes shellfish stock assessments through the annual Eastern Bering Sea trawl survey which provides the primary input to the shellfish assessments. NMFS shellfish assessment programs are coordinated between the ASFC's Kodiak Laboratory and the NOAA/NMFS AFSC in Seattle, Washington. The AFSC is split into a number of Divisions which contribute to research and stock assessment of shellfish. The Resource Assessment and Conservation Engineering (RACE) Division comprises scientists from a wide range of disciplines whose function is to conduct quantitative fishery surveys and related ecological and oceanographic research to describe the distribution and abundance of commercially important fish and crab stocks in the region, and to investigate ways to reduce bycatch, bycatch mortality and the effects of fishing on habitat. Information derived from both regular surveys and associated research are analysed by AFSC stock assessment scientists and supplied to fishery management agencies and to the commercial fishing industry. The Resource Ecology and Fisheries Management (REFM) Division conducts research and data collection to support an ecosystem approach to management of fish and crab resources. More than twenty-five groundfish and crab stock assessments are developed annually and used to set catch quotas. In addition, economic and ecosystem assessments are provided to the Council on an annual basis. The Fisheries Monitoring and Analysis Division (FMA) monitors groundfish fishing activities and conducts research associated with sampling commercial fishery catches and estimation of catch and bycatch mortality, and analysis of fishery-dependent data.

For the BBRKC fishery, a length-based analysis (LBA) model combines multiple sources of survey, catch and bycatch data using a maximum likelihood approach to estimate abundance, recruitment and catchabilities, catches and bycatch of the commercial pot fisheries and groundfish trawl fisheries. For the SMBKC fishery a three-stage catch-survey analysis (CSA) assesses the male component of the stock incorporating data from commercial catches from the directed fishery and its observer program, the annual EBS trawl survey, triennial pot surveys and bycatch data from the groundfish trawl fishery. This assessment model is in development and has not yet been approved by the Crab Plan Team, so for 2011 a survey-based assessment was used. For the EBSSC fishery the stock assessment uses a size and sex-structured model which is fitted to time series of total catch data from the directed fishery and bycatch data from the trawl fishery, size frequency data from the catch in the pot fishery and the bycatch in both the pot and trawl fisheries, and abundance data from the NMFS trawl survey and two recent BSFRF surveys. The assessment provides a range of alternative model scenarios, but all model scenarios indicate that the stock is rebuilt.

Ecosystem SAFE documents are provided yearly to the NPFMC. An ongoing goal is to produce an ecosystem assessment utilizing a blend of data analysis and modelling to clearly communicate the current status and possible future directions of ecosystems. A NEPA Environmental Impact

Assessment for the BSAI crab fisheries was prepared in 2004 to provide decision-makers and the public with an evaluation of the environmental, social, and economic effects of alternative management/rationalization programs, including the rationalization selected by the Council.

C. The Precautionary Approach

Fundamental 6

The current state of the stock shall be defined in relation to reference points or relevant proxies or verifiable substitutes allowing for effective management objectives and target. Remedial actions shall be available and taken where reference point or other suitable proxies are approached or exceeded.

No. Supporting clauses	**5**	**Non conformances**
Supporting clauses used	**5**	
Supporting clauses N/A	**0**	
Level of conformity	**HIGH**	**Zero**

Summarized evidence:

Status determination criteria for crab stocks, reference points and relative biomass:

The status determination criteria for crab stocks are calculated on an annual basis using a five-tier system that accommodates varying levels of uncertainty of information, and incorporates new scientific information providing a mechanism for continually improving the status determination criteria as more information becomes available. For tier 3 stocks, the target reference point is $B_{35\%}$ (when spawning biomass is reduced to 35% of the unfished condition), a proxy for Bmsy, or biomass at Maximum Sustainable Yield (MSY). Stock status of BSAI crabs are determined by two metrics. Firstly, the stock is considered to be overfished if the stock size is estimated to be below the minimum stock size threshold (MSST) or limit reference point (1/2 MSY). Secondly, overfishing is considered to have occurred if the exploitation level, or fishing mortality, exceeds the fishing mortality at the overfishing level (F_{OFL}), or more intuitively if the total catch exceeds the OFL level (equivalent to MSY).

Reference points are considered appropriate and precautionary for stock harvest practices.

Stock	Reference Point (RP)	Biomass at RP	Biomass at present	Percentage of Reference Point
BBRKC	$B_{35\%}$	27.3 kt	32.64 kt	119%
SMBKC	Bmsy proxy	3.04 kt	6.70 kt	220%
EBSSC	$B_{35\%}$	147.5 kt	196.6 kt	133%

The five tier system was evaluated by a review team appointed by the Committee for Independent Experts (CIE) in 2006, whose report provided important input to the final version of the system now in operation. A full management strategy evaluation (MSE) to assess the robustness of the current Eastern Bering Sea snow crab model has been funded by North Pacific Research Board (NPRB) for the period 2008-2011. There is strong evidence from the assessments that since rationalization, the level of fishing permitted for all three crab stocks has been commensurate with the current state of the fishery resources and never exceeded the overfishing level.

C. The Precautionary Approach

Fundamental 7

Management actions and measures for the conservation of stock and the aquatic environment shall be based on the Precautionary Approach. Where information is deficient a suitable method using risk assessment shall be adopted to take into account uncertainty.

No. Supporting clauses	**7**	**Non conformances**
Supporting clauses used	**3**	
Supporting clauses N/A	**4**	
Level of conformity	**HIGH**	**Zero**

Summarized evidence:

The FAO Guidelines for the Precautionary Approach (PA) are satisfied:

The precautionary approach is applied widely to conservation, management and exploitation of living aquatic resources in order to protect them and preserve the aquatic environment. The MSA, as amended, sets out ten national standards for fishery conservation and management. The BSAI Crab FMP is consistent with MSA requirements in applying the Precautionary Approach to fisheries. The FAO Guidelines for the Precautionary Approach (PA) (FAO 1995) advocate a comprehensive management process that includes data collection, monitoring, research, enforcement, and review, prior identification of desirable (target) and undesirable (limit) outcomes, and measures in place to avoid and correct undesirable outcomes, the action to be taken when specified deviations from operational targets are observed and an effective management plan. Lastly, the FAO guidelines advocate that the absence of adequate scientific information should not be used as a reason for postponing or failing to take measures to conserve target species, associated or dependent species as well as non-target species and their environment. The overall management for the BBRKC, EBSSC and SMBKC comprises all the elements as specified above in the FAO guidelines for the PA.

Absence of adequate scientific information is not used as a reason for postponing or failing to take conservation and management measures. The three crab stocks part of this assessment are managed under a tier system rule based on stock knowledge. Status determination criteria for crab stocks are annually calculated using a five-tier system that accommodates varying levels of uncertainty of information. The five-tier system incorporates new scientific information and provides a mechanism to continually improve the status determination criteria as new information becomes available. The lower the tier, the less conservative the determination of OFL/ABC and ACL are. This is because more conservative determinations are at the higher tier levels (where less stock information is available). This system is intrinsically precautionary in nature and the results involve catches always lower than the overfishing level. Also, a key component of the annual assessments and subsequent SAFE reports for the BSAI crab fisheries is the identification of components of the assessment where there are gaps in evidence which require further research and/or improvements.

D. Management Measures

Fundamental 8

Management shall adopt and implement effective measures including; harvest control rules and technical measures applicable to sustainable utilization of the fishery and based upon verifiable evidence and advice from available scientific and objective, traditional sources.

No. Supporting clauses	**10**	**Non conformances**
Supporting clauses used	**10**	
Supporting clauses N/A	**0**	
Level of conformity	**HIGH**	**Zero**

Summarized evidence:

Management measures:

The NPFMC's FMP for BSAI crab stocks outlines the harvest strategy and harvest control rule, the stock status definitions, the criteria used to determine stock status using a five-tier system and the step-by-step framework under which the NPFMC sets final overfishing levels (OFLs) and acceptable biological catches (ABCs). The BSAI Crab FMP Plan authorizes the use of pot gear (and ring nets, although not used) to harvest the crab resources. Trawls and tangle nets are specifically prohibited because of the high mortality rates which they inflict on non legal crab. Title 5 of Fish and Game, Chapter 34 and 35 of the Alaska Administrative Code (5 AAC 34 and 35) lists all state requirements for the BSAI crab fisheries.

Crab rationalization:

The Crab rationalization program has experienced extensive public review. It allocates BSAI crab resources among harvesters, processors, and coastal communities who have been involved with and/or were dependent upon these fisheries. The NPFMC developed the Program over a 6-year period to accommodate the specific dynamics and needs of the BSAI crab fisheries. The Program, implemented in 2005, builds on the Council's experiences with the halibut and sablefish Individual Fishing Quota (IFQ) program and the American Fisheries Act (AFA) cooperative program for Bering Sea pollock. The Program is a limited access system that balances the interests of several groups who depend on these fisheries. It addresses conservation and management issues associated with the previous derby fishery, reduces bycatch and associated discard mortality, and increases the safety of crab fishermen by ending the race for fish. Share allocations to harvesters and processors, together with incentives to participate in fishery cooperatives, increases efficiencies, provides economic stability, and facilitates compensated reduction of excess capacities in the harvesting and processing sectors. Community interests are protected by CDQ allocations and regional landing and processing requirements, as well as by several community protection measures.

The BSAI crab FMP defers design specifications required for commercial crab pots and ring nets to the State. Escape mechanisms may be incorporated or mesh size adjusted to allow female and sublegal male crab to escape. Crabbers are constructing pots with larger web on the panels to allow for female and juvenile crab to exit the pot before the gear is hauled back. The yearly marine habitat footprint has been assessed and its impact considered very small for the entire BSAI directed crab fisheries. Regulation imposes that undersized males and females must be promptly discarded from crab vessels to decrease handling mortality rates. Discarded crabs are returned to the sea in a variety of methods including direct release and/or with the use of chutes and ramps.

The Federal BSAI Crab FMB describes fishing season requirements, those are aimed to protect king and snow/Tanner crabs during the molting and mating portions of their life cycle. Also, groundfish

closure areas, or trawl protection areas, are in place to minimize the impact of groundfish harvests on crab resource. In addition, Section 4.0 of the BSAI Crab FMP addresses the requirement in EFH regulations (50 CFR 600.815(a)(2)(i)) that each FMP must contain an evaluation of the potential adverse effects of all regulated fishing activities on EFH. This evaluation assesses whether fishing adversely affects EFH in a manner that is more than minimal and not temporary in nature (50 CFR 600.815(a)(2)(ii)). This standard determines whether Councils are required to act to prevent, mitigate, or minimize any adverse effects from fishing, to the extent practicable.

D. Management Measures

Fundamental 9

There shall be defined management measures designed to maintain stocks at levels capable of producing maximum sustainable levels.

No. Supporting clauses	**11**	**Non conformances**
Supporting clauses used	**9**	
Supporting clauses N/A	**2**	
Level of conformity	**HIGH**	**Zero**
Items noted for Surveillance	Essential Fish Habitat interactions with groundfish trawling. This specific item is scheduled next for discussion on the Council session post the October 2012 meeting. This will be subject to review by the assessment team.	

Summarized evidence:

Management measures to maintain the crab stocks at maximum sustainable levels:

As specified in the BSAI crab FMP, there is clearly defined harvest strategy that consists of a set of defined management measures designed to maintain the crab stocks at levels capable of producing maximum sustainable levels. These include harvest control rule, stock status definitions, criteria used to determine stock status using a five-tier system and the step-by-step framework under which the NPFMC sets final overfishing levels (OFLs) and acceptable biological catches (ABCs). The St Matthew Blue King crab fishery was declared overfished and closed in 1999 when the stock size estimate was below the MSST (limit reference point). In November of 2000, Amendment 15 to the FMP was approved to implement a rebuilding plan for the St. Matthew Island blue king crab stock. In 2008/09 and 2009/10, the MMB was above Bmsy for two years and was declared rebuilt in 2009. In 2000, the decline in abundance of EBS snow crab caused the declaration of the stock as overfished. After 2000, a rebuilding strategy was developed based on simulations by Zheng (2002). The currency for estimating BMSY changed during the 10 year rebuilding period. Using the current definitions for estimating BMSY, and the model results for any scenario presented in the 2011 Crab SAFE report, the snow crab stock was above BMSY for the last three years (2008/09, 2009/10 and 2010/11). The total mature observed survey biomass in 2011 was 447,400 t which is also above the Bmsy (418,150 t) in place under the rebuilding plan implemented in 2000.

Essential Fish Habitats (EFH) to maintain stocks capable of producing MSY:

The MSA defines EFH as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.” EFH are necessary to maintain stocks capable of producing maximum sustainable yields. The NMFS and the NPFMC must describe and identify EFH in FMPs, minimize to the extent practicable the adverse effects of fishing on EFH, and identify other actions to encourage the conservation and enhancement of EFH. At present, there is an area of overlap between current

female red king crab distribution and areas where trawling occurs in the southern Bristol Bay. A high density of mature female crab were found in the heavy trawling area during 2008-2009, and it appears that mature female crab moved back to the historical important spawning ground in the southern Bristol Bay. Given the current overlap, trawling intensity in the southern Bristol Bay, and the importance of the spawning ground there, professional judgement indicates heavy trawling could impact the stock recovery and jeopardize the ability of the stock to produce MSY over the long term. In this regard, a staff discussion paper is been developed by the Council and the NMFS in March 2012. Seven options for Council action have been proposed including establishment/extension of trawl closures, seasonal closures or designation of habitat areas of particular concern (HAPC). This specific item is scheduled next for discussion on the Council session post the October 2012 meeting. This will be subject to review by the assessment team.

D. Management Measures

Fundamental 10

Fishing operations shall be carried out by fishers with appropriate standards of competence in accordance with international standards and guidelines and regulations.

No. Supporting clauses	**3**	**Non conformances**
Supporting clauses used	**3**	
Supporting clauses N/A	**0**	
Level of conformity	**HIGH**	**Zero**

Summarized evidence:

Training opportunities and facilities:

The North Pacific Fishing Vessel Owners association (NPFVO) provides a large and diverse training program that many of the professional crew members must pass. Training ranges from firefighting on a vessel, damage control, man- overboard, MARPOL, etc., and The Sitka-based Alaska Marine Safety Education Association alone has trained more than 10,000 fishermen in marine safety and survival through a Coast Guard-required class on emergency drills. The State of Alaska, Department of Labor & Workforce Development (ADLWD) includes AVTEC (formerly called Alaska Vocational Training & Education Center, now called Alaska's Institute of Technology). One of AVTEC's main divisions is the Alaska Maritime Training Center. The goal of the Alaska Maritime Training Center is to promote safe marine operations by effectively preparing captains and crew members for employment in the Alaskan maritime industry. The Alaska Maritime Training Center is a United States Coast Guard (USCG) approved training facility located in Seward, Alaska, and offers USCG/STCW-compliant maritime training (STCW is the international Standards of Training, Certification, & Watchkeeping). In addition to the standard courses offered, customized training is available to meet the specific needs of maritime companies

Also, the University of Alaska Sea Grant Marine Advisory Program (MAP) provides education and training in several sectors, including fisheries management, in the forms of seminars and workshops. MAP also conducts sessions of their Alaska Young Fishermen's Summit. Each Summit is an intense course in all aspects of Alaska fisheries, from fisheries management & regulation (e.g. MSA), to seafood markets & marketing. The 2012 AYFS was held February 13th and 14th in Juneau, AK. The two-day conference aimed at providing crucial training and networking opportunities for fishermen entering the business or wishing to take a leadership role in their industry. The event took advantage of the Juneau location by introducing participants to the legislative process, and introducing the fish caucus of the legislature to the issues and concerns of Alaska's emerging fishermen. In addition to this, MAP provides training and technical assistance to fishermen and seafood processors in Western Alaska. A number of training courses and workshops were developed in cooperation with local

communities and CDQ groups. Additional education is provided by the Fishery Industrial Technology Center, in Kodiak, Alaska.

E. Implementation, Monitoring and Control

Fundamental 11

An effective legal and administrative framework shall be established and compliance ensured through effective mechanisms for monitoring, surveillance, control and enforcement for all fishing activities within the jurisdiction.

No. Supporting clauses	**6**	**Non conformances**
Supporting clauses used	**2**	
Supporting clauses N/A	**4**	
Level of conformity	**HIGH**	**Zero**

Summarized evidence:

Enforcement agencies:

The NMFS Office of Law Enforcement with use of the United States Coast Guard's at-sea platforms is primarily responsible for enforcing crab regulations at sea, while the NMFS Office of Law Enforcement and the State of Alaska's Division of Wildlife Troopers (AWT) have that responsibility ashore. AWT spends about 90% of their effort conducting dockside enforcement of offloaded crab (although the AWT vessel E/V Stinson conducts at-sea enforcement, checking gear and catch for legal specification). Wildlife Troopers also perform pot and vessel holding tank inspections prior to each fishing season. More generally, AWT personnel check state regulations, permits, gear and catch.

Fishing permit requirements:

Fishing vessels are not allowed to operate on the crab resources without specific authorization. All vessels participating in the BSAI rationalized crab fishery must obtain a Federal Crab Vessel Permit (FCVP). A copy of the permit must be on board any vessel of the fishery and must be available for inspection at any time by an authorized officer. As of January 1, 2000 a Federal License Limitation Program (LLP) license is required for vessels participating in directed fishing for LLP groundfish species in the GOA or BSAI, or fishing in any BSAI LLP crab fisheries. A vessel must be named on an original LLP license that is onboard the vessel. The LLP is authorized in Federal regulations at 50 CFR 679.4(k), definitions relevant to the program are at 679.2, and prohibitions are at 679.7. All such vessels will also possess a State of Alaska Commercial Fisheries Entry Commission (CFEC) permit if they make a commercial landing. The entire crab harvests are conducted in Alaskan waters by American vessels. No foreign fleet is allowed to fish in the Alaska's EEZ. All fishing vessels must be at least 75% U.S. ownership. Because the fishery was rationalized in 2005, most enforcement of IFQ/IPQ violations, as well as size, sex and season violations occur at offloading.

E. Implementation, Monitoring and Control

Fundamental 12

There shall be a framework for sanctions for violations and illegal activities of adequate severity to support compliance and discourage violations.

No. Supporting clauses	**4**	**Non conformances**
Supporting clauses used	**2**	
Supporting clauses N/A	**2**	
Level of conformity	**HIGH**	**Zero**

Summarized evidence:

Enforcement policies and regulations, state and federal:

In Alaska waters, enforcement policy section 50CFR600.740 states: (a) The MSA provides four basic enforcement remedies for violations, in ascending order of severity, as follows: (1) Issuance of a citation (a type of warning), usually at the scene of the offense (see 15 CFR part 904, subpart E). (2) Assessment by the Administrator of a civil money penalty. (3) For certain violations, judicial forfeiture action against the vessel and its catch. (4) Criminal prosecution of the owner or operator for some offenses. The MSA treats sanctions against the fishing vessel permit to be the carried out of a purpose separate from that accomplished by civil and criminal penalties against the vessel or its owner or operator. The "Policy for the Assessment of Civil Administrative Penalties and Permit Sanctions" issued by NOAA Office of the General Counsel – Enforcement and Litigation on March 16, 2011, provides guidance for the assessment of civil administrative penalties and permit sanctions under the statutes and regulations enforced by NOAA. The purpose of this Policy is to ensure that: (1) civil administrative penalties and permit sanctions are assessed in accordance with the laws that NOAA enforces in a fair and consistent manner; (2) penalties and permit sanctions are appropriate for the gravity of the violation; (3) penalties and permit sanctions are sufficient to deter both individual violators and the regulated community as a whole from committing violations; (4) economic incentives for noncompliance are eliminated; and (5) compliance is expeditiously achieved and maintained to protect natural resources.

The Marine Division of AWT and the State of Alaska Department of Law pursue a very aggressive enforcement policy. They attend the BOF and are integral into the process for regulation formulation and legislation, analogous to the USCG attendance and input in the Council process. AWT has Statutory / Regulatory legislation pertaining to their Authority: AS 16 Fish & Game, 5AAC Fish & Game, 20 AAC Commercial Fishing, AS 11 Criminal, AS 46 Environment, AS 44 State Government, AS 02 Aeronautics, AS 18 Health & Safety. A State violation is a criminal violation (strict liability).

F. Serious Impacts of the Fishery on the Ecosystem

Fundamental 13

Considerations of fishery interactions and effects on the ecosystem shall be based on best available science, local knowledge where it can be objectively verified and using a risk based management approach for determining most probable adverse impacts. Adverse impacts on the fishery on the ecosystem shall be appropriately assessed and effectively addressed.

No. Supporting clauses	**13**	**Non conformances**
Supporting clauses used	**13**	
Supporting clauses N/A	**0**	
Level of conformity	**HIGH**	**Zero**
Items noted for Surveillance	Essential Fish Habitat interactions with groundfish trawling. This specific item is scheduled next for discussion on the Council session post the October 2012 meeting. This will be subject to review by the assessment team.	

Summarized evidence:

Ecosystem reports and studies:

The purpose of the Crab Ecosystem Considerations and Indicators (CECI) report is to consolidate ecosystem information specific to the crab stocks in the BSAI FMP. The CECI serves as an appendix to the yearly BSAI King and Tanner crab SAFE report. The CECI report is composed of the Ecosystem Assessment chapter, the Current Status of Ecosystem Indicators chapter, and the Ecosystem-based Management Indicators chapter. Several programs are in place to study the BSAI Ecosystem and its living resources. The Fisheries And The Environment (FATE) program's focus of FATE is on the development, evaluation, and distribution of leading ecological and performance indicators.

The North Pacific Research Board (NPRB) was created by Congress in 1997 to conduct research activities on or relating to the fisheries or marine ecosystems in the North Pacific Ocean, Bering Sea, and Arctic Ocean with a priority on cooperative research efforts designed to address pressing fishery management or marine ecosystem information needs. For the Bering Sea, a large multiyear ecosystem project is winding towards completion. It consists of two large projects that will be integrated, the Bering Ecosystem Study (2007-2010) and the Bering Sea Integrated Ecosystem Research Program (2008-2012).

2010 Essential Fish Habitats review, and pot gear impacts:

The last EFH review (2010) identified impacts of trawling on EFH habitat of red King Crab in Southern Bay. This is being considered by the NPFMC and is an active item for discussion past the October 2012 Council Session. In the BSAI crab fisheries Final Environmental Impact Statement (EIS), the impact of pot gear on benthic Eastern Bering Sea species is discussed. Benthic species examined included fish, gastropods, coral, echinoderms (sea stars and sea urchins), non-target crab, and invertebrates (sponges, octopuses, anemones, tunicates, bryozoans, and hydroids). The total portion of the EBS impacted by commercial pot fishing may be less than 1% of the shelf area and the report concludes that BSAI crab fisheries have an insignificant effect on benthic habitat. Habitat protection areas, prohibited species caps (PSC) and crab bycatch limits are in place to protect important benthic habitat for crab and other resources and reduce crab bycatch in the trawl and fixed gear fisheries. If PSC limits are reached in predetermined bottom trawl fisheries executed in specific areas, those fisheries are closed.

Bycatch and ETP species

The EBS crab fisheries catch a small amount of other species as bycatch. A limited number of

groundfish, such as Pacific cod, Pacific halibut, yellowfin sole, and sculpin are caught in the directed pot fishery. The invertebrate component of bycatch includes echinoderms (stars and sea urchin), snails, non-FMP crab (hermit crabs and lyre crabs), and other invertebrates (sponges, octopus, anemone, and jellyfish). Typically, low levels of bycatch of these species do not impact their abundance. As noted in the Endangered Species Act EIS report, crab fisheries do not adversely affect ESA listed species, destroy or modify their habitat, or comprise a measurable portion of their diet.

Based on food habits data collected in the summer months during the annual EBS bottom trawl survey, Pacific cod, Pacific halibut and skates are the primary predators of large or legal size crab although legal-sized crab are a minimal component of these predators diets. It is possible that male-only fisheries with minimum size limits reduce the abundance of large crab; however this has not been examined for Bering Sea crab stocks. The short and long term effects of removing large male crab from a population are not well understood and may vary by species and population as outlined in various scientific studies. Such studies are ongoing.

Further Information

Global Trust Certification Ltd
Head Office: 3rd floor, Block 3, Quayside Business Park
Dundalk, Co. Louth, Ireland.

Head Office Tel: +353 42 932 0912

Seattle Office Tel: +1 206 273 7795

Canada Office Tel: +1 709 765 1000

UK Office Tel: + 44 1829 730892

Email: info@GTCERT.com

Web: www.GTCERT.COM

ASMI website: **http://sustainability.alaskaseafood.org/crab-certification**

Key Email Contacts

Alaska Crab Client: rrice@alaskaseafood.org
Assessment Team / Findings Details: davegarforth@GTCERT.com
Assessment Report Requests: vitoromito@GTCERT.com
Certification Decision Details: petermarshall@GTCERT.com
Accreditation Details: billpaterson@GTCERT.com
Chain of Custody Details: mikerose@GTCERT.com
General Comments: info@GTCERT.com

Table 1: Global Trust Assessment Team Members

Assessor	Role	Assessor	Role
Dave Garforth, Global Trust Certification Ltd. Quayside Business Park Dundalk, Co. Louth Ireland	Lead Assessor	**Vito Ciccia Romito,** Global Trust Certification Ltd. Quayside Business Park Dundalk, Co. Louth Ireland	Assessor
Mr. Herman Savikko, Alaska, USA.	Assessor	**Dr. Julian Addison,** Cavaillon, France.	Assessor
Prof. Thomas Shirley. Texas, USA.	Assessor		

http://sustainability.alaskaseafood.org/crab-certification

Table 2: Peer Reviewers

Dr. Jerry Ennis	Earl Krygier
Following undergraduate and graduate degrees at Memorial University of Newfoundland in the 1960s, Dr. Ennis completed a Ph.D. in marine biology at University of Liverpool in the early 1970s. He retired in 2005 following a 37-year research career with the Science Branch of the Department of Fisheries and Oceans. His extensively published work (40 in the primary, peer reviewed literature) has focused primarily on lobster fishery and population biology and on various aspects of larval, juvenile and adult lobster behaviour and ecology, as well as snow crab biology in Newfoundland waters. Throughout his career, Dr. Ennis was heavily involved in the review and formulation of scientific advice for management of shellfish in Atlantic Canada as well as the advisory/consultative part of managing the Newfoundland lobster fishery. In retirement, published several articles aimed at presenting fishery science primarily to harvesters but to other interested parties as well, and participated in four MSC certification projects as reviewer or assessor.	Earl E. Krygier gained a BSc in Science, an MSc from the Department of Fisheries and Wildlife, and completed a Ph.D Doctoral Thesis (on the role of nursery areas for juvenile English sole off Oregon) at 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 ADFG's Commissioner in carrying out his NPFMC's responsibilities and acting as the Commissioner's alternate (1989-1997). He sat as alternate for the Commissioner on the North Pacific Research Board (NPRB); represented ADFG on Alaska's CDQ Allocation Team; advised department staff, the Alaska BoF members, the Alaska Legislature and other state officials on NPFMC activities; and proposed management plans, long-range policies and regulatory implications, or inter-jurisdictional issues arising from Council actions. 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.

Table 3: Certification Committee Members

<table>
<tr><td colspan="2">Bill Paterson,
Legal / Technical /Certification and Accreditation Expert
Global Trust Certification Ltd.</td></tr>
<tr><td>Ciaran Kelly
Fishery Management Expert
Marine Institute. Ireland</td><td>Clare Murray
Fishery Scientist
Global Trust Certification Ltd.</td></tr>
<tr><td colspan="2">Also in Attendance</td></tr>
<tr><td colspan="2">Vito Ciccia Romito: Fishery Scientist
Global Trust Certification Ltd. (Fishery Presentation to Certification Committee only)</td></tr>
<tr><td colspan="2">Dave Garforth: Fisheries and Certification Expert
Global Trust Certification Ltd. (Fishery Presentation to Certification Committee only)</td></tr>
</table>