

SURVEILLANCE NO. 3

Report for the Alaska Flatfish Complex fishery

Alaska Seafood Cooperative

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Objective:

The objective of this report is the third surveillance audit of the Alaska Flatfish Complex fishery against the RFM standard.

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-
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Reference to part of this report which may lead to misinterpretation is not permissible.

Rev. No.	Date	Reason for Issue	Prepared by
0	16.06.2017	First Issue	Andy Hough, Anna Kiseleva, Bill Brodie, Paul Knapman



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GLOSSARY

Abbreviations & acronyms

ABC	Allowable Biological Catch
ADFG	Alaska Department of Fish and Game
AFA	American Fisheries Act
AFSC	Alaska Fisheries Science Center
ASMI	Alaska Seafood Marketing Institute
BOF	Board of Fisheries
BSAI	Bering Sea and Aleutian Islands
CCRF	Code of Conduct for Responsible Fisheries
CDQ	Community Development Quota
CFEC	Commercial Fisheries Entry Commission
CPUE	Catch per Unit Effort
EIS	Environmental Impact Statement
EEZ	Exclusive Economic Zone
EFH	Essential Fish Habitat
ESA	Endangered Species Act
FAO	Food and Agriculture Organization of the United Nations
FMP	Fishery Management Plan
GOA	Gulf of Alaska
GHL	Guideline Harvest Level
IFQ	Individual Fishing Quota
IRFA	Initial Regulatory Flexibility Analysis
IRIU	Improved Retention/Improved Utilization
IUU	Illegal, Unreported, and Unregulated (fishing)
LLP	License Limitation Program
MSFCMA	Magnuson-Stevens Fisheries Management and Conservation Act
mt	Metric tons
MSY	Maximum Sustainable Yield
NEPA	National Environmental Policy Act
nm	Nautical miles
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPFMC	North Pacific Fishery Management Council
OFL	Overfishing Level
OLE	Office for Law Enforcement
OY	Optimum Yield
PSC	Prohibited Species Catch
RACE	Resource Assessment and Conservation Engineering
REFM	Resource Ecology and Fisheries Management
RFM	Responsible Fisheries Management
SAFE	Stock Assessment and Fishery Evaluation (Report)
SSC	Scientific and Statistical Committee
SSL	Steller Sea Lion
TAC	Total Allowable Catch
USCG	U.S. Coast Guard

1 SUMMARY AND RECOMMENDATION

1.1 Fundamental Clauses Summary

Fundamental Clause	Evidence adequacy rating:	Justification:
1: Structured and legally mandated management system	High	The Alaska flatfish commercial fisheries are managed by the North Pacific Fishery Management Council (NPFMC) and the NOAA's National Marine Fisheries Service (NMFS) in the federal waters (3-200 nm). In federal waters, the Alaska flatfish fisheries are managed under the NPFMC's Gulf of Alaska (GOA) and Bering Sea and Aleutian Islands (BSAI) Groundfish Fishery Management Plans (FMPs) written and amended subject to the Magnuson Stevens Act (MSA). The US Coast Guard (USCG), the NMFS Office of Law Enforcement (OLE) enforce fisheries regulations in federal waters.
2: Coastal area management frameworks	High	The NMFS and the Council participate in coastal area management-related institutional frameworks through the federal National Environmental Policy Act (NEPA) processes. These include decision-making processes and activities relevant to fishery resources and users in support of sustainable and integrated use of living marine resources and avoidance of conflict among users. The NEPA processes provide public information and opportunity for public involvement that are robust and inclusive at both the state and federal levels. With regards to conflict avoidance and resolution between different fisheries, the Council and the BOF tend to avoid conflict by actively involving stakeholders in the process leading up to decision making. Both entities provide a great deal of information on their websites, including agenda of meetings, discussion papers, and records of decisions. The Council and the BOF actively encourage stakeholder participation, and their deliberations are conducted in open, public sessions. Effectively, these meetings provide forums for avoidance of potential fisheries conflicts.
3: Management objectives and plan	High	The Magnuson Stevens Fishery Conservation and Management Act (MSA) is the primary domestic legislation governing the management of the nation's marine fisheries. Under the MSA, the NPFMC is authorized to prepare and submit to the Secretary of Commerce for approval, disapproval or partial approval, a Fishery Management Plan (FMP) and any necessary amendments, for each fishery under its authority that requires conservation and management. These include Groundfish FMPs for the Gulf of Alaska and the Bering Sea & Aleutian Islands which incorporate the flatfish fisheries in those regions. Both FMPs present long-term management objectives for the Alaska flatfish fisheries.
4: Fishery data	High	Reliable and accurate data required for assessing the status of fisheries and ecosystems - including data on retained catch of fish, by catch, discards and waste are collected (BSAI and GOA surveys, catch data, observer data) routinely. The NMFS collects fishery data and conduct fishery independent surveys to assess the flatfish fisheries and ecosystems in GOA and BSAI areas. GOA and BSAI SAFE documents provide complete descriptions of data types and years collected. NMFS also produces various economic reports for Alaskan fisheries.

5: Stock assessment High

In Alaska, there are regular (annual, biannual) peer-reviewed stock assessment activities appropriate for the fishery, its range, flatfish species biology and the ecosystem, undertaken in accordance with acknowledged scientific standards to support its optimum utilization. NMFS conducts stock assessment and biological research in the EEZ off Alaska on FMP species. NMFS through its facilities and staff in Seattle and Alaska generate the scientific information and analysis necessary for the conservation, management, and utilization of the region's groundfish resources. For each fishery under federal jurisdiction, the NPFMC and NMFS produce annual Stock Assessment & Fishery Evaluation (SAFE) reports. The adequacy and appropriateness of the stock assessments are ensured by extensive peer review, including reviews by external experts.

6: Biological reference points and harvest control rule High

The ASFC SAFE reports consist of three volumes: a volume containing stock assessments, a volume containing economic analysis, and a volume describing ecosystem considerations. The stock assessment volume contains a chapter or sub-chapter for each stock or stock complex in the "target species" category, and a summary chapter prepared by the Groundfish Plan Team. Each chapter contains estimates of all annual harvest specifications except TAC, all reference points needed to compute such estimates, and all information needed to make annual status determinations with respect to "overfishing" and "overfished" conditions.

7: Precautionary approach High

The process for management of the Alaska flatfish complex includes the specification of objectives, development of limit and target reference points, agreement on management actions and assessment of management performance with respect to the accepted reference points. The management steps for this fishery ensure that target reference points are not exceeded and that the risk of exceeding limit reference points is low. In cases where the species/stock has been overfished target reference points are established which allow recovery in a reasonable time frame supported by projections for the foreseeable future. When new uncertainties arise, research recommendations are made and there is accountability in subsequent years to follow up on related action items. However, these uncertainties do not lead to a postponement for providing advice, in all cases precaution is the rule.

8: Management measures High

The Alaska flatfish commercial fisheries are managed according to a modern management plan that attempts to balance long-term sustainability of the resources with optimum utilization. For every change/amendment or new development affecting fisheries management and therefore modifying the FMPs, there is an evaluation of alternative conservation and management measures, including considerations of their cost effectiveness and social impact. By-catches, discards, and prohibited species catches are all closely managed, and actions taken where required, such as in the 2015 closure of fisheries in the GOA for exceeding chinook PSC limits.

9: Management measures to produce maximum sustainable levels High

There are well-defined management measures designed to maintain stocks at levels capable of producing maximum sustainable levels. Measures are also introduced to identify and protect depleted resources and

10: Appropriate standards of fisher's competence	High	<p>those resources threatened with depletion, and to facilitate the sustained recovery of such stocks. Also, efforts are made to ensure that resources and habitats critical to the wellbeing of such resources which have been adversely affected by fishing or other human activities are restored.</p> <p>Alaska enhances through education and training programs the education and skills of fishers and, where appropriate, their professional qualifications. Records of fishers are maintained along with their qualifications.</p>
11: Effective legal and administrative framework	High	<p>The Alaska flatfish fishery fleet uses enforcement measures including vessel monitoring systems (VMS) on board vessels, USCG boardings and inspection activities. The U.S. Coast Guard (USCG) and NMFS Office of Law Enforcement (OLE) enforce fisheries laws and regulations. OLE Special Agents and Enforcement Officers conduct complex criminal and civil investigations, board vessels fishing at sea, inspect fish processing plants, review sales of wildlife products on the internet and conduct patrols on land, in the air and at sea. NOAA 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).</p>
12: Framework for sanctions	High	<p>The Magnuson-Stevens Act (50CFR600.740 Enforcement policy) provides four basic enforcement remedies for violations: 1) Issuance of a citation (a type of warning), usually at the scene of the offense, 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. In some cases, the Magnuson-Stevens Act requires permit sanctions following the assessment of a civil penalty or the imposition of a criminal fine. The 2011 Policy for the Assessment of Civil Administrative Penalties and Permit Sanctions issued by NOAA Office of the General Counsel - Enforcement and Litigation, provides guidance for the assessment of civil administrative penalties and permit sanctions under the statutes and regulations enforced by NOAA. The Alaska Wildlife troopers enforce state water regulations with a number of statutes that enable the government to fine, imprison, and confiscate equipment for violations and restrict an individual's right to fish if convicted of a violation.</p>
13: Impacts of the fishery on the ecosystem	High	<p>The NPFMC, NOAA (NMFS) and other relevant organisations continue to closely monitor the fisheries and their respective environmental effects. Appropriate significance appears to be allocated to issues of concern (including in response to stakeholder concerns - such as effects on bycatch populations and effects on habitat). Fishery management plans, Environmental Impact Assessments and other assessments are kept under review. No changes are apparent in the management of the GoA or BSAI fisheries that would detrimentally affect performance against the confidence ratings for any supporting clauses. Full conformance continues against all supporting clauses.</p>

1.2 Audit conclusion

Fishery	Status of certification	Comment
Alaska flatfish complex commercial fishery (incl.: BSAI Alaska plaice (Pleuronectes quadrituberculatus), BSAI/GOA arrowtooth flounder (Atheresthes stomias), BSAI/GOA flathead sole (Hippoglossoides elassodon), BSAI Greenland turbot (Reinhardtius hippoglossoides), BSAI Kamchatcka flounder (Atheresthes evermanni), BSAI/GOA northern rock sole (Lepidopsetta polyxystra), GOA rex sole (Glyptocephalus zachirus), GOA southern rock sole (Lepidopsetta bilineata) and BSAI yellowfin sole (Limanda aspera) employing trawl gear and longline gear (Greenland Turbot only) within Alaska jurisdiction (200 nautical miles EEZ), and principally managed by two federal agencies, the National Marine Fisheries Service (NMFS) and the North Pacific Fishery Management Council (NPFMC).	Certified	Following the results of the 3 rd surveillance audit finalized in June 2017, the assessment team concludes that the RFM Certificate for this fishery shall remain active until the certificate expiry date of 4th December 2018.

2 GENERAL INFORMATION

Table 1 General information

Fishery name	Alaska Flatfish Complex Fishery		
Unit(s) of Assessment (UoA)	Applicant Group:	Alaska Seafood Cooperative	
	Product Common Name (Species):	Alaska plaice (<i>Pleuronectes quadrituberculatus</i>) BSAI Arrowtooth flounder (<i>Atheresthes stomias</i>) BSAI & GOA Flathead sole (<i>Hippoglossoides elassodon</i>) BSAI & GOA Greenland turbot (<i>Reinhardtius hippoglossoides</i>) BSAI Kamchatka flounder (<i>Atheresthes evermanni</i>) BSAI Northern rock sole (<i>Lepidopsetta polyxstra</i>) BSAI & GOA Yellowfin sole (<i>Limanda aspera</i>) BSAI Southern rock sole (<i>Lepidopsetta bilineatus</i>) GOA Rex sole (<i>Glyptocephalus zachirus</i>) GOA	
	Geographic Location:	Gulf of Alaska and Bering sea & Aleutian Islands within Alaska jurisdiction (200 nautical miles EEZ).	
	Gear Types:	Bottom trawl and Longline	
	Principal Management Authority:	National Marine Fisheries Service; North Pacific Fishery Management Council; National Oceanic and Atmospheric Administration	
Date certified	5 December 2013	Date of certificate expiry	4 December 2018
Surveillance type	Off-site surveillance/document review		
Date of surveillance audit	1-16 June 2017		
Surveillance stage	1st Surveillance		
	2nd Surveillance		
	3rd Surveillance		X
	4th Surveillance		
	Other (expedited etc)		
Surveillance team	Lead assessor: Anna Kisseleva Assessor(s): Andrew Hough, Bill Brodie, Paul Knapman		

This report contains the findings of the third annual RFM Fisheries surveillance audit conducted for the Alaska flatfish complex fishery during 1-16 June 2017.

The Alaska RFM programme is a voluntary program that has been developed by ASMI to provide an independent, third-party certification that can be used to verify that these fisheries are responsibly managed according to the Alaska RFM standard.

The Alaska RFM Certification programme uses the fundamental clauses of the Alaska RFM Conformance Criteria Version 1.3 and is in accordance with ISO 17065 accredited certification procedures. The assessment is based on the fundamental clauses specified in the Alaska RFM Conformance Criteria. It is based on six major components of responsible management derived from the FAO Code of Conduct for Responsible Fisheries (1995) and Guidelines for the Eco-labeling of products from marine capture fisheries (2009). The fundamental clauses are:

- A The Fisheries Management System
- B Science and Stock Assessment Activities
- C The Precautionary Approach

- 
- D Management Measures
 - E Implementation, Monitoring and Control
 - F Serious Impacts of the Fishery on the Ecosystem

The purpose of this annual Surveillance Report is:

1. To establish and report on any material changes to the circumstances and practices affecting the original complying assessment of the fishery;
2. To monitor any actions taken in response to non-conformances raised in the original assessment of the fisheries;
3. To re-score any clauses where practice or circumstances have materially changed since the last audit.

3 ASSESSMENT TEAM DETAILS

Anna Kiseleva

DNV GL Lead Assessor:

Anna is a senior assessor responsible for MSC Fisheries and RFM certification schemes at DNV GL Business Assurance. She holds MSc degree in International fisheries management from the University of Tromsø and MSc degree in Business Management from Murmansk State Technical University. She has over 10 years of experience in the global seafood industry incl. assessment services, consultancy and project management. She is an experienced project management with proven ability to lead cross-disciplinary teams. She has been involved in the delivery of the Fisheries assessment services since 2008.

Andrew Hough

Main area of responsibility
Fundamental clause F (Serious Impacts of the Fishery on the Ecosystem):

Following three years PhD research on crustacean ecology, Andy has worked in the field of marine research and management for over twenty years, including marine conservation biology, fishery impacts on marine ecosystems, marine and coastal environmental impact assessment and policy development.

Andrew has been active in the development of Marine Stewardship Council certification since 1997, when involved in the pre-assessment of the Thames herring fishery. He was a founding Director of Moody Marine and led the establishment of Moody Marine fishery certification systems. He has also worked with MSC on several specific development projects, including those concerned with the certification of small scale/data deficient fisheries. He has been Lead Assessor on many fishery assessments to date. This has included Groundfish (e.g. cod, haddock, pollock, hoki, hake, flatfish), Pelagics (e.g. tuna species, herring, mackerel, sprat, krill, sardine) and shellfish (molluscs and crustacea); included evaluation of the environmental effects of all main gear types and considered many fishery administrations including the North Atlantic, South Atlantic, Pacific, Southern Ocean and in Europe, North America, Australia and New Zealand, Japan, China, Vietnam and Pacific Islands. He has recently acted solely as an expert team member of Principle 2 inputs of European inshore fisheries and Falkland Islands Toothfish. Andrew has also been involved in the development of certification schemes for individual vessels (Responsible Fishing Scheme) and evaluation of the Marine Aquarium Council standards for trade in ornamental aquarium marine species. Consultancy services have included policy advice to the Association of Sustainable Fisheries, particularly with regard to the implications of MSC standard development, and assistance to fisheries preparing for, or engaged in, MSC assessment.

William (Bill) Brodie

Main area of responsibility
Fundamental clause B (Science and Stock Assessment activities) and C (The precautionary approach) and D (Management measures):

Bill Brodie is an independent fisheries consultant with previously, a 36-year career with Science Branch of Fisheries and Oceans Canada (DFO, Newfoundland and Labrador Region). He has a BSc in Biology from Memorial University of Newfoundland and Labrador. For the last twelve years with DFO he worked as



Senior Science Coordinator/Advisor on Northwest Atlantic Fisheries Organization (NAFO) issues, serving as chair of the Scientific Council of NAFO and chairing 3 of its standing committees. As a stock assessment biologist, he led assessments and surveys for several flatfish species and stocks, including American plaice, Greenland halibut, yellowtail and witch flounders. These include the largest stocks of flatfish in the NW Atlantic. He also participated in assessments of flatfish, gadoid, and shrimp stocks in the NE Atlantic and North Sea. Bill has participated in over 30 scientific research vessel surveys on various Canadian and international ships, and he has over 200 publications in the scientific and technical literature, primarily on flatfish stock assessment. He has been involved with fishery managers and the fishing industry on a variety of issues, including identification of ecologically sensitive areas, and developing rebuilding plans for groundfish under a Precautionary Approach. Since retirement from DFO, Bill has been contracted to serve as an assessor on several FAO-based Responsible Fisheries Management certification assessment and surveillance audits for Alaskan stocks including Pacific cod, halibut, sablefish, pollock, and flatfish. He has also provided peer review for an MSC certification assessment for a redfish stock in the Grand Banks area.

Paul Knapman

Main area of responsibility
Fundamental clause A (The Fisheries Management System) and E (Implementation monitoring and control):

Paul is an independent consultant based in Halifax, Nova Scotia, Canada. Paul began his career in fisheries more than 30 years ago as a fisheries officer in the UK, responsible for the enforcement of UK and EU fisheries regulations. He then joined the UK government's nature conservation advisors, establishing and managing their marine fisheries programme. He developed an extensive programme of work with fisheries managers, scientists, the fishing industry and ENGOs to integrate national and European fisheries and nature conservation requirements. He also helped lead a national four year project contributing to the 2002 review of the Common Fisheries Policy. He then became Head of the largest inshore fisheries management organisation in England, with responsibility for managing an extensive area of inshore fisheries on the North Sea coast. The organisations responsibilities and roles included: stock assessments; habitat monitoring; setting and ensuring compliance with total allowable catches and quotas; establishing and applying regional fisheries regulations; the development and implementation of fisheries management plans; the lead authority for the largest marine protected area in England. In 2004, Paul moved to Canada and established his own consultancy providing analysis, advisory and developmental work on fisheries management policy in Canada and Europe. He drafted the first management plan for one of Canada's marine protected areas, undertook an extensive review on IUU fishing in the Baltic Sea and was appointed as rapporteur to the European Commission's Baltic Sea



Regional Advisory Council. In 2008, Paul joined Moody Marine as their Americas Regional Manager, responsible for managing and developing their regional MSC business. He became General Manager of the business in 2012. Paul has been involved as a lead assessor, team member and technical advisor/reviewer for more than 50 different fisheries. Paul returned to consultancy in 2015.

4 BACKGROUND TO THE FISHERY

4.1 Fishery description

No material changes occurred within this fishery since the last surveillance audit carried out in March 2016. All information on this fishery could be obtained from the original full-assessment report and subsequent surveillance reports available for the download at <http://www.alaskaseafood.org/rfm-certification/certified-fisheries/alaska-flatfish/>. Catches taken in this fishery are aligned with the numbers from the previous years (2015-2016).

4.2 Original Assessment and Previous surveillance audits

The Alaska Flatfish Complex fishery was first certified under the requirements of the Alaska Responsible Fisheries Management standard v1.2 on 5th of December 2013. The initial certification and two annual surveillance audits were carried out by the certification body Global Trust (GT).

18 November 2016, the certificate for this fishery was transferred from GT to the DNV GL. The certificate transfer and the third surveillance audit carried out by the DNV GL did not result in any changes in the compliance of the fishery with the RFM standard and the certificate remains valid until the original expiry date of 4 December 2018.

5 THE ASSESSMENT PROCESS

5.1 Meetings attended

No on-site stakeholder consultancy was carried out during the third surveillance audit. DNV GL has carefully reviewed the full-assessment report and all subsequent surveillance reports and concluded that the low risk nature of the fishery, absence of conditions and history of excellent compliance with the rules and regulations in the client operations do allow for the remote surveillance audit with the desk-top review of new information only.

5.2 Stakeholder input

The annual surveillance audit for this fishery was publicly announced on 16th of May 2017. No stakeholder input was received by the assessment team.

6 ASSESSMENT OUTCOME SUMMARY/ FUNDAMENTAL CLAUSES SUMMARIES

6.1 The Fisheries Management System (A)

Fundamental Clause 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
Applicable supporting clauses	9
Non-applicable supporting clauses	8
Overall level of conformity	High
Non-conformance	0

Summary of Changes and Evidence of continuous compliance.

Supporting clause

1.1 There shall be an effective legal and administrative framework established at local and national level appropriate for fishery resource conservation and management.

Summarised evidence:

The principle legislative instrument for fisheries management in the U.S. is the MSA, as amended 2007. The MSA, sets ten National Standards (NS) for fishery conservation and management (16 U.S.C. § 1851), with which all FMPs must be consistent¹.

The NMFS implements the MSA and the National Standards. The procedures on how NMFS follows the NSs are published in the US Federal Register at 50 CFR Part 600 subpart D². The NMFS is also charged with carrying out the federal mandates of the U.S. Department of Commerce with regard to commercial fisheries such as approving and implementing FMPs and FMP amendments.

The NPFMC³ is one of eight regional councils established by the MSA to manage fisheries in the 200-mile Exclusive Economic Zone (EEZ). The NPFMC is authorized to prepare and submit to the Secretary of Commerce for approval, an FMP and any necessary amendments for each fishery under its authority that requires conservation and management actions. The NPFMC primarily manages groundfish in the GoA and BSAI, targeting cod, pollock, flatfish, mackerel, sablefish, and rockfish species. The NPFMC conducts public hearings so as to allow all interested persons an opportunity to be heard in the development of FMPs and amendments, and reviews and revises, as appropriate, the assessments and specifications with respect to the optimum yield from each fishery.

Conclusion:

No evidence of significant change was reported or identified since the 2nd surveillance assessment. A high level of conformity continues.

Supporting clause:

1.2 Management measures shall take into account the whole stock unit over its entire area of stock distribution.

1.2.1 The area through which the species migrates during its life cycle shall be considered by the management system.

¹ http://www.nmfs.noaa.gov/sfa/laws_policies/msa/.

² <https://www.law.cornell.edu/cfr/text/50/part-600/subpart-D>

³ <https://www.npfmc.org>

1.2.2 The biological unity and other biological characteristics of the stock shall be considered within the management system

1.2.3 All fishery removals and mortality of the target stock(s) shall be considered by management.

1.2.4 Previously agreed management measures established and applied in the same region shall be taken into account by management.

Summarised evidence:

NMFS, through the Alaska Fisheries Science Centre⁴ (AFSC), in Seattle, and the Kodiak Fisheries Research Centre⁵ (KFRC) generate the scientific information and analysis necessary for the conservation, management, and utilization of the region's groundfish resources. With this information, the NPFMC and NMFS produce annual Stock Assessment & Fishery Evaluation (SAFE) reports for each fishery under federal jurisdiction, including the twelve units (9 species) being assessed. There are 11 SAFE reports for the Alaskan flatfish considered here (BSAI Alaska plaice⁶, BSAI arrowtooth flounder⁷, BSAI flathead sole⁸, BSAI Greenland turbot⁹, BSAI Kamchatka flounder¹⁰, BSAI northern rock sole¹¹, BSAI yellowfin sole¹², GOA arrowtooth flounder¹³, GOA flathead sole¹⁴, GOA northern and southern rock sole¹⁵ and GOA rex sole¹⁶). Current management measures consider the whole stocks biological units (i.e. structure and composition contributing to its resilience over their entire area of distribution, the area through which the species migrate during their life cycle and other biological characteristics of the stock).

The GOA and BSAI flatfish stocks are both considered and managed as different stocks and separate from other Pacific stocks further south along the west coast of North America and West across Russia and Asia. In terms of both the fisheries and the groundfish resources, the BSAI and the GOA form distinct management areas.

For both the BSAI and the GOA flatfish stocks the management organizations collect the necessary information on removals and mortality (including natural mortality) of the target stock, as well as data on bycatch and discards. Daily landing reports, at sea and shore-based fishery enforcement, fishery observers and an extensive mandatory and voluntary logbook program verify and ground-truth total mortality estimates¹⁷.

Conclusion:

No evidence of significant change was reported or identified since the 2nd surveillance assessment. A high level of conformity continues.

Supporting clause:

1.3 Where trans-boundary, straddling or highly migratory fish stocks and high seas fish stocks are exploited by two or more States, the Applicant Management Organizations concerned shall cooperate and take part in formal fishery commission or arrangements that have been appointed to ensure effective conservation and management of the stock/s in question.

1.3.1 Conservation and management measures established for such stock within the

⁴ <https://www.afsc.noaa.gov/default.htm>

⁵ https://www.afsc.noaa.gov/kodiak/kodiakLab_HOME.php

⁶ <https://www.afsc.noaa.gov/REFM/Docs/2016/BSAIplaice.pdf>

⁷ <https://www.afsc.noaa.gov/REFM/Docs/2016/BSAIatf.pdf>

⁸ <https://www.afsc.noaa.gov/REFM/Docs/2016/BSAIflathead.pdf>

⁹ <https://www.afsc.noaa.gov/REFM/Docs/2016/BSAIrturbot.pdf>

¹⁰ <https://www.afsc.noaa.gov/REFM/Docs/2016/BSAIkamchatka.pdf>

¹¹ <https://www.afsc.noaa.gov/REFM/Docs/2016/BSAIrocksole.pdf>

¹² <https://www.afsc.noaa.gov/REFM/Docs/2016/BSAIyfin.pdf>

¹³ <https://www.afsc.noaa.gov/REFM/Docs/2016/GOAatf.pdf>

¹⁴ <https://www.afsc.noaa.gov/REFM/Docs/2016/GOAflathead.pdf>

¹⁵ <https://www.afsc.noaa.gov/REFM/Docs/2016/GOAnsrocksole.pdf>

¹⁶ <https://www.afsc.noaa.gov/REFM/Docs/2016/GOArex.pdf>

¹⁷ <http://www.alaskaseafood.org/wp-content/uploads/2016/03/Alaska-RFM-Alaska-Flatfish-2nd-surveillance-report-Final.pdf>

jurisdiction of the relevant States for shared, straddling, high seas and highly migratory stocks, shall be compatible. Compatibility shall be achieved in a manner consistent with the rights, competences and interests of the States concerned.

Summarised evidence:

The stocks are not considered to be transboundary stocks.¹⁵

Conclusion:

No evidence of significant change was reported or identified.

Supporting clause:

1.4 Organizations within the Management System cooperate with neighbouring coastal states with respect to common and shared fishery resources for their conservation and for the conservation of the environment.

1.4.1 A state member/participant of a sub-regional or regional fisheries management organization are/may be present in the area in question. These cooperate, in accordance with relevant international agreements and law, in the conservation and management of the relevant fisheries resources by giving effect to any relevant measures adopted by such organization/arrangement.

1.4.2 States seeking to take action through a non-fishery organization which may affect the conservation and management measures taken by a competent sub-regional or regional fisheries management organization or arrangement shall consult with the latter, in advance to the extent practicable, and take its views into account

Summarised evidence:

The stocks are not considered to be shared resources exploited by two or more States¹⁵.

Conclusion:

No evidence of significant change was reported or identified.

Supporting clause:

1.5 The fishery's management system shall actively foster cooperation between States with regard to:

- **Information gathering and exchange**
- **Fisheries research**
- **Fisheries management**
- **Fisheries Development**

Summarised evidence:

The stocks are not considered to be shared resources exploited by two or more States¹⁵.

Conclusion:

No evidence of significant change was reported or identified.

Supporting clause:

1.6 States and sub-regional or regional fisheries management organizations and arrangements, as appropriate, shall agree on the means by which the activities of such organizations and arrangements will be financed, bearing in mind, inter alia, the relative benefits derived from the fishery and the differing capacities of countries to provide financial and other contributions. Where appropriate, and when possible, such organizations and arrangements shall aim to recover the costs of fisheries conservation, management and research.

1.6.1 Without prejudice to relevant international agreements, States shall encourage banks and financial institutions not to require, as a condition of a loan or mortgage, fishing vessels or fishing support vessels to be flagged in a jurisdiction other than that of the State of beneficial ownership where such a requirement would have the effect of increasing the likelihood of non-compliance with international conservation and management measures.

Summarised evidence:

Specific costs incurred during the management, research and enforcement of the groundfish stocks in the BSAI and GoA are reported in the BSAI¹⁸ and GoA¹⁹ Groundfish FMPs (see section 6.2.1 of the 2017 BSAI and GoA FMPs). Generally, funding is through Congressional appropriations.

Conclusion:

No evidence of significant change was reported or identified.

Supporting clause:

1.7 Procedures shall be in place to keep the efficacy of current conservation and management measures and their possible interactions under continuous review to revise or abolish them in the light of new information.

- **Review procedures shall be established within the management system.**
- **A mechanism for revision of management measures shall exist.**

Summarised evidence:

The Alaskan flatfish fisheries are managed under the NPFMC's BSAI and GoA Groundfish FMPs. The FMPs state that the Council will:

- Maintain a continuing review of the fisheries managed under this FMP, and all critical components of the FMP will be reviewed periodically;
- Annually review the objectives in the management policy statement;
- Conduct a complete review of EFH once every 5 years, and in between will solicit proposals on Habitat Areas of Particular Concern and/or conservation and enhancement measures to minimize potential adverse effects from fishing.

The NPFMC have a "Call for Proposals"²⁰ process where stakeholders and the interested public can request review or revision of existing management measures.

MSA is periodically revised and reauthorized (i.e. Sustainable Fisheries Act²¹ added 3 standards to MSA).

Conclusion:

No evidence of significant change was reported or identified since the 2nd surveillance assessment. A high level of conformity continues.

Supporting clause:

1.8 The management arrangements and decision making processes for the fishery shall be organized in a transparent manner.

- **Management arrangements**
- **Decision-making**

Summarised evidence:

The NPFMC and NMFS²² websites provide considerable and, generally, easily accessible information. The NPFMC website includes the FMPs, meeting information, minutes, records of decisions.

The NPFMC actively encourages stakeholder participation. The NPFMC have a "Call for Proposals" process where stakeholders and the interested public can request review or revision of existing management measures. NPFMC rules impose transparency so that Council members' discussions are open to the public. The Council meets five times each year, usually in February, April, June, October and December, with three of the meetings held in Anchorage, one in a fishing community in Alaska and one either in Portland or Seattle. Most Council meetings take seven days, with the Advisory Panel and Scientific and Statistical Committee usually following the same agenda and meeting two days earlier.

The NPFMC submits their recommendations/plans to the NMFS for review, approval, and implementation. NMFS makes recommendations available for public review and comment (partly by publication) before taking final action by issuing legally binding Federal regulations.

Conclusion:

No evidence of significant change was reported or identified since the 2nd surveillance assessment. A high level of conformity continues.

Supporting clause:

1.9 Management organizations not party to the Agreement to promote compliance with international conservation and management measures by vessels fishing in the high seas shall be encouraged to accept the Agreement and to adopt laws and regulations consistent with the provisions of the Agreement.

Summarised evidence:

This clause is not applicable as the Alaska flatfish fisheries occur within the US EEZ¹⁵.

The US has implemented²³ the Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas²⁴ ("Compliance Agreement") within the US High Seas Fishing Compliance Act (16 USC 5501 *et Seq*)²⁵ and regulations promulgated by NOAA Fisheries.

Conclusion:

No evidence of significant change was reported or identified since the 2nd surveillance assessment. A high level of conformity continues.

Changes to Supporting-Clause Confidence Ratings.

No changes are apparent in the management of the GoA or BSAI fisheries that would detrimentally affect performance against the confidence ratings for any supporting clauses.

Conformance: Full conformance continues.

Fundamental Clause 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
Applicable supporting clauses	15
Non-applicable supporting clauses	1
Overall level of conformity	High
Non-conformance	0

Summary of Changes and Evidence of continuous compliance.

Supporting clause:

2.1 An appropriate policy, legal and institutional framework shall be adopted in order to achieve sustainable and integrated use of living marine resources, taking into account the fragility of coastal ecosystems, the finite nature of their natural resources and the needs of coastal communities.

¹⁸ <https://www.npfmc.org/wp-content/PDFdocuments/fmp/BSAI/BSAIfmp.pdf>

¹⁹ <https://www.npfmc.org/wp-content/PDFdocuments/fmp/GOA/GOAIfmp.pdf>

²⁰ <https://www.npfmc.org/?s=call+for+proposal>

²¹ http://www.nmfs.noaa.gov/sfa/laws_policies/msa/sfa.html

²² <http://www.nmfs.noaa.gov>

²³ http://www.nmfs.noaa.gov/ia/agreements/LMR%20report/agreement_to_promote_compliance_.pdf

²⁴ <http://www.fao.org/docrep/MEETING/003/X3130m/X3130E00.HTM>

²⁵ <http://www.nmfs.noaa.gov/ia/permits/highseas.html>

2.1.1 States shall develop, as appropriate, institutional and legal frameworks in order to determine the possible uses of coastal resources and to govern access to them taking into account the rights of coastal fishing communities and their customary practices to the extent compatible with sustainable development.

2.1.2 In setting policies for the management of coastal areas, States shall take due account of the risks and uncertainties involved.

Summarised evidence:

In managing the Alaska flatfish fisheries, the NMFS, in connection with the NPFMC, participate in coastal area management-related issues through processes established by the National Environmental Policy Act (NEPA)²⁶. NEPA requires that all federal agencies' funding or permitting decisions be made with full consideration of the impact to the natural and human environment. An environmental review process is required that includes a risk evaluation and evaluation of alternatives including a, "no action" alternative. All of the NPFMC proposed regulations and the FMPs include NEPA considerations²⁷.

The management organizations within Alaska and their management processes take into account the rights of coastal fishing communities and their customary practices to the extent compatible with sustainable development^{28 29}.

The NPFMC system was designed so that fisheries management decisions were made at the regional level to allow input from affected stakeholders. NPFMC meetings are open, and public testimony is taken on issues prior to deliberations and final decisions. Public comments are also taken at all Advisory Panel and Scientific and Statistical Committee meetings.

The Community Development Quota (CDQ) Program³⁰ was created by the NPFMC in 1992 to provide western Alaska communities an opportunity to participate in the BSAI fisheries that had been foreclosed to them because of the high capital investment needed to enter the fishery. The purpose of the CDQ Program is (i) to provide eligible western Alaska villages with the opportunity to participate and invest in fisheries in the Bering Sea and Aleutian Islands Management Area; (ii) to support economic development in western Alaska; (iii) to alleviate poverty and provide economic and social benefits for residents of western Alaska; and (iv) to achieve sustainable and diversified local economies in western Alaska. The program involves eligible communities who have formed six regional organizations, referred to as CDQ groups. There are 65 communities within a fifty-mile radius of the Bering Sea coastline who participate in the program. The CDQ program allocates a percentage of the BSAI quotas to CDQ groups, including pollock, halibut, Pacific cod, crab and bycatch species. The program is reviewed every ten years³¹.

Conclusion:

No evidence of significant change was reported or identified since the 2nd surveillance assessment. A high level of conformity continues.

Supporting clause:

2.2 Representatives of the fisheries sector and fishing communities shall be consulted in the decision-making processes involved in other activities related to coastal area management planning and development.

Summarised evidence:

As indicated in 2.1 above, all stakeholders are provided with the opportunity to input into the decision-making processes through the NPFMC processes.

Conclusion:

No evidence of significant change was reported or identified since the 2nd surveillance assessment. A high level of conformity continues.

²⁶ <https://www.epa.gov/nepa>

²⁷ <https://www.epa.gov/nepa/fishery-management-guidance-national-environmental-policy-act-reviews>

²⁸ <https://www.npfmc.org/summary-reports/>

²⁹ <https://www.npfmc.org/wp-content/PDFdocuments/resources/MSA40Booklet.pdf>

³⁰ <https://alaskafisheries.noaa.gov/fisheries/cdq>

³¹ <https://alaskafisheries.noaa.gov/fisheries/cdq-review>

Supporting clause:

2.3 Fisheries practices that avoid conflict among fishers and other users of the coastal area shall be adopted.

2.3.1 Procedures and mechanisms shall be established at the appropriate administrative level to settle conflicts which arise within the fisheries sector and between fisheries resource users and other users of the coastal area.

Summarised evidence:

In the flatfish fisheries, conflict is minimized by allocation to different fleet sectors, i.e. vessels within a particular size range, gear type, mode of operation. The Alaska flatfish fleets consists of catcher vessels delivering to shore, catcher vessels delivering to motherships that process the catch, or at-sea catcher/processor vessels. Overtime, the NPFMC have introduced Amendments to ensure appropriate access, allocation, retention and utilization of the fisheries resource, e.g. Amendment 80, the CDQ program.

The NPFMC helps to minimize conflict by providing regular opportunity to have concerns and issues raised and presented by stakeholders, information and evidence reviewed and management options considered and decisions taken, in an open manner.

The NEPA process is also intended to resolve potential conflicts among users before project approvals are given. Conflict resolution mechanisms include both administrative (through governmental agencies) and legal (through courts of law) procedures. However, in most cases project approvals are withheld until substantive conflicts are resolved.

Conclusion:

No evidence of significant change was reported or identified since the 2nd surveillance assessment. A high level of conformity continues.

Supporting clause:

2.4 States and sub-regional or regional fisheries management organizations and arrangements shall give due publicity to conservation and management measures and ensure that laws, regulations and other legal rules governing their implementation are effectively disseminated. The bases and purposes of such measures shall be explained to users of the resource in order to facilitate their application and thus gain increased support in the implementation of such measures.

2.4.1 The public shall be kept aware on the need for the protection and management of coastal resources and the participation in the management process by those affected.

Summarised evidence:

The NPFMC and NMFS websites provide a wealth of information, including regulations related to the fisheries. For more remote areas, radio updates are provided, e.g. notice of fishery closure. The agencies public meetings and process ensure awareness and input into the decisions for conservation and management measures and the outcomes.

Conclusion:

No evidence of significant change was reported or identified since the 2nd surveillance assessment. A high level of conformity continues.

Supporting clause:

2.5 The economic, social and cultural value of coastal resources shall be assessed in order to assist decision-making on their allocation and use.

Summarised evidence:

As indicated under 2.1.1 above the CDQ program provides an example of how the management system takes account of the allocation and use of coastal resources with respect to their economic, social and cultural value.

Conclusion:

No evidence of significant change was reported or identified since the 2nd surveillance assessment. A high level of conformity continues.

Supporting clause:

2.6 In accordance with capacities, measures shall be taken to establish or promote systems research and monitoring of the coastal environment as part of the coastal management process using physical, chemical, biological, economic, social, legal and institutional aspects.

2.6.1 States shall promote multi-disciplinary research in support and improvement of coastal area management, in particular on its environmental, biological, economic, social, legal and institutional aspects.

Summarised evidence:

A considerable amount of monitoring of the coastal environment in Alaska is performed by multiple federal and state agencies, e.g. NMFS, ADFG, US Forest Service³², US Fish and Wildlife Service (USFWS)³³, and the as well as many institutions of higher learning, e.g. the University of Alaska Institute of Marine Science³⁴.

Economic and social parameters are assessed by the staff of the NPFMC, NMFS and ADFG either during the NEPA review of plan amendments or during their on-going studies and evaluations.

Conclusion:

No evidence of significant change was reported or identified since the 2nd surveillance assessment. A high level of conformity continues.

Supporting clause:

2.7 In the case of activities that may have an adverse transboundary environmental effect on coastal areas, States shall:

- a) provide timely information and if possible, prior notification to potentially affected States.
- b) consult with those States as early as possible.

Summarised evidence:

This supporting clause was not considered to be applicable at the initial assessment of the fisheries¹⁵.

However, it is noted that the risk of oil pollution³⁵ and polluted water from coastal mining tailings^{36 37} are examples of potential transboundary environmental effects on the coastal area. Coordination and development of memoranda of cooperation and a Pacific States / British Columbia Task Force to deal with oil and other pollution incidents are examples of facilitating pollution preparedness, prevention and response.

Conclusion:

No evidence of significant change was reported or identified. A high level of conformity continues.

Supporting clause:

2.8 States shall cooperate at the sub-regional and regional level in order to improve coastal area management.

Summarised evidence:

There is regular and routine cooperation with respect to management and related research between the NPFMC, federal and state agencies.

A joint protocol³⁸ is in place between the NPFMC and ADFG which provides the intent to provide long term cooperative, compatible management systems that maintain the sustainability of the fisheries

³² <https://www.fs.fed.us>

³³ <https://www.fws.gov>

³⁴ <http://www.uaf.edu/cfos/research/institute-of-marine-scienc>

³⁵ <https://alaskafisheries.noaa.gov/sites/default/files/oilspillfactsheet1114.pdf>

³⁶ <http://www.fpir.noaa.gov/Library/HCD/EFH%20Non-fishing%20NW-SW%202003.pdf>

³⁷ <https://alaskafisheries.noaa.gov/sites/default/files/impactstoefh112011.pdf>

³⁸ <https://www.npfmc.org/wp-content/PDFdocuments/meetings/JointProtocol1209.pdf>

resources in federal and state waters.

The NEPA process brings the various federal and state agencies together whenever there's a fishery specific development or proposal for change in the coastal area as indicated in 2.1 above.

Conclusion:

No evidence of significant change was reported or identified since the 2nd surveillance assessment. A high level of conformity continues.

Supporting clause:

2.9 States shall establish mechanisms for cooperation and coordination among national authorities involved in planning, development, conservation and management of coastal areas.

Summarised evidence:

Alaska has established mechanisms (e.g. NEPA process) for cooperation and coordination among national authorities involved in planning, development, conservation and management of coastal areas. See 2.1 above. Furthermore, The Alaska National Interest Lands Conservation Act³⁹ (ANILCA) directs federal agencies to consult and coordinate with the state of Alaska.

Conclusion:

No evidence of significant change was reported or identified since the 2nd surveillance assessment. A high level of conformity continues.

Supporting clause:

2.10 States shall ensure that the authority or authorities representing the fisheries sector in the coastal management process have the appropriate technical capacities and financial resources.

Summarised evidence:

The technical capacities of the federal and state agencies involved in the management of the Alaska flatfish fisheries are significant, among others they can boast, internationally recognized scientists, seasoned fishery managers and policy makers and highly professional and trained enforcement officers.

Conclusion:

No evidence of significant change was reported or identified since the 2nd surveillance assessment. A high level of conformity continues.

Supporting clause:

2.11 States and fisheries management organizations and arrangements shall regulate fishing in such a way as to avoid the risk of conflict among fishers using different vessels, gear and fishing methods.

No reports of gear conflict with other vessels or gear types targeting flatfish or other species was provided for this audit.

Conclusion:

No evidence of significant change was reported or identified since the 2nd surveillance assessment. A high level of conformity continues.

Changes to Supporting-Clause Confidence Ratings.

No changes are apparent in the management of the GoA or BSAI fisheries that would detrimentally affect performance against the confidence ratings for any supporting clauses.

Conformance: Full conformance continues.

³⁹ <http://dnr.alaska.gov/commis/opmp/anilca/>

Fundamental Clause 3.

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

No. supporting clauses	6
Applicable supporting clauses	6
Non-applicable supporting clauses	0
Overall level of conformity	High
Non-conformance	0

Summary of Changes and Evidence of continuous compliance.

Supporting clause:

3.1 Long-term management objectives shall be translated into a plan or other management document and be subscribed to by all interested parties.

Summarised evidence

Under the MSA, the NPFMC is required to prepare and submit a FMP to the secretary of Commerce for approval for each fishery under its authority that is considered to require conservation and management. In so doing, the FMPs have to be consistent with ten national standards for fishery conservation and management (16 USC § 1851).

The NPFMC has in place groundfish FMPs in the BSAI and GoA that include the flatfish fisheries. Within these FMPs there are nine management and policy objectives, that are reviewed annually.

In combination, the requirement for FMPs to be consistent with the national standards and the adoption of their management and policy objectives, the flatfish fisheries clearly have long-term management objectives.

Conclusion:

No evidence of significant change was reported or identified since the 2nd surveillance assessment. A high level of conformity continues.

Supporting clause:

3.2 Management measures shall provide inter alia that:

3.2.1 Excess fishing capacity shall be avoided and exploitation of the stocks remains economically viable.

3.2.2 The economic conditions under which fishing industries operate shall promote responsible fisheries.

3.2.3 The interests of fishers, including those engaged in subsistence, small-scale and artisanal fisheries shall be taken into account.

3.2.4 Biodiversity of aquatic habitats and ecosystems shall be conserved and endangered species shall be protected.

3.2.5 Depleted stocks shall be allowed to recover or, where appropriate, shall be actively restored.

Summarised evidence

Managing fishing capacity

In transition from a foreign to an American fishery in the 1980s, the NPFMC initiated a Comprehensive Rationalization Program in 1992 with the aim of maintaining the health of the marine ecosystem to ensure the long-term conservation and abundance of the groundfish and crab resources. In the following years, several Amendments to the FMPs were approved limiting the number of participants and the types of groundfish harvest activities and a moratorium on new harvesting vessels entering the groundfish fisheries was implemented, thereby reducing the possibility of significant increases in the number of large-capacity harvesting vessels

In 1995, the NPFMC adopted the Alaska Licence Limitation Program⁴⁰ (LLP). The intent of the program has been to control the effort in the Alaska groundfish and crab fleets by limiting the number, size and specific operation of vessels as well as eliminating latent licences.

Economic conditions

As a result, and in combination with good management practices and generally favorable environmental conditions, Alaskan flatfish have provided a stable and valuable fishery⁴¹ and fostered responsible fishing⁴².

The interest of subsistence, small-scale and artisanal fisheries

The interest of subsistence, small-scale and artisanal fisheries are explicitly taken into account within the FMPs, e.g. the CDQ program.

Species protection

The Endangered Species Act⁴³ (ESA) provides for the conservation and protection of threatened and endangered species and their ecosystems. A species is considered endangered if it is in danger of extinction throughout all or a significant portion of its range. Two federal agencies, the NMFS and the USFWS, are responsible for maintaining lists of species that meet the definition of threatened or endangered under the ESA. NMFS is responsible for maintaining the endangered species list for marine species and managing those species once they are listed.

The ESA requires that management agencies identify and protect critical habitat for all endangered species (Section 7a.4 of the Act).

ADFG is responsible for determining and maintaining a list of endangered species in Alaska under AS 16.20.190⁴⁴. Commissioners of ADFG and Natural Resources must take measures to preserve the natural habitat of fish and wildlife species that are recognized as threatened with extinction.

Depleted stock recovery

Two status determinations are made annually for each stock or stock complex⁴⁵: overfishing status, which describes whether catch is too high; and, overfished status, which describes whether biomass is too low.

An Over Fishing Limit (OFL) is set at the end of the preceding calendar year on the basis of the most recent stock assessment. For each stock, a determination of status with respect to overfishing is made in-season as the fisheries are monitored to prevent exceeding the TAC.

In the event that overfishing is determined to have occurred, an in-season action, an FMP amendment, a regulatory amendment or a combination of these actions will be implemented to end such overfishing immediately.

A stock or stock complex is determined to be overfished if it falls below the minimum stock size threshold (MSST). According to the National Standard Guidelines definition, the MSST equals whichever of the following is greater: One-half the Maximum Sustainable Yield (MSY) stock size, or the minimum stock size at which rebuilding to the MSY level would be expected to occur within 10 years, if the stock or stock complex were exploited at the Maximum Fishing Mortality Threshold (MFMT) (also called the "OFL

⁴⁰ <https://alaskafisheries.noaa.gov/fisheries/llp>

⁴¹ http://ebooks.alaskaseafood.org/ASMI_Seafood_Impacts_Dec2015/pubData/source/ASMI%20Alaska%20Seafood%20Impacts%20Final%20Dec2015%20-%20low%20res.pdf

⁴² https://www.afsc.noaa.gov/Education/factsheets/10_Wpoll_FS.pdf

⁴³ <http://www.nmfs.noaa.gov/pr/laws/esa/>

⁴⁴ <http://www.touchngo.com/lglcntr/akstats/Statutes/Title16/Chapter20/Section190.htm>

⁴⁵ https://alaskafisheries.noaa.gov/sites/default/files/pseis0604-app_f1.pdf

control rule”). This is the level of mortality that is considered to jeopardise the ability of the stock or stock complex to produce MSY on a continuing basis.

Within two years of such time as a stock or stock complex is determined to be overfished, an FMP amendment or regulations will be designed and implemented to rebuild the stock or stock complex to the MSY level within a time period specified at Section 304(e)(4) of the MSA. If a stock is determined to be in an overfished condition, a rebuilding plan would be developed and implemented for the stock, including the determination of an F_{OFL} and F_{MSY} that will rebuild the stock within an appropriate time frame.

Conclusion:

No evidence of significant change was reported or identified since the 2nd surveillance assessment. A high level of conformity continues.

Changes to Supporting-Clause Confidence Ratings.

No changes are apparent in the management of the GoA or BSAI fisheries that would detrimentally affect performance against the confidence ratings for any supporting clauses.

Conformance: Full conformance continues.

6.2 Science and Stock Assessment Activities (B)

Fundamental Clause 4.

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

No. Supporting clauses	14
Supporting clauses applicable	11
Supporting clauses not applicable	3
Overall level of conformity	HIGH
Non Conformances	0

Summary of Changes and Evidence of continuous compliance.

Supporting clause:

4.1. (Incl. 4.1.1., 4.1.2.) Reliable and accurate data required for assessing the status of fisheries and ecosystems - including data on retained catch of fish, bycatch, discards and waste shall be collected.

Summarized evidence:

The NMFS and the ADFG collect fishery data and conduct fishery independent surveys to assess the flatfish fisheries and ecosystems in GOA and BSAI areas. GOA and BSAI SAFE documents , provide complete descriptions of data types and time series of the data collected and used in the stocks assessments, which are conducted annually, and used to determine stock status and harvest recommendations for BSAI and GOA flatfish. Full assessments for some of the 12 flatfish stocks considered in this report are done every year, while some assessments are conducted in full every second year, and updated in the interim years.

Age-Structured models are used to determine stock status and annual harvest recommendations for all the BSAI and GOA Flatfish in this review. All assessments use data collected from commercial landings

and transshipment reports, port and at-sea observers; as well as sex, length and age data from fishery independent surveys in the EBS, the AI and the GOA. The Resource Assessment and Conservation Division (RACE) of the Alaskan Fisheries Science Center (AFSC) are responsible for federally managed fisheries (3-200 nm) while the ADFG undertake coastal surveys and gather and collect data from state managed fisheries up to 3 nm from the coastline. The overall data collection for the Alaskan groundfish program is probably one of the most extensive anywhere. At-sea, processor and catcher-processor vessels are legally required to report commercial and non-commercial catch data on a regular basis, while catch and auxiliary information from a very extensive observer program, in many cases covering 100% of the fleet activity (higher coverage rates in the EBS, significantly less in the GOA) is also transmitted on a daily basis. Shore-based processors are required to report landings on a daily basis.

Reporting of commercial catch from both state and federally managed fisheries is done through the Catch Accounting System (CAS), a multi-agency (NMFS, IPHC and ADFG) system that centrally collates landings data from shore based processing and landings operations as well as retained catch observations from individual vessels. The CAS system also provides a centralized data platform for the collation of catch (landings and discards) data from the extensive observer program. Catch and effort are recorded through the e-landing (electronic fish tickets) system and also collected by vessel captains in logbooks. Port landings are verified by shore-based observers, and estimates of discards and by-catch in the flatfish fisheries are compiled from landings records and at-sea observer data. Catch reports for flatfish in the BSAI and GOA Regions for 2015 can be found on the NMFS Alaskan fisheries website. Information on discards, by-catch and PSC is also reported, and can be found in the SAFE documents. In the 2015 SAFE for northern and southern rocksole in GOA, it was noted that there is some uncertainty with catches of these soles, given the similar appearance of the species and their overlap in catches in certain areas, but that the increase in observer data will be helpful in this regard.

Fishery independent data are collected in regular surveys of both the GOA and BSAI regions and used in the flatfish stock assessments. Extensive stratified random bottom trawl surveys are carried out by NMFS/RACE-AFSC annually in the EBS and in alternating years in the GOA and AI, and provide indices of abundance for groundfish species, including flatfish, as well as biological data. For BSAI Greenland turbot, results from an AFSC trawl survey of the EBS slope area, as well as a longline survey conducted by AFSC - Auke Bay (EBS and AI in alternate years) are also used in the stock assessments. The EBS slope survey was conducted in 2016, resuming a biannual time series that was missed in 2014. Extensive oceanographic data on the GOA and BSAI are also collected both during the multispecies surveys and targeted oceanographic sampling. Diet analyses of potential predators on flatfish as well as of the diet of various sizes of the species have been undertaken. Extensive ecosystem reports containing a wide range of data, analyses, and indicators are included in the SAFE documents

The Fisheries Monitoring and Analysis Division (FMA) of the NMFS monitor groundfish fishing activities in the US EEZ. FMA is responsible for the biological sampling of commercial fishery catches, estimation of catch and bycatch mortality, and analysis of fishery-dependent survey data. The Division is responsible for training and oversight of at-sea observers who collect catch data onboard fishing vessels and at onshore processing plants. Data and analysis are provided to the Sustainable Fisheries Division of the Alaska Regional Office for the monitoring of quota uptake and for stock assessment, ecosystem investigations and research programs.

Supporting clause:

4.2. An observer scheme designed to collect accurate data for research and support compliance with applicable fishery management measures shall be established.

Summarized evidence:

Beginning in 2013, Amendment 86 to the FMP of the BSAI and Amendment 76 to the FMP of the GOA established the new North Pacific Groundfish and Halibut Observer Program (NPGOP). Almost all vessels fishing for groundfish in federal waters are required to carry observers, at their own expense, for at least a portion of their fishing time. Only vessels under 40 and jig boats do not have observers deployed on them because of the burden of carrying additional people. These changes were intended to increase the statistical reliability of data collected by the program, address cost inequality among fishery participants, and expand observer coverage to previously unobserved fisheries. An important change in sampling methodology under the new observer program was to sample trawl vessels under 60 ft and greater than 40 ft, which had never been sampled prior to the restructured program. In 2015, the move of vessels to the trip selection pool increased observer deployment on vessels under 60 feet in length overall that participate in Western GOA non-pollock groundfish fisheries within the Non-Rockfish Program Catcher Vessel Sector. This included vessels fishing for flatfish in GOA, and NMFS believes the change has improved observer data by better representing fishing events.

Data gathered in the NPGOP cover all biological information from commercial fisheries, including catch weights (landings and discards), catch demographics (species composition, length, sex and age) and interactions with species such as sharks, rays, seabirds, marine mammals and other species with limited or no commercial value. As well as providing data for stock assessment and other scientific purposes, the observer program is also used extensively in- and post-season management. Daily reports are electronically transmitted via the CAS system. This 'real-time' data is used as the basis to trigger area as well as fisheries closures e.g. if maximum catch allocations of target or Prohibited Species (such as chinook salmon) are caught. Financing of the NPGOP is based on cost recovery where individual vessel operators must pay the daily observer costs as a condition of licence. Annual reports from the Observer Program contain detailed information on fees and budgets, deployment performance, enforcement, and outreach. NMFS envisions that future reporting will expand key performance metrics to improve understanding of the Observer Program performance. NMFS has already noted progress on incorporating variances associated with catch estimates, and will continue to report as work progresses.

In BSAI, 100% of flatfish catch was covered by observers in 2015. In GOA, over 99% of the total flatfish catch by catcher/processor vessels was observed in 2015, although the percentage was much lower for catcher vessels at 14%. As noted above, measures were adopted by NMFS in 2015 to improve this level of coverage. Sampling of catches by observers for presence of PSC, including Chinook salmon, is an important function, and this came into play in 2015, when the non-rockfish trawl fishery by catcher vessels in Central and Western GOA was closed from May to August due to excessive by-catches of Chinook, based on observer sampling.

NMFS and the NPFMC have developed an Electronic Monitoring (EM) Strategic Plan to integrate video monitoring into the Observer Program to improve data collection. The NMFS Policy on Electronic Monitoring Technologies and Fishery Dependent Data Collection provides guidance on the adoption of electronic technology solutions in fishery-dependent data collection programs. Electronic technologies include the use of vessel monitoring systems (VMS), electronic logbooks, video cameras for electronic monitoring (EM), and other technologies that provide EM and electronic reporting (ER). The policy also includes guidance on the funding for electronic technology use in fishery-dependent data collection programs. At-sea work has proceeded under this initiative since 2014.

Supporting clause:

4.3. (Incl. 4.3.1.) Sufficient knowledge of social, economic and institutional factors relevant to the fishery in question shall be developed through data gathering, analysis and research.

4.4. States shall stimulate the research required to support national policies related to fish as food.

4.5. States shall ensure that the economic, social, marketing and institutional aspects of fisheries are adequately researched and that comparable data are generated for ongoing monitoring, analysis and policy formulation.

Summarized evidence:

With respect to socio-economic data collection, economic analyses are required to varying degrees under the Regulatory Flexibility Act (RFA), the MSA, the NEPA, the Endangered Species Act, and other applicable laws. AFSC's Economic and Social Sciences Research Program (in the REFM Division) produces an annual Economic Status Report of the Groundfish fisheries in Alaska. This comprehensive report provides estimates of total groundfish catch, groundfish discards and discard rates, prohibited species catch (PSC) and PSC rates, values of catch and resulting food products, the number and sizes of vessels that participated in the groundfish fisheries off Alaska, and employment on at-sea processors. The report contains a wide range of analyses and comments on the performance of a range of indices for different sectors of the North Pacific fisheries, including flatfish, and relates changes in value, price, and quantity, across species, product and gear types, to changes in the market.

Agencies such as NPFMC are required to consider the impact of their rules (e.g. Fishery Management Plans, Fishing Regulations) on small entities (fishermen communities) and to evaluate alternatives that would accomplish the objectives of the rule(s) without unduly burdening small entities when the rules impose a significant economic impact on them.

Supporting clause:

4.6. States shall investigate and document traditional fisheries knowledge and technologies, in particular those applied to small scale fisheries, in order to assess their application to sustainable fisheries conservation, management and development.

Summarized evidence:

The NPFMC established a Rural Outreach Committee in 2009 to improve outreach and communications with rural communities and Alaska Native entities and develop a method for systematic documentation of Alaska Native and community participation in the development of fishery management actions. The Committee is supposed to advise the Council on how to provide opportunities for better understanding and participation from Alaska Native and rural communities; to provide feedback on community impacts sections of specific analyses, if requested; and to provide recommendations regarding which proposed Council actions need a specific outreach plan and prioritize multiple actions when necessary. Priorities of the Committee included salmon PSC reduction in EBS and GOA.

Changes to Supporting-Clause Confidence Ratings.

No changes are apparent in the management of the GoA or BSAI fisheries that would detrimentally affect performance against the confidence ratings for any supporting clauses.

Conformance: Full conformance continues.

Fundamental Clause 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
Supporting clauses applicable	11
Supporting clauses not applicable	0
Overall level of conformity	HIGH
Non Conformances	0

Summary of Changes and Evidence of continuous compliance.

Supporting clause:

5.1. (Incl. 5.1.1.) States shall ensure that appropriate research is conducted into all aspects of fisheries including biology, ecology, technology, environmental science, economics, social science, aquaculture and nutritional science. The research shall be disseminated accordingly. States shall also ensure the availability of research facilities and provide appropriate training, staffing and institution building to conduct the research, taking into account the special needs of developing countries.

Summarized Evidence:

Guided by MSA standards, and other legal requirements, the NMFS has a well-established institutional framework for research developed within the Alaska Fisheries Science Center (AFSC), which operates several laboratories and Divisions. The Auke Bay Laboratories conduct scientific research on fish stocks, fish habitats, and the chemistry of marine environments. The National Marine Mammal Laboratory conducts research on marine mammals, with particular attention to issues related to marine mammals off the north Pacific coasts including Alaska.

The Fisheries Monitoring and Analysis Division (FMA) monitors groundfish fishing activities in the US EEZ off Alaska and conducts research associated with sampling commercial fishery catches, estimation of catch and bycatch mortality, and analysis of fishery-dependent data. The Resource Assessment and Engineering Division (RACE) conducts fishery surveys to measure the distribution and abundance of approximately 40 commercially important fish and crab stocks. The Resource Ecology and Fisheries Management Division (REFM) collects data to support management of Northeast Pacific and eastern Bering Sea fish and crab resources, including flatfish. REFM also produces of an annual Economic Status Report, referred to under clause 4.5 above.

The North Pacific Research Board (NPRB) was created in 1997 to conduct research activities 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. The NPRB has developed two Integrated Ecosystem Research Programs relevant to the GOA and BSAI. These are extensive multi-year projects involving tens of millions of dollars and scientists from a number of institutions, and are described more fully in Fundamental Section F (13) below.

Formed in 1998, the North Pacific Fisheries Research Foundation (NPFRRF) was established by participants of the Bering Sea groundfish trawl fishery to fund, direct, and otherwise oversee applied scientific research regarding the fisheries and fishery resources of the North Pacific, in the interest of

the commercial fishing industry. They have done recent work on salmon excluder devices for midwater trawl fisheries.

Supporting clause:

5.2. (Incl. 5.2.1.) The state of the stocks under management jurisdiction, including the impacts of ecosystem changes resulting from fishing pressure, pollution or habitat alteration shall be monitored.

Summarized Evidence:

Peer reviewed stock assessments are done annually and used as the scientific basis to set catch quotas. Scientists also evaluate how fish stocks and user groups might be affected by fishery management actions. The assessments take into account uncertainty and evaluate stock status relative to reference points in a probabilistic way. The Stock Assessment and Fishery Evaluation (SAFE) reports (see Section 4 above for details and references to the 2015 flatfish SAFE documents) are compiled annually by the BSAI and GOA Groundfish Plan teams, which are appointed by the Council. The sections are authored by AFSC and State of Alaska scientists and the assessments first undergo internal peer review. The assessments as well as the plan team recommendations are then subsequently reviewed by the SSC who make the final OFL and ABC recommendations to the NPFMC. The SSC may modify the recommendations from the Plan Team based upon additional considerations. The Council sets TACs at or below the ABC recommendations of the SSC. The SAFE reports also include a volume assessing the Economic Status of the Groundfish Fisheries off Alaska as well as a volume on Ecosystem Considerations. The SAFE report provides information on the historical catch trend, estimates of the maximum sustainable yield of the groundfish complex as well as its component species groups, assessments on the stock condition of individual species groups; assessments of the impacts on the ecosystem of harvesting the groundfish complex at the current levels given the assessed condition of stocks, including consideration of rebuilding depressed stocks as necessary; and alternative harvest strategies and related effects on the component species groups.

In 2015, full peer-reviewed assessments were conducted for the five GOA flatfish stocks considered here, and updates (with projections) of these were provided in the 2016 SAFE. For the BSAI flatfish covered here, full assessments were conducted in 2016. The SAFE documents referenced in Section 4.1 above contain the full suite of results for all the 2016 flatfish stock assessments and updates.

The AFSC periodically requests a more comprehensive review of groundfish stock assessments by the Center of Independent Experts (CIE). These reviews are intended to lay a broader groundwork for improving the stock assessments outside the annual assessment cycle. The most recent CIE reviews of Alaskan flatfish assessments have been those conducted in 2012 for BSAI yellowfin sole, GOA rock sole, and GOA rex sole. Full results of these reviews are available on the NMFS/CIE website, and recommendations from these reviews have been addressed when possible during subsequent stock assessments.

Supporting clause:

5.3. Management organizations shall cooperate with relevant international organizations to encourage research in order to ensure optimum utilization of fishery resources.

5.4. The fishery management organizations shall directly, or in conjunction with other States, develop collaborative technical and research programmes to improve understanding of the biology, environment and status of trans-boundary aquatic stocks.

Summarized Evidence:

The United States and Russian Federation maintain the bilateral Intergovernmental Consultative Committee (ICC) fisheries forum pursuant to the US-Soviet Comprehensive Fisheries Agreement, signed on May 31, 1988. These meetings have resulted in US vessels doing joint surveys with Russian Federation scientists in the Federation's zone of the Bering Sea. During 1984 and 1987, USA-Japan joint trawl surveys were conducted in GOA. NOAA and the Federal Agency for Fisheries of the Russian Federation signed a Joint Statement on Enhanced Fisheries Cooperation in 2013 (see Clause 1.3 in Fundamental A for details).

Supporting clause:

5.5. (Incl. 5.5.1. and 5.5.2.) Data generated by research shall be analysed and the results of such analyses published in a way that ensures confidentiality is respected, where appropriate.

Summarized Evidence:

Data collected by scientists from the many surveys and flatfish fisheries are analysed and presented in peer reviewed meetings and/or in primary literature, following rigorous scientific protocols. Results of these analyses are disseminated in a timely fashion through numerous methods, including scientific publications, and as information on NMFS, ADFG, and NPFMC websites, in order to contribute to fisheries conservation and management. Confidentiality of individuals or individual vessels (e.g. in the analysis of fishery CPUE data) is fully respected where necessary.

Supporting clause:

5.6. Studies shall be promoted which provide an understanding of the costs, benefits and effects of alternative management options designed to rationalize fishing, in particular, options relating to excess fishing capacity and excessive levels of fishing effort.

5.7. In the evaluation of alternative conservation and management measures, their cost-effectiveness and social impact shall be considered.

Summarized Evidence:

As noted in Fundamental Section A2 above, the Western Alaska Community Development Quota (CDQ) Program was created by the NPFMC in 1992 to provide western Alaska communities an opportunity to participate in the BSAI fisheries that had been foreclosed to them because of the high capital investment needed to enter the fishery. The CDQ Program allocates a percentage of all Bering Sea and Aleutian Islands quotas for groundfish, prohibited species, halibut, and crab to eligible communities. The purpose of the CDQ Program is to (i) provide eligible western Alaska villages with the opportunity to participate and invest in fisheries in the Bering Sea and Aleutian Islands Management Area; (ii) support economic development in western Alaska; (iii) alleviate poverty and provide economic and social benefits for residents of western Alaska; and (iv) achieve sustainable and diversified local economies in western Alaska. The Program allocates 10.7% of the BSAI TAC for the flatfish complex (yellowfin sole, northern rock sole, arrowtooth flounder, Greenland turbot, and flathead sole) to eligible communities.

Most of the flatfish resources in this report are characterized by large biomasses and relatively light exploitation. They are well managed, and none are overfished. An important consideration in the 2015 flatfish fishery for some vessels in GOA was a closure due to PSC limits for Chinook salmon, which had considerable economic impact.

Changes to Supporting-Clause Confidence Ratings.

No changes are apparent in the management of the GoA or BSAI fisheries that would detrimentally affect performance against the confidence ratings for any supporting clauses.

Conformance: Full conformance continue.

6.3 The Precautionary Approach (C)

Fundamental Clause 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 targets. Remedial actions shall be available and taken where reference point or other suitable proxies are approached or exceeded.

No. Supporting clauses	5
Supporting clauses applicable	5
Supporting clauses not applicable	0
Overall level of conformity	HIGH
Non Conformances	0

Summary of Changes and Evidence of continuous compliance.

Supporting clause:

6.1. (Incl. 6.1.1., 6.1.2., 6.1.3., 6.1.4., 6.1.5.) States shall determine for the stock both safe targets for management (Target Reference Points) and limits for exploitation (Limit Reference Points), and, at the same time, the action to be taken if they are exceeded.

Summarized Evidence:

National Standard 1 of the MSA requires that conservation and fisheries management measures prevent overfishing while achieving optimal yield for each fishery on a continuing basis. The status of US fish stocks is determined by 2 metrics. The first is the relationship between the actual exploitation level and the overfishing level (OFL). If the exploitation level (or fishing mortality) exceeds the FOFL, the stock is considered to be subject to overfishing. The second is the relationship between the stock size and the minimum stock size threshold (MSST). If the stock size is below the MSST it is considered to be overfished. A stock is considered to be approaching an overfished condition when it is projected that there is more than a 50 percent chance that the biomass of the stock or stock complex will decline below the MSST within two years. The BSAI and GOA groundfish fishery management plans⁴⁶ have pre-defined harvest control rules (HCR) that define a series of target and limit reference points for flatfish and other groundfish covered by these plans. Each SAFE report describes current fishing mortality rate, stock biomass relative to the target and limit reference points. Both management plans specify the Overfishing Limits (OFL) and the Fishing mortality rate (FOFL) used to set OFL, Acceptable Biological Catch (ABC) and the fishing mortality rate (FABC) used to set ABC, the determination of each being dependent on the knowledge base for each stock. The overall objectives of the management plans are to prevent overfishing and to optimize the yield from the fishery through the promotion of conservative harvest levels while considering differing levels of uncertainty.

The NPFMC management plan classifies each stock based on a tier system (Tiers 1-6) with Tier 1 having the greatest level of information on stock status and fishing mortality relative to MSY considerations. Typically, the HCR become more precautionary as tier classification increases. Catch options are adjusted depending on the status of stocks relative to Bmsy or, where Bmsy is not available, to the biomass corresponding to the percentage of the equilibrium spawning biomass that would be obtained

⁴⁶ NPFMC Fisheries Management Plans <http://www.npfmc.org/fishery-management-plans/>

in the absence of fishing (expressed, for example, as B35%, B40%, etc.). The HCR account for scientific uncertainty, and contain explicit values for FOFL and maxFABC values in each tier.

For Tier 1 stocks, reliable estimates are available for B and BMSY, along with a probability density function for FMSY. For Tier 3 stocks, the spawner-recruit relationship is uncertain, so that MSY cannot be estimated with confidence, and the MSY proxy level is defined as B35%. Stocks in tiers 1-3 are further categorized as (a), (b), or (c) based on the relationship between B and either BMSY or B40%, with (a) indicating a stock where biomass is above BMSY or B40%, (b) indicating a stock where biomass is below BMSY or B40% but above MSST (e.g. 0.5 x BMSY proxy), and (c) indicating a stock where biomass is below MSST. The category assigned to a stock determines the method used to calculate ABC and OFL.

Each assessment for the flatfish stocks considered here contains a detailed summary table with precautionary reference points listed, as well as the stock biomass relative to these values, and if/how the values have changed since the previous assessment. The following table, from the 2016 BSAI Arrowtooth flounder assessment⁴⁷, gives an example of how the PA information is presented for each stock in the SAFE documents. Projected 2016 stock biomass was actually above B100% in this case (Tier 3a stock), the stock is not overfished, and no overfishing is occurring.

Quantity/Status	Last year		This year	
	2016	2017	2017	2018
<i>M</i> (natural mortality – Male, Female)	0.35, 0.2	0.35, 0.2	0.35, 0.2	0.35, 0.2
Specified/recommended Tier	3a	3a	3a	3a
Projected biomass (ages 1+)	910,012	920,920	779,195	772,153
Female spawning biomass (t)				
Projected				
<i>B</i> _{100%}	535,350	534,347	485,802	464,066
<i>B</i> _{40%}	555,049	555,049	530,135	530,135
<i>B</i> _{35%}	222,019	222,019	212,054	212,054
<i>B</i> _{35%}	194,267	194,267	185,547	185,547
<i>F</i> _{OFL}	0.180	0.180	0.151	0.151
<i>maxF</i> _{ABC} (maximum allowable = <i>F</i> _{40%})	0.153	0.153	0.129	0.129
Specified/recommended <i>F</i> _{ABC}	0.153	0.153	0.129	0.129
Specified/recommended OFL (t)	94,035	84,156	76,100	67,023
Specified/recommended ABC (t)	80,701	72,216	65,371	58,633
Status	As determined <i>last</i> year for:		As determined <i>this</i> year for:	
	2014	2015	2015	2016
Overfishing	no	n/a	no	n/a
Overfished	n/a	no	n/a	no
Approaching overfished	n/a	no	n/a	no

Tables 6.1 and 6.2 show the updated reference points and biomass estimates, from the 2016 SAFE documents, for the GOA and BSAI flatfish stocks in this report. Four of the five GOA stocks are in Tier 3a, and are therefore above the B40% values (most by at least double). For the BSAI, there are 5 stocks in Tier 3a and two in Tier 1a, and all the BSAI stocks in the table are above Bmsy or its proxy (B35%). Greenland turbot has shown some recent improvement in recruitment and stock size, and biomass in 2017 is estimated to be above the B35% and B40% reference points, thus moving the stock to tier 3a from its previous placement in tier 3b. None of the twelve stocks are considered to be overfished, undergoing overfishing, or approaching an overfished condition. By comparing the last two columns in the tables, it is obvious that all the stocks are currently being fished well below the OFL.

⁴⁷ 2016 BSAI arrowtooth flounder SAFE <https://www.afsc.noaa.gov/REFM/Docs/2016/BSAIatf.pdf>

Table 6.1. Reference points for flatfish stocks in the GOA. Biomass and catch are in tons. Catches (last col.) are either to mid/late Oct. 2016, or projected (estimated by assessment authors) to the end of 2016. Catches for rock sole include both species (northern + southern*). All data are from the 2016 GOA SAFE⁴⁸, including Biomass estimates from the most recent assessment or update.

GOA Stock/Unit	Tier	Year	Female SSB	BMSY	B35%	B40%	B100%	FOFL	FABC	OFL	Catch (2016)
Arrowtooth flndr	3a	2017	1,174,400	N/A	347,295	396,909	992,272	0.204	0.171	219,327	17,859
Flathead sole	3a	2017	82,819	N/A	32,258	36,866	92,165	0.40	0.32	43,128	2,164
North. rock sole	3a	2017	36,683	N/A	18,100	20,700	51,800	0.299	0.248	14,548	3,205*
South. rock sole	3a	2017	71,786	N/A	32,700	37,400	93,500	0.222	0.186	22,215	
Rex sole	5	2017	47,008	N/A	19,896	22,738	56,845	0.17	0.128	10,860	1,533

Table 6.2. Reference points for flatfish stocks in the Bering Sea and Aleutian Islands. Biomass and catch are in tons. Catches in last column are projected (estimated by assessment authors) to the end of 2016, based on catches to October 2016. All data are from the 2016 BSAI SAFE⁴⁹ including Biomass estimates from the most recent assessment of each stock.

BSAI Stock/Unit	Tier	Year	Female SSB	BMSY	B35%	B40%	B100% or B0*	FOFL	FABC	OFL	Catch (2016)
Alaska plaice	3a	2017	186,300	N/A	96,700	110,500	276,250	0.154	0.128	42,800	13,400
Arrowtooth flndr	3a	2017	485,802	N/A	185,547	212,054	530,135	0.151	0.129	76,100	11,267
Flathead sole	3a	2017	223,469	N/A	113,028	129,175	322,938	0.41	0.34	81,654	10,013
Greenland turbot	3a	2017	50,461	N/A	36,084	41,239	103,097	0.29	0.13	11,615	2,186
Kamchatka flndr	3a	2017	60,300	N/A	44,400	50,800	127,000	0.078	0.066	10,360	4,533
North. rock sole	1a	2017	539,500	257,000	N/A	N/A	918,500*	0.160	0.155	159,700	45,800
Yellowfin sole	1a	2017	778,600	424,000	N/A	N/A	1,202,700*	0.125	0.114	287,000	130,500

Another limit reference point used in managing groundfish in the BSAI and GOA is the optimum yield (OY), for which the sum of the TACs of all groundfish species (except Pacific halibut) is required to fall within a given range. The range for BSAI is 1.4 to 2.0 million mt; the range for GOA is 116 to 800 thousand mt. In practice, only the upper OY limit in the BSAI has been a factor in altering harvests, and was an important consideration for NPFMC in determining catch limits for the 2016 and 2017 fisheries, as the sum of TACs in the BSAI area is at or near the OY limit of 2 million tons.

Changes to Supporting-Clause Confidence Ratings.

No changes are apparent in the management of the GoA or BSAI fisheries that would detrimentally affect performance against the confidence ratings for any supporting clauses.

⁴⁸ <http://www.afsc.noaa.gov/REFM/Docs/2016/GOASafe.php>

⁴⁹ <http://www.afsc.noaa.gov/REFM/Docs/2016/BSAISafe.php>

Conformance: Full conformance continues.

Fundamental Clause 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	6
Supporting clauses applicable	6
Supporting clauses not applicable	0
Overall level of conformity	HIGH
Non Conformances	0

Summary of Changes and Evidence of continuous compliance.

Supporting clause:

7.1. (Incl. 7.1.1.) The precautionary approach shall be applied widely to conservation, management and exploitation of living aquatic resources in order to protect them and preserve the aquatic environment.

7.2. (Incl. 7.2.1., 7.2.2., 7.2.3.) For new and exploratory fisheries, procedures shall be in place for promptly applying precautionary management measures, including catch or effort limits.

Summarized Evidence:

The MSA, as amended, sets out ten national standards for fishery conservation and management, with national standard 1 of the MSA requiring that conservation and fisheries management measures prevent overfishing while achieving optimal yield for each fishery on a continuing basis. The BSAI and GOA Groundfish FMPs⁵⁰ are clearly consistent with MSA requirements in applying the Precautionary Approach (PA) to fisheries. The FAO Guidelines for the PA 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 regime for flatfish Alaska is comprehensive, the available scientific data, analyses, and peer-review are substantial, and take into account uncertainty whenever possible. Stocks tend to be lightly exploited in recent years at biomass levels well above the limit reference points, and well-defined HCR rules are in place that are consistent with the harvest strategy, and ensure that the exploitation rate is reduced as limit reference points are approached. In addition, ecosystem considerations are taken into account, and there is an overall limit (OY) constraining the total TACs for all fisheries. As detailed in the previous sections of this report, all the elements as specified above in the FAO guidelines for the PA are present.

Changes to Supporting-Clause Confidence Ratings.

⁵⁰ NPFMC FMPs <http://www.npfmc.org/fishery-management-plans/>

No changes are apparent in the management of the GoA or BSAI fisheries that would detrimentally affect performance against the confidence ratings for any supporting clauses.

Conformance: Full conformance continues.

6.4 Management Measures (D)

Fundamental Clause 8.

Management shall adopt and implement effective management measures designed to maintain stocks at levels capable of producing maximum sustainable yields, including harvest control rules and technical measures applicable to sustainable utilization of the fishery and be based upon verifiable evidence and advice from available scientific and objective, traditional sources.

No. Supporting clauses	10
Supporting clauses applicable	10
Supporting clauses not applicable	0
Overall level of conformity	HIGH
Non Conformances	0

Summary of Changes and Evidence of continuous compliance.

Supporting clause:

8.1. (Incl 8.1.1.) Conservation and management measures shall be designed to ensure the long-term sustainability of fishery resources at levels which promote the objective of optimum utilization, and be based on verifiable and objective scientific and/or traditional sources. In the evaluation of alternative conservation and management measures, their cost-effectiveness and social impact shall be considered.

Summarized evidence:

Management measures:

National Standard 1 of the MSA requires that conservation and fisheries management measures prevent overfishing while achieving optimal yield on a continuing basis. As noted in previous sections, the NMFS and NPFMC follow a multi-faceted PA (OFL, ABC, TAC, OY) to manage the federal flatfish fisheries, based on targets, limits, and pre-defined HCRs, as well as overall ecosystem considerations (e.g. the OY limits). The objectives are spelled out clearly in modern FMPs for BSAI and GOA Regions, and both FMPs contain long-term management objectives for the Alaska groundfish fishery.

Management measures in the FMPs include (i) permit and participation, (ii) authorized gear, (iii) time and area, and catch restrictions, (iv) measures that allow flexible management authority, (v) designated monitoring and reporting requirements for the fisheries, and (vi) schedule and procedures for review of the FMP or FMP component. For every change/amendment or new development affecting fisheries management and therefore modifying the FMPs, there is an evaluation of alternative conservation and management measures, including considerations of their cost effectiveness and social impact.

There is a rigorous peer-reviewed scientific stock assessment process, which accounts for uncertainty, upon which the annual management (ABC) advice and TAC is based. Ecosystem considerations are part of all stock assessments. Based on the 2015-16 stock assessments and/or updates, none of the flatfish stocks in Alaskan federal or state waters considered in this report are overfished, or are undergoing overfishing. There are regulations to protect Steller sea lions (SSL) and red king crabs, and to avoid seabirds, corals, and seamounts. By-catches of all species including PSC are managed carefully and fisheries are closely monitored by observer coverage, dockside checks, and Federal and State enforcement agencies.

No destructive fishing practices are employed, and the only gears allowed to direct for flatfish in Alaskan waters are longline and non-pelagic trawl gear modified to reduce the potential impact on bottom habitat. Sweep line modifications to trawl gear have been implemented to 1) decrease significantly habitat interaction of trawl gear and 2) reduce the bycatch of crabs and mortality rates of crabs that slip under the gear without being caught. Longline gear is regulated for seabird avoidance measures.

Supporting clause:

8.2. (Incl 8.2.1.) States shall seek to identify domestic parties having a legitimate interest in the use and management of the fishery.

Summarized evidence:

Organisations and individuals involved in the fishery and management process have been identified. The Alaska flatfish management process has many stakeholders, including Alaska flatfish license holders, processors, fishermen's organizations, the state of Alaska, indigenous people, CDQ groups, and environmental groups. Roles and responsibilities are explicitly defined and well understood for all areas of responsibility and interaction. The NPFMC process is the primary means for soliciting stakeholder information important to these fisheries, and this is fully transparent and open to the public. Proposals for management measures may come from the public, state and federal agencies, advisory groups, or Council members. Fishing industry stakeholders work extensively with fishery scientists, managers, and other industry members on various initiatives to ensure sustainability of the flatfish fisheries. The NPFMC's CDQ Program and Rural Outreach Committee (see Section 4.6 above) also ensure community participation in fishery management actions.

Supporting clause:

8.3. (Incl 8.3.1.) Fleet capacity operating in the fishery shall be measured. States shall maintain, in accordance with recognized international standards and practices, statistical data, updated at regular intervals, on all fishing operations and a record of all authorizations to fish allowed by them.

Summarized evidence:

The BSAI and GOA FMPs define specific management measures to avoid excess fishing capacity and maintain stocks that are economically viable for the fishing communities and industry to harvest and process. As noted above in Section 4.5, AFSC's Economic and Social Sciences Research produces an annual Economic Status Report of the Groundfish fisheries in Alaska, which includes estimates of catches, values of catch and resulting food products, and the number and sizes of vessels that participate in the groundfish fisheries off Alaska. There are substantial effort controls and records of all fishing operations in the Alaskan fisheries through mechanisms such as NPFMC Licence Limitation Program, and the Restricted Access Management Program administered by NMFS Alaska Regional Office. The Alaska Commercial Fisheries Entry Commission (CFEC) issues state waters permits and vessel licenses to qualified individuals.

Supporting clause:

8.4. (Incl 8.4.1., 8.4.2., 8.4.3) States and relevant groups from the fishing industry shall encourage the development and implementation of technologies and operational methods that reduce waste and discards of the target species. These measures shall be applied appropriately.

Summarized evidence:

There have been numerous regulations, as well as technological developments, aimed at reducing waste and discards in the flatfish fisheries. These include measures to address fish size, discards, and various closed seasons and areas. Specific examples include the modifications to trawl sweep lines, and year-round closures of large areas and conservation zones to protect numerous species such as red king crab and chum salmon. Under NPFMC regulations, Pacific halibut, Pacific herring, Pacific salmon and steelhead, king crab, and Tanner crab are prohibited species and must be avoided while fishing for groundfish and must be returned to the sea with a minimum of injury except when their retention is required or authorized by other applicable law.

AFSC collaborated with the Bering Sea bottom trawl fleet to identify modifications of trawl gear that would reduce damage to seafloor habitat. Research focused on the sweeps, cables that connect the doors to the net, which cover the vast majority of the area affected by bottom trawling for flatfish. Using devices to elevate sweeps 5-10 cm above the seafloor reduced effects on living structure animals on sand/mud substrates, while maintaining effective herding and capture of groundfish. The modification was also shown to substantially reduce mortality rates of several crab species encountered by trawl sweeps . These modifications were adopted by NPFMC in 2009 for subsequent use by trawlers targeting flatfish in the Bering Sea, and Central GOA.

At present, NPFMC is considering a number of measures to reduce by-catch, wastage, and PSC in Alaskan trawl fisheries. These are intended to " increase the ability of the groundfish trawl sector to avoid PSC species and utilize available amounts of PSC more efficiently by allowing groundfish trawl vessels to fish more slowly, strategically, and cooperatively, both amongst the vessels themselves and with shore-based processors", and to " reduce bycatch and regulatory discards by groundfish trawl vessels" . PSC species affected by these measures would include chinook salmon and Pacific halibut, which had impacts on flatfish fisheries in 2015 and 2016 . For all flatfish fisheries considered here, discards are managed and included in the catch reporting for the fisheries.

Changes to Supporting-Clause Confidence Ratings.

No changes are apparent in the management of the GoA or BSAI fisheries that would detrimentally affect performance against the confidence ratings for any supporting clauses.

Conformance: Full conformance continues.

Fundamental Clause 9.

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

No. Supporting clauses	11
Supporting clauses applicable	8

Supporting clauses not applicable	3
Overall level of conformity	HIGH
Non Conformances	0

Summary of Changes and Evidence of continuous compliance.

Supporting clause:

9.1. Measures shall be introduced to identify and protect depleted resources and those resources threatened with depletion, and to facilitate the sustained recovery of such stocks. Also, efforts shall be made to ensure that resources and habitats critical to the well-being of such resources which have been adversely affected by fishing or other human activities are restored.

Summarized evidence:

As noted in previous sections, the MSA requires that conservation and fisheries management measures prevent overfishing while achieving optimal yield on a continuing basis. NMFS and NPFMC follow a multi-faceted PA (OFL, ABC, TAC, OY) to manage the federal flatfish fisheries, based on targets, limits, and pre-defined HCRs, as well as overall ecosystem considerations. Management measures are in place to ensure sustainability, and to allow timely rebuilding if stocks are overfished. None of the flatfish stocks considered in this report are classified as overfished or undergoing overfishing, and are not in a depleted state. Only groundfish trawls and longlines are used in the fisheries and no destructive fishing practices are allowed which would adversely impact habitat.

The Environmental Impact Statement on Essential Fish Habitat (EFH) conducted in 2005⁵¹ (and reviewed in 2010) indicated that fishing has long-term effects on benthic habitat features off Alaska and acknowledges that considerable scientific uncertainty remains regarding the consequences of such habitat changes for the sustained productivity of managed species. However, this EIS also concluded “that the effects on EFH are minimal because the analysis finds no indication that continued fishing activities at the current rate and intensity would alter the capacity of EFH to support healthy populations of managed species over the long term”. The analysis concludes that no NPFMC managed fishing activities have more than minimal and temporary adverse effects on EFH, which is the regulatory standard requiring action to minimize adverse effects under the Magnuson-Stevens Act. These findings suggested that no additional actions were required to minimize the adverse effects of fishing on EFH pursuant to the Magnuson-Stevens Act and the EFH regulations. It was noted that the analysis has many limitations, and the effects of fishing on EFH for some managed species are unknown.

Supporting clause:

9.2. When deciding on use, conservation and management of the resource, due recognition shall be given, where relevant, in accordance with national laws and regulations, to the traditional practices, needs and interests of indigenous people and local fishing communities which are highly dependent on these resources for their livelihood.

Summarized evidence:

Through extensive consultation processes and direct involvement in the management of the flatfish stocks, interests of indigenous people and local fishing communities in Alaska are recognized. The Western Alaska Community Development Quota (CDQ) Program was created by NPFMC in 1992 to provide western Alaska communities an opportunity to participate in the BSAI fisheries that had been foreclosed to them because of the high capital investment needed to enter the fishery. Also, as noted in Section 4.6 above, NPFMC has established a Rural Outreach Committee to improve outreach and communications with rural communities and Alaska Native entities and develop a method for systematic documentation of Alaska Native and community participation in the development of fishery management

⁵¹ EIS 2005 Summary, conclusions https://alaskafisheries.noaa.gov/sites/default/files/0405efh_eis_Chapter_4.5.pdf

actions. Management actions taken to reduce salmon by-catches also explicitly acknowledge the importance of the salmon resources to the individuals and communities reliant on them.

Supporting clause:

9.3. States and relevant groups from the fishing industry shall encourage the development and implementation of technologies and operational methods that reduce discards of the target and non-target species catch. The use of fishing gear and practices that lead to the discarding of catch shall be discouraged and the use of fishing gear and practices that increase survival rates of escaping fish shall be promoted.

Summarized evidence:

Discarding of flatfish does occur in some other directed fisheries, and there are by-catches in the flatfish fisheries, including prohibited species (PSC). In some cases, e.g. arrowtooth flounder in GOA, the flatfish species of interest is taken primarily as bycatch in other fisheries, or in a mixed fishery. The PSC includes P. halibut and Chinook salmon, and in 2015 the non-rockfish program catcher vessels exceeded the 2700 Chinook limit by 174 fish⁵² before May, resulting in closures of fisheries⁵³ affecting primarily P. cod and flatfish fisheries in Central and Western GOA. Following a Regulatory Impact Review by NMFS, the fisheries reopened in August, under a PSC limit of 1600 Chinook set by NPFMC, and NMFS data indicates only 4 fish of this limit were caught through the end of the fishery on Dec. 31, 2015. Chinook catches by this fleet sector were reduced considerably in 2016⁵⁴, and no additional management measures were required. The majority of chinook by-catch in GOA is from the pollock fishery, and a recent supplementary Biological Opinion concluded that groundfish fisheries, including flatfish, in the GOA were not likely to jeopardize the continued existence of threatened Chinook stocks⁵⁵ (NMFS 2012). Amendment 103 to the GOA FMP, passed in September 2016⁵⁶, allows NMFS to reapportion unused Chinook salmon prohibited species catch (PSC) within and among specific trawl sectors in the Central and Western Gulf of Alaska (GOA), based on specific criteria and within specified limits. This rule does not increase the current combined annual PSC limit of 32,500 Chinook salmon that applies to Central and Western GOA trawl sectors, and promotes more flexible management of GOA trawl Chinook salmon PSC.

Various measures to reduce by-catches of PSC species (crabs, halibut, Chinook) in BSAI and GOA, including gear modifications and closed areas and seasons, have been adopted by NPFMC in recent years⁵⁷. Other measures taken by flatfish vessels to reduce halibut catch include use of excluder devices, improved communication and data sharing among vessels to avoid halibut, and enhanced deck sorting to reduce mortality of halibut returned to the sea. Data from the Observer Program enables enforcement of bycatch quotas for the species that by regulation have to be discarded at sea.

Supporting clause:

9.4. Technologies, materials and operational methods shall be applied to minimize the loss of fishing gear and the ghost fishing effects of lost or abandoned fishing gear.

Summarized evidence:

No fixed net gears (e.g. gillnets) are permitted, by regulation, in the federal and state flatfish fisheries in Alaska, and thus there is no evidence of ghost fishing from these forms of fishing gear. As well, there is minimal gear loss in flatfish trawl fisheries that could result in ghost fishing. For the flatfish considered here, directed longline fishing is conducted only for Greenland turbot, a relatively small portion of the

⁵² Chinook data 2015

https://alaskafisheries.noaa.gov/sites/default/files/reports/car142_goa_salmon2015.pdf

⁵³ NOAA notice of fishery closure. <https://alaskafisheries.noaa.gov/node/28259>

⁵⁴ Chinook data 2016

https://alaskafisheries.noaa.gov/sites/default/files/reports/car142_goa_salmon2016.pdf

⁵⁵ NMFS 2012. Supplemental Biological Opinion

⁵⁶ Amendment 103 to GOA FMP . <https://alaskafisheries.noaa.gov/sites/default/files/81fr62659.pdf>

⁵⁷ NPFMC by-catch management in GOA <https://www.npfmc.org/goa-trawl-bycatch-management/>

overall Alaskan flatfish catch. Modified (elevated) sweep lines reduce bottom contact of flatfish trawls used in the Alaskan fisheries.

Supporting clause:

9.5. There shall be a requirement that fishing gear, methods and practices where practicable, are sufficiently selective as to minimize waste, discards, and catch of non-target species - both fish and non-fish species and impacts on associated or dependent species.

9.6 The intent of fishing selectivity and fishing impacts related regulations shall not be circumvented by technical devices and information on new developments and requirements shall be made available to all fishers.

9.7 International cooperation shall be encouraged with respect to research programs for fishing gear selectivity and fishing methods and strategies, dissemination of the results of such research programs and the transfer of technology.

9.8 States and relevant institutions involved in the fishery shall collaborate in developing standard methodologies for research into fishing gear selectivity, fishing methods and strategies, and on the behaviour of target and non-target species in relation to such fishing gear as an aid for management decisions and with a view to minimizing non utilized catches.

Summarized evidence:

As noted in Section 8.4 above, AFSC has collaborated with the Alaskan bottom trawl fleet to identify modifications of trawl gear that reduce damage to seafloor habitat. Elevated sweeps operating 5-10 cm above the seafloor reduce effects on softer sea bottoms, and reduce mortality rates of several crab species encountered by trawl sweeps. These modifications are required by regulation for vessels targeting flatfish in the Bering Sea and Central GOA. As well there are several regulations in place addressing seabird avoidance for vessels fishing with hook-and-line gear. Measures taken/adopted to reduce various by-catch species, including PSC, are discussed in Section 9.3 above.

Changes to Supporting-Clause Confidence Ratings.

No changes are apparent in the management of the GoA or BSAI fisheries that would detrimentally affect performance against the confidence ratings for any supporting clauses.

Conformance: Full conformance continues.

Fundamental Clause 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
Supporting clauses applicable	3
Supporting clauses not applicable	0
Overall level of conformity	HIGH
Non Conformances	0

Summary of Changes and Evidence of continuous compliance.

Supporting clause:

10.1/10.2/10.3 Education and training programmes.

Summarized evidence:

The North Pacific Fishing Vessel Owners association (NPFVO)⁵⁸ 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 Center⁵⁹.

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, & Watch keeping). 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)⁶⁰ 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 a course in all aspects of Alaska fisheries, from fisheries management & regulation (e.g. MSA), to seafood marketing. The 2016 summit was hosted in Juneau, Alaska, from January 27-29th 2016, and aimed at providing crucial training and networking opportunities for fishermen entering the business or wishing to take a leadership role in their industry⁶¹.

MAP also 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, Alaska⁶².

Changes to Supporting-Clause Confidence Ratings.

No changes are apparent in the management of the GoA or BSAI fisheries that would detrimentally affect performance against the confidence ratings for any supporting clauses.

Conformance: Full conformance continues.

⁵⁸The North Pacific Fishing Vessel Owners association <http://www.npfvoa.org/>

⁵⁹ Alaska’s Institute of Technology <http://www.avtec.edu/amtc-cost.aspx>

⁶⁰ University of Alaska Sea Grant Marine Advisory Program (MAP) <http://seagrant.uaf.edu/map/fisheries/>

⁶¹ Alaska Young Fishermen’s Summit: <https://seagrant.uaf.edu/map/workshops/2016/ayfs/>

⁶² Fishery Industrial Technology Center <http://www.uaf.edu/sfos/about-us/locations/kodiak/about-ksmsc/>

6.5 Implementation, Monitoring and Control (E)

Fundamental Clause 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	3
Applicable supporting clauses	3
Non-applicable supporting clauses	0
Overall level of conformity	High
Non-conformance	0

Summary of Changes and Evidence of continuous compliance.

Supporting clause:

11.1 Effective mechanisms shall be established for fisheries monitoring, surveillance, control and enforcement measures including, where appropriate, observer programs, inspection schemes and vessel monitoring systems, to ensure compliance with the conservation and management measures for the fishery in question. This could include relevant traditional, fisher or community approaches, provided their performance could be objectively verified.

Summarised evidence

The US Coast Guard (USCG)⁶³, NMFS Office of Law Enforcement (OLE)⁶⁴ and Alaska Wildlife Troopers (AWT)⁶⁵ (a Division of the Alaska Department of Public Safety) conduct at-sea and shore-based inspections.

At-sea, dockside monitoring, aerial surveillance and satellite vessel monitoring systems (VMS) are in operation⁶⁶ within the fisheries and developmental work is on-going with respect to additional electronic monitoring (EM) technologies⁶⁷.

The USCG serves as the primary agency for at-sea fisheries enforcement and coordinates their work with other federal and state agencies. The USCG presents their annual enforcement report at NPFMC meetings. No significant or systematic incidents with respect to the flatfish fishery were highlighted in the 2016 report (17th Coast Guard District Enforcement Report – B4 USCG Report, October 2016).

OLE enforcement officers conduct their own inspections of vessels, fish transport and processing facilities and work with the USCG and their state colleagues, through a Cooperative Enforcement Program (CEP)⁶⁸, that transfer funds to state and US territorial law enforcement agencies to support enforcement of federal laws and regulations. NOAA's Office of General Counsel for Enforcement and Litigation⁶⁹ is responsible for prosecuting offences.

⁶³ <https://www.uscg.mil/d17/>

⁶⁴ <http://www.nmfs.noaa.gov/ole/>

⁶⁵ <http://dps.alaska.gov/AWT/>

⁶⁶ https://www.npfmc.org/wp-content/PDFdocuments/membership/Enforcement/Enforcement_Precepts_1215.pdf

⁶⁷ https://www.npfmc.org/wp-content/PDFdocuments/conservation_issues/EM211.pdf

⁶⁸ http://www.nmfs.noaa.gov/ole/docs/2015/ole_fy2015_annual_report.pdf

⁶⁹ <http://www.gc.noaa.gov/enforce-office.html>

The AWT are responsible for enforcing state fish and wildlife regulations. ADFG record landings, buying and production data on Departmental fish tickets or through a 'eLandings' system⁷⁰ (internet-based electronic filing). An individual, company, firm, or other organization that is a first purchaser, catcher-exporter, catcher-processor, or catcher-seller is required to be registered with the state and provide annual returns (Section 16.05.690⁷¹ Record of Purchases) 5 AAC 39.130.⁷²) is so doing, cross checks can be made against quota allocations.

Observers are used in the fisheries for scientific purposes⁷³ although in the North Pacific groundfish fisheries observers⁷⁴ are required to report violations of fisheries regulations that they witness⁷⁵. Full and partial observer coverage categories are assigned to different fleet sectors.

Conclusion:

No evidence of significant change was reported or identified since the 2nd surveillance assessment. A high level of conformity continues.

Supporting clause:

11.2 Fishing vessels shall not be allowed to operate on the resource in question without specific authorization.

Summarised evidence

Every fishing vessel targeting flatfish in Alaska is required to have a federal⁷⁶ permit.

Conclusion:

No evidence of significant change was reported or identified since the 2nd surveillance assessment. A high level of conformity continues.

Supporting clause:

11.3 States involved in the fishery shall, in accordance with international law, within the framework of sub-regional or regional fisheries management organizations or arrangements, cooperate to establish systems for monitoring, control, surveillance and enforcement of applicable measures with respect to fishing operations and related activities in waters outside their national jurisdiction.

11.3.1 States which are members of or participants in sub-regional or regional fisheries management organizations or arrangements shall implement internationally agreed measures adopted in the framework of such organizations or arrangements and consistent with international law to deter the activities of vessels flying the flag of non-members or non-participants which engage in activities which undermine the effectiveness of conservation and management measures established by such organizations or arrangements.

Summarised evidence

The Alaska flatfish fisheries operate within the Alaska EEZ only.

The US and Russian Federation maintain the ICC fisheries forum (see section 1.2). The ICC is responsible for furthering the objectives of the Comprehensive Fisheries Agreement. The objectives of the Agreement include cooperation to address illegal fishing on the high seas of the North Pacific and the Bering Sea.

Conclusion:

No evidence of significant change was reported or identified since the 2nd surveillance assessment. A high level of conformity continues.

⁷⁰ <http://www.adfg.alaska.gov/index.cfm?adfg=fishlicense.elandings>

⁷¹ <http://touchngo.com/lglcntr/akstats/Statutes/Title16/Chapter05/Section690.htm>

⁷² <https://www.adfg.alaska.gov/static/license/fishing/pdfs/5aac39.pdf>

⁷³ <https://www.afsc.noaa.gov/Quarterly/jas2010/jas10feature.pdf>

⁷⁴ <https://www.afsc.noaa.gov/FMA/>

⁷⁵ http://www.alaskaseafood.org/wp-content/uploads/2016/03/FAO_Based-RFM-AK-Pollock-Assessment-and-Certification-Report-Public-Release_31st-Jan-2012.pdf

⁷⁶ <https://alaskafisheries.noaa.gov/fisheries/AFA>

Supporting clause:

11.4 Flag States shall ensure that no fishing vessels entitled to fly their flag fish on the high seas or in waters under the jurisdiction of other States unless such vessels have been issued with a Certificate of Registry and have been authorized to fish by the competent authorities. Such vessels shall carry on board the Certificate of Registry and their authorization to fish.

11.4.1 Fishing vessels authorized to fish on the high seas or in waters under the jurisdiction of a State other than the flag State, shall be marked in accordance with uniform and internationally recognizable vessel marking systems such as the FAO Standard Specifications and Guidelines for Marking and Identification of Fishing Vessels.

Summarised evidence

The American Fisheries Act (AFA) 1998⁷⁷ ensures that vessel owners must demonstrate citizenship and relevant vessel registration documents.

Conclusion:

No evidence of significant change was reported or identified since the 2nd surveillance assessment. A high level of conformity continues.

Changes to Supporting-Clause Confidence Ratings.

No changes are apparent in the management of the GoA or BSAI fisheries that would detrimentally affect performance against the confidence ratings for any supporting clauses.

Conformance: Full conformance continues.

Fundamental Clause 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
Applicable supporting clauses	2
Non-applicable supporting clauses	2
Overall level of conformity	High
Non-conformance	0

Summary of Changes and Evidence of continuous compliance.

Supporting clause:

12.1 National laws of adequate severity shall be in place that provide for effective sanctions.

12.1.1 Sanctions shall be in force that affects authorization to fish and/or to serve as masters or officers of a fishing vessel, in the event of non-compliance with conservation and management measures.

Summarised evidence

The MSA provides four options for penalizing violations. In ascending order of severity:

- 1) Issuance of a citation (a type of warning), usually at the scene of the offence (see 15 CFR part 904, subpart E).

⁷⁷ https://www.marad.dot.gov/wp-content/uploads/pdf/American_Fisheries_Act.pdf

- 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 offences. It shall be the policy of NMFS to enforce vigorously and equitably the provisions of the MSA by utilizing that form or combination of authorized remedies best suited in a particular case to this end.

OLE agents and officers can assess civil penalties directly to the violator in the form of a summary settlement or can refer the case to NOAA's Office of General Counsel for Enforcement and Litigation who can impose a sanction on the vessels permit or further refer the case to the U.S. Attorney's Office for criminal proceedings⁷⁸. The low proportion of violations encountered during at-sea patrols of the Alaska fisheries demonstrates effective deterrence (Jun-Sep 2016: 403 boardings; 7 violations; 1.7% violation rate) (17th Coast Guard District Enforcement Report – B4 USCG Report, October 2016).

Conclusion:

No evidence of significant change was reported or identified since the 2nd surveillance assessment. A high level of conformity continues.

Supporting clause:

12.2 Flag States shall take enforcement measures in respect of fishing vessels entitled to fly their flag which have been found by them to have contravened applicable conservation and management measures, including, where appropriate, making the contravention of such measures an offence under national legislation.

12.2.1 Sanctions applicable in respect of violations and illegal activities shall be adequate in severity to be effective in securing compliance and discouraging violations wherever they occur.

Summarised evidence

No foreign vessels fish with the US EEZ. USCG at-sea and aerial patrols monitor the situation.

Conclusion:

No evidence of significant change was reported or identified since the 2nd surveillance assessment. A high level of conformity continues.

Changes to Supporting-Clause Confidence Ratings.

No changes are apparent in the management of the GoA or BSAI fisheries that would detrimentally affect performance against the confidence ratings for any supporting clauses.

Conformance: Full conformance continues.

⁷⁸ https://fisheries.msc.org/en/fisheries/alaska-pollock-bering-sea-and-aleutian-islands/@_@assessments

6.6 Serious Impacts of the Fishery on the Ecosystem (F)

Fundamental Clause 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 of the fishery on the ecosystem shall be appropriately assessed and effectively addressed.

No. Supporting clauses	13
Supporting clauses applicable	13
Supporting clauses not applicable	0
Overall level of conformity	HIGH
Non Conformances	0

Summary of Changes and Evidence of continuous compliance.

Gulf of Alaska (GoA)

The assessment of impacts on target stocks and dependent species continues at least at the level as when originally certified. The GoA groundfish Management Plan was most recently updated in November 2016 (<https://www.npfmc.org/wp-content/PDFdocuments/fmp/GOA/GOAfmppdf.pdf>). The Alaska Groundfish Programmatic Environmental Impact Assessment (as required under the National Environmental Protection Act) was reviewed in 2015 (<https://alaskafisheries.noaa.gov/sites/default/files/sir-pseis1115.pdf>). Conditions requiring a supplement to the 2004 PSEIS (if NMFS and the Council have made a substantial change in the proposed action (i.e., the management of the Federal groundfish fisheries) that is relevant to environmental concerns, or if there are significant new circumstances or information relevant to environmental concerns and bearing on the management of the groundfish fisheries or their impacts) were considered not to be required.

Observer levels in the North Pacific Groundfish and Halibut Observer Program (Observer Program; operated by NMFS) were at levels of 93% of the catcher/processor vessel catches and 10.7% of the catcher vessel catches in 2014. Analyses are underway to modify the programme slightly with proposals to allow certain catcher/processors, with relatively small levels of groundfish production, to qualify for partial observer coverage under the annual observer deployment plan, in place of the full observer coverage normally required of catcher/processors, but this would still maintain a significant level of observer coverage (https://alaskafisheries.noaa.gov/sites/default/files/analyses/amd112_102_rir0216.pdf).

Potential impacts are identified and those with serious effects continue to be addressed, for example in 2015, NMFS issued regulations to reduce the maximum retainable amount of skates from 20% to 5% to slow the catch rate of skates in these fisheries (<https://alaskafisheries.noaa.gov/sites/default/files/80fr80695.pdf>). Bycatch of skates and sharks in GOA flatfish fisheries in the GOA in each of 2014 (1001 mt) and 2015 (956 mt) was about half of the taken in the previous three years. Measures have also been applied to address impacts on chinook

salmon (under Prohibited Species Catch measures PSC) (<https://www.npfmc.org/salmon-bycatch-overview/gulf-of-alaska-salmon-bycatch>).

The process of identifying and addressing potential impacts on endangered species continues. For example, as well as chinook salmon, as described above, measures implemented in 2015 for the protection of Steller sea lions continue in force. It is noted that from about 2000, there has been a sustained increase in population size of Steller sea lions in all areas of the GOA.

Research and management continues into habitat effects, both essential fish habitat (EFH <https://alaskafisheries.noaa.gov/habitat/efh>) and vulnerable coral and slope habitat, for which conservation areas are established (for example <https://alaskafisheries.noaa.gov/sites/default/files/goashca.pdf>). Four new research projects into fishery and other anthropogenic impacts on habitat were begun in 2015. Research continues into effects on biodiversity (As above) and community development, for example through Amendment 80 cooperatives (<https://www.npfmc.org/amendment-80-cooperatives>).

Bering Sea and Aleutian Islands (BSAI)

The latest update of the Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands was produced in March 2017 (<https://www.npfmc.org/wp-content/PDFdocuments/fmp/BSAI/BSAIfmp.pdf>). The Alaska Groundfish Programmatic Environmental Impact Assessment (as required under the National Environmental Protection Act) was reviewed in 2015 (<https://alaskafisheries.noaa.gov/sites/default/files/sir-pseis1115.pdf>). Conditions requiring a supplement to the 2004 PSEIS (if NMFS and the Council have made a substantial change in the proposed action (i.e., the management of the Federal groundfish fisheries) that is relevant to environmental concerns, or if there are significant new circumstances or information relevant to environmental concerns and bearing on the management of the groundfish fisheries or their impacts) were considered not to be required.

As for the GoA, the assessment of impacts on target stocks and dependent species continues at least at the level as when originally certified. Information on the nature and amount of non-target species, endangered species (including marine mammals and seabirds) is collected by the North Pacific Groundfish and Halibut Observer Program operated by the NMFS, with full observer coverage.

Potential impacts are identified and those with serious effects continue to be addressed. Recent initiatives include, in 2016, a final rule to implement Amendment 111 to the BSAI FMP that reduced PSC limits for Pacific halibut in the BSAI groundfish fisheries by specific amounts in four groundfish sectors that results in an overall BSAI halibut PSC limit of 3,515 mt. This rule change is to minimise halibut bycatch in the BSAI groundfish fisheries to the extent practicable and to achieve, on a continuing basis, optimum yield from the BSAI groundfish fisheries (<https://alaskafisheries.noaa.gov/sites/default/files/81fr24714.pdf>).

The process of identifying and addressing potential impacts on endangered species also continues. In December 2014, NOAA implemented a 'final rule' for protection of Steller sea lions that primarily occur west of 144 degrees W longitude in Alaska (listed as endangered under the Endangered Species Act). For the primary prey species for Steller sea lions in the Aleutian Islands (Atka mackerel, Pacific cod and pollock) there are a combination of closed areas, harvest limits, and seasons. These are designed to disperse fishing efforts to maintain local population levels as a food source for the Steller sea lions while at the same time maintaining fishing opportunities and minimising economic impacts by removing some restrictions on fishing implemented in the 2010 Interim Final Rule and improving monitoring of vessels

while maintaining such research as surveys of sea lions in the Aleutian Islands (<https://alaskafisheries.noaa.gov/node/3203>).

Research and management continues into habitat effects, both essential fish habitat (EFH) and vulnerable coral and slope habitat, for which conservation areas are established (for example Pribilof Islands, Aleutian Islands and Bering Sea habitat conservation areas and Aleutian Islands coral habitat and Alaska seamount habitat protection areas - <https://www.npfmc.org/wp-content/PDFdocuments/fmp/BSAI/BSAIfmp.pdf>). Seven new research projects into fishery and other anthropogenic impacts on habitat were begun in 2015, although many were related to other species or to the GoA. Relevant habitat research includes defining EFH for Alaska groundfish species, using species distribution modelling and bathymetry compilation for the Eastern Bering Sea slope.

Research continues into effects on biodiversity (as above) and community development, for example through Amendment 80 cooperatives (<https://www.npfmc.org/amendment-80-cooperatives>).

Changes to Supporting-Clause Confidence Ratings.

No changes are apparent in the management of the GoA or BSAI fisheries that would detrimentally affect performance against the confidence ratings for any supporting clauses.

Conformance: Full conformance continues.

7 REFERENCES

- Alaska's Institute of Technology <http://www.avtec.edu/amtc-cost.aspx>
- Alaska Young Fishermen's Summit: <https://seagrant.uaf.edu/map/workshops/2016/ayfs/>
- Alaska Marine Ecosystem Considerations <http://access.afsc.noaa.gov/reem/eweb/Index.php?ID=0>
- Act to Prevent Pollution from Ships, 33 U.S.C. §§ 1901–1915. <https://www.law.cornell.edu/uscode/text/33/1901>
- Amendment 103 to GOA FMP (NOAA) <https://alaskafisheries.noaa.gov/sites/default/files/81fr62659.pdf>
- Assessment of the yellowfin sole stock in the Bering Sea and Aleutian Islands 2016 <https://www.afsc.noaa.gov/REFM/Docs/2016/BSAIyfin.pdf>
- Assessment of Greenland turbot (*Reinhardtius hippoglossoides*) in the Bering Sea and Aleutian Islands 2016 <https://www.afsc.noaa.gov/REFM/Docs/2016/BSAIrturbot.pdf>
- Assessment of the arrowtooth flounder stock in the Eastern Bering Sea and Aleutian Islands 2016 <https://www.afsc.noaa.gov/REFM/Docs/2016/BSAIatf.pdf>
- Assessment of the Kamchatka flounder stock in the Bering Sea/Aleutian Islands 2016 <https://www.afsc.noaa.gov/REFM/Docs/2016/BSAIkamchatka.pdf>
- Assessment of the Northern Rock Sole stock in the Bering Sea and Aleutian Islands 2016 <https://www.afsc.noaa.gov/REFM/Docs/2016/BSAIRocksole.pdf>
- Assessment of the Flathead Sole-Bering flounder Stock in the Bering Sea and Aleutian Islands 2016 <https://www.afsc.noaa.gov/REFM/Docs/2016/BSAIflathead.pdf>
- Assessment of the Alaska plaice stock in the Bering Sea/Aleutian Islands 2016 <http://www.afsc.noaa.gov/REFM/Docs/2016/BSAIplaice.pdf>
- Assessment of the Shallow-water Flatfish Stock Complex in the Gulf of Alaska 2015 <http://www.afsc.noaa.gov/REFM/Docs/2015/GOAshallowflat.pdf>
- Assessment of the northern and southern rock sole (*Lepidopsetta polyxystra* and *bilineata*) stocks in the Gulf of Alaska for 2015 <http://www.afsc.noaa.gov/REFM/Docs/2015/GOAnsrocksole.pdf>
- Assessment of the northern and southern rock sole (*Lepidopsetta polyxystra* and *bilineata*) stocks in the Gulf of Alaska for 2016 <http://www.afsc.noaa.gov/REFM/Docs/2016/GOAnsrocksole.pdf>
- Assessment of the Deepwater Flatfish Stock Complex in the Gulf of Alaska 2015 <http://www.afsc.noaa.gov/REFM/Docs/2015/GOAdeepflat.pdf>
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EIS 2005 Summary, conclusions	https://alaskafisheries.noaa.gov/sites/default/files/0405efh_eis_Chapter_4_F.pdf
Fishery Industrial Technology Center	http://www.uaf.edu/sfos/about-us/locations/kodiak/about-ksmsc/
FATE Fisheries and the Environment	http://www.st.nmfs.noaa.gov/fate/index
Economic SAFE 2015	http://www.afsc.noaa.gov/refm/docs/2015/economic.pdf
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APPENDICES

Appendix 1 Stakeholder submissions

No stakeholder comments were received during the annual surveillance activities.



ABOUT DNV GL

Driven by our purpose of safeguarding life, property and the environment, DNV GL enables organizations to advance the safety and sustainability of their business. We provide classification and technical assurance along with software and independent expert advisory services to the maritime, oil and gas, and energy industries. We also provide certification services to customers across a wide range of industries. Operating in more than 100 countries, our 16,000 professionals are dedicated to helping our customers make the world safer, smarter and greener.