Responsible Fishery Management (RFM)

Alaska Pacific Sablefish (Black Cod) Commercial Fishery

5th Surveillance Report

Certification Body (CB):	**Global Trust Certification**
Assessment team:	Dr. Ivan Mateo, Lead Assessor Dr. Robert Leaf, Assessor Mr. R.J. (Bob) Allain, Assessor
Fishery client:	Deckhand Seafoods
Assessment Type:	Surveillance audit 5
Report Code:	AK/SAB/002.5/2022
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Foreword

The Responsible Fisheries Management (RFM) Certification program is a third-party sustainable seafood certification program for wild capture fisheries owned by the Certified Seafood Collaborative (CSC), a 501(c)(3) non-profit foundation led by a diverse board of seafood and sustainability industry experts.

The program was previously owned by the Alaska Seafood Marketing Institute (ASMI) when it was known as the Alaska RFM program but when ownership passed to the CSC in July 2020 scope of the program was expanded to include other North American fisheries outside the State of Alaska.

The Responsible Fisheries Management (RFM) Standard is composed of Conformance Criteria based on the 1995 FAO Code of Conduct for Responsible Fisheries and the FAO Guidelines for the Eco-labelling of Fish and Fishery Products from Marine Capture Fisheries adopted in 2005 and amended/extended in 2009. The Standard also includes full reference to the 2011 FAO Guidelines for the Eco-labelling of Fish and Fishery Products from Inland Fisheries which in turn are now supported by a suite of guidelines and support documents published by the UN FAO. Further information on the RFM program may be found at: https://www.alaskaseafood.org/rfm-certification/.

1 Contents

1.1 List of Figures

1.2 List of Tables

2 Glossary

Acronym	Full Name
ABC	Allowable biological catch
ABOF	Alaska Board of Fisheries
ADFG	Alaska Department of Fish and Game AK – Alaska
ADP	Annual deployment plan (at-sea observers)
ADPS	Alaska Department of Public Safety
AI	Aleutian Islands AS – Alaska Statutes
AWT	Alaska Wildlife Troopers
BSAI	Bering Sea and Aleutian Islands
CDQ	Community development quota
CFEC	Commercial Fisheries Entry Commission
CPUE	Catch per unit effort
CQE	Community quota entity
CSP	Catch sharing plan
DMR	Discard mortality rate (halibut)
EEZ	Exclusive economic zone
EIS	Environmental impact statement
EM	Electronic monitoring
ER	Electronic reporting
FC	Fundamental clause
FMP	Fishery management plan
FY	Fiscal year
GHL	Guidance Harvest Level
GOA	Gulf of Alaska
IFQ	Individual fishing quota
IPHC	International Pacific Halibut Commission
JEA	Joint enforcement agreement
MSA	Magnuson-Stevens Act
MSE	Management strategy evaluation
MSFCMA	Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA or MSA)
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPFMC	North Pacific Fishery Management Council
NPOP	North Pacific Observer Program
NSEI	Northern Southeast Inside (sub-district)
OFL	overfishing level
OLE	Office of Law Enforcement (NOAA)
PSC	prohibited species catch
RFM	Responsible Fishery Management (Standard)
SAFE	Stock Assessment and Fishery Evaluation
SEIS	supplemental environmental impact statement
SIR	supplementary information report

Acronym	Full Name
SSEI	Southern Southeast Inside (sub-district)
TAC	Total Allowable Catch
USCG	United States Coast Guard
USCG	United States Coast Guard
VMS	Vessel Monitoring System

3 Executive Summary

3.1 Introduction

This Surveillance Report documents the 5th Surveillance Assessment of the Alaska Pacific Sablefish (Black cod) Commercial Fishery (200nm EEZ) originally certified on 11th October 2011, and recertified 9th January 2017.
The fishery was withdrawn from the FAO-based RFM certification on 10th April 2022.
In accordance with Procedure 4.6 "*If, at any time, the Certification Body determines that the fishery meets the requirements for certification under the RFM Fishery Standard (including through the use of corrective action plans as permitted), the suspension or withdrawal shall be terminated and the certificate reinstated.*" and Procedure 4.0 "*To ensure that a certified fishery remains in compliance with the requirements of certification, surveillance audits will take place at least annually and more frequently, if deemed necessary by the Certification Body. Audits may be undertaken on short notice (i.e. unscheduled audits), if deemed necessary by the Certification Body*.", this 5th surveillance audit was conducted to determine if the fishery meets the requirements of the Standard and thus if the withdrawal is to be terminated and the certificate reinstated.

Unit of Certification

The Alaska Pacific Sablefish (Black cod) Commercial Fishery (200nm EEZ) legally employing demersal longline (mainly), pot and trawl gear within Alaska's jurisdiction (200 nautical miles EEZ) under federal [National Marine Fisheries Service (NMFS)/North Pacific Fishery Management Council (NPFMC)] and state [Alaska Department of Fish and Game (ADFG) and Board of Fisheries (BOF)] management, underwent its 1st surveillance assessment against the requirements of the Alaska FAO-Based RFM Conformance Criteria Version 1.3 Fundamental clauses.

This is a voluntary program that has been supported by ASMI who wish to provide an independent, third-party certification that can be used to verify that these fisheries are responsibly managed.

The assessment was conducted according to the Global Trust procedures for Alaska RFM Certification using the fundamental clauses of the Alaska RFM Conformance Criteria Version (v1.3, May 2016) in accordance with ISO 17065 accredited certification procedures.

The assessment is based on 6 major components of responsible management derived from the FAO Code of Conduct for Responsible Fisheries (1995) and Guidelines for the Eco-labelling of products from marine capture fisheries (2009); including:

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

These six major components are supported by 12 fundamental clauses (+ 1 in case of enhanced fisheries) that guide the AK RFM Certification Program surveillance assessment.

A summary of the site meetings is presented in Section 6. Assessors included two externally contracted fishery expert and Global Trust Certification internal staff

3.2 Summary of findings

The Audit team has determined that the commercial sablefish fishery operated within the defined Alaskan UoA remained in compliance with the RFM Fishery Standard's Fundamental Clauses for the Fisheries Management System component (Clauses 1, 2, and 3), Science & Stock Assessment Activities, and the Precautionary Approach component (Clauses, 4, 5, 6 ,7), Monitoring and Control component (Clauses 10 and 11) and Serious Impacts of the Fishery on the Ecosystem component (Clauses 12 and 13). No evidence exists to indicate that non-conformance situations arose during the 5th Surveillance audit.

3.3 Recommendation of the Assessment Team

Following this 5th Surveillance Report the assessment team recommends the withdrawal to be terminated and the certificate reinstated.

3.4 Assessment Team Details

The Assessment Team for this assessment was as follows; further details are provided in Appendix 1):

- Dr. Ivan Mateo – Lead Assessor, Responsible for Fundamental Clauses 8, 9, 12
- Dr. Robert Leaf – Assessor 1, Responsible for Fundamental Clauses 4, 5, 6, 7
- Mr. R.J. (Bob) Allain – Assessor 2, Responsible for Fundamental Clauses 1, 2, 3, 10, 11

3.5 Details of Applicable RFM Documents

This assessment was conducted according to the relevant program documents outlined in Table 1 below.

Table 1. Relevant RFM program documents including applicable versions.

Document title	Version number, Issue Date	Usage
RFM Procedure 2: Application to Certification Procedures for the RFM Fishery Standard.	Version 6, September 2020	Process
Responsible Fisheries Management Certification Program Fisheries Standard.	Version 1.3 May 2016	Standard

4 Client contact details

Table 2. Client details and key contact information.

Applicant Information		
Organization/Company Name:		Deckhand Seafoods
Address:	Street:	c/o Hingston Miller Hingston PLLC 20700 44th Ave West
	City:	Lynnwood
	State:	WA
	Country:	USA
	Zip code	98036
Applicant Key Contact Information		
Name:		Warner Lew
Position:		Manager
E-mail:		deckhandseafoods@gmail.com

5 Unit(s) of Certification

5.1 Unit(s) of Certification

The Units of Certification (i.e., what is covered by the certificate) are as described in Table 3 below.

Table 3. Units of Certification.

Units of Certification		
Species:	Common name:	Sablefish (Black cod)
	Latin name:	*Anoplopoma fimbria*
Geographical area:		U.S. Federal and State fisheries within the Gulf of Alaska and the Bering Sea & Aleutian Islands
Stock(s):		Eastern Pacific
Management system:		U.S. Federal and State fisheries within the Gulf of Alaska and the Bering Sea & Aleutian Islands managed by: ▪ National Marine Fisheries Service (NMFS) ▪ North Pacific Fishery Management Council (NPFMC) ▪ Alaska Department of Fish and Game (ADFG) and Board of Fisheries (BOF)
Fishing gear/method:		Unique to each UoC
UoC 1		Benthic longline
UoC 2		Pots
UoC 3		Trawl
Client group:		Deckhand Seafoods

5.2 Changes to the Unit(s) of Certification (if any)

There have not been any changes to the Units of Certification.

6 Summary of site visits and/or consultation meetings

Desktop reviews are the preferred assessment vehicle within the RFM program. In general, on-site/off-site audits are required only if the Certification Body deems that a desktop review may be inadequate for determining whether the fishery is continuing to comply with the RFM Fishery Standard, based on the performance of the fishery, status of non-conformances and related corrective actions.

Table 4. Summary of site visits and/or consultation meetings.

Meeting Date and Location	Personnel	Areas of discussion
Date: 06/21/2022 Location: Conference call	ADFG: Forrest Bowers Philip J. Joy Rhea K. Ehresmann Asia Beder Assessment Team Members: Dr. Ivan Mateo, Lead Assessor Dr. Robert Leaf, Assessor Mr. Robert Allain, Assessor	Topics Discussed: ▪ Statewide Commercial Groundfish Regulations 2022-2023. ▪ Fisheries management activities report – Pacific halibut and Sablefish commercial fisheries in state waters 2021 year-end and 2022 (if possible). ▪ Most recent Sablefish stock assessment and management plan – Statewide. ▪ Emergency orders/releases issued in 2021 and 2022 specific to the Halibut and Sablefish commercial fisheries from the Board of Fisheries ▪ Information on how all 10 National Standards under the MSA (or equivalent state standards) are operationalized in the Pacific halibut and sablefish commercial fisheries in state waters. ▪ External audits of the Halibut and Sablefish commercial fisheries in 2021 or 2022.
Date: 06/22/2022 Location: Conference call	AK NOAA Regional Office: Mary Furuness Alicia Miller Molly Zaleski Mason Smith Assessment Team Members: Dr. Ivan Mateo, Lead Assessor Dr. Robert Leaf, Assessor Mr. Robert Allain, Assessor	Topics Discussed: ▪ Update - Electronic Technology Implementation Plan (Draft - January 28, 2021). ▪ Any adjustments to NOAA's VMS requirements for Alaska in 2021 and 2022. ▪ Evidence of how all 10 National Standards under the MSA are operationalized in the Pacific halibut and sablefish commercial fisheries in federal waters. ▪ External audits of the Halibut and Sablefish commercial fisheries in 2021 or 2022. ▪ recent advances in our understanding of sablefish EFH. ▪ Outcome indicators consistent with avoiding adverse impacts to sablefish EFH. ▪ Sablefish fisheries interactions with marine mammals, seabirds or other ETP species. ▪ Species composition of bycatch by weight database.
Date: 06/23/2022 Location: Conference call	NPFMC: Sarah Cleaver Sam Cunnigham Anna Hentry Dave Witherell Diana Evans Assessment Team Members: Dr. Ivan Mateo, Lead Assessor	Topics Discussed: ▪ Federal 2021-2022 FMP for Groundfish of the GOA and BSAI. ▪ Federal Sablefish FMP for NSEI and SSEI 2021-2022. ▪ Annual Report 2021 of the Technical Subcommittee of the Canada-US Groundfish Committee. ▪ Evidence of how all 10 National Standards under the MSA are operationalized in the Pacific halibut and sablefish commercial fisheries in federal waters.

Meeting Date and Location	Personnel	Areas of discussion
	Dr. Robert Leaf, Assessor Mr. Robert Allain, Assessor	▪ Status of essential fish habitat 5 year review update. ▪ Probable adverse impacts of the sablefish fisheries on habitats. ▪ Probable adverse human impacts on the BS/AI ecosystem.
Date: 06/30/2022 Location: Conference call	AK Board of Fisheries: Kristy Tibbles Assessment Team Members: Dr. Ivan Mateo, Lead Assessor Dr. Robert Leaf, Assessor Mr. Robert Allain, Assessor	Topics Discussed: ▪ Discussion of role and processes in AK BOF.
Date: 06/30/2022 Location: Conference call	Client Deckhand Seafoods: Warner Lew Assessment Team Members: Dr. Ivan Mateo, Lead Assessor Dr. Robert Leaf, Assessor Mr. Robert Allain, Assessor	Topics Discussed: ▪ Background and involvement in the Alaska Pacific Halibut/Pacific Sablefish commercial fisheries and current challenges in management or conservation-based science of Alaska Pacific Halibut/Pacific Sablefish commercial fisheries at state level.
Date: 07/06/2022 Location: Conference call	AWT: CAPT. Aaron Frenzel Assessment Team Members: Dr. Ivan Mateo, Lead Assessor Dr. Robert Leaf, Assessor Mr. Robert Allain, Assessor	Topics Discussed: ▪ Number of boarding, number of violations detected, types of violations for the species in question. ▪ General level of compliance overall. Updates for 2021.
Date: 07/07/2022 Location: Conference call	NMFS AKFSC MESA Group: Chris Lunsford Cara Rodgeveller Assessment Team Members: Dr. Ivan Mateo, Lead Assessor Dr. Robert Leaf, Assessor Mr. Robert Allain, Assessor	Topics Discussed: ▪ Major changes in understanding the magnitude of fishery removals. ▪ Modifications in the observer programs to understand the magnitude of incidental discards or their length- and age-composition. ▪ Major unreported changes to the stock assessment model formulations. ▪ Discussion of any insights from their research activities to describe: • Reproduction • Growth and Condition • Growth mortality and survival • Distribution and migration • Genetics

7 Summary findings

The Audit team has determined that the commercial sablefish fishery operated within the defined Alaskan UoA remained in compliance with the RFM Fishery Standard's Fundamental Clauses for the Fisheries Management System component (Clauses 1, 2, and 3), Science & Stock Assessment Activities, and the Precautionary Approach component (Clauses, 4, 5, 6, 7), Monitoring and Control component (Clauses 10 and 11) and Serious Impacts of the Fishery on the Ecosystem component (Clauses 12 and 13). No evidence exists to indicate that non-conformance situations arose during the 5th Surveillance audit.

7.1 Update on topics that trigger immediate failure

The following fisheries management issues cause a fishery to immediately fail RFM assessment:

- Dynamiting, poisoning, and other comparable destructive fishing practices.
- Significant illegal, unreported, and unregulated (IUU) fishing activities in the country jurisdiction.
- Shark finning.
- Slavery and slave labor on board fishing vessels.
- Any significant lack of compliance with the requirements of an international fisheries agreement to which the U.S. is signatory. A fishery will have to be formally cited by the International Governing body that has competence with the international Treaty in question, and that the US has been notified of that citation of non-compliance.

The Assessment Team has, as part of this surveillance, carried out a review of any new evidence with respect to these issues and found no evidence that any of the above issues are occurring any issues identified and the consequences for the fishery.

7.2 Changes in the management regime and processes

The core management regime and processes for the 2021 commercial sablefish fishery within Alaska's EEZ involving federal agencies (NOAA-NMFS, NPFMC, USCG) and state agencies (ADFG-ABOF, ADPS-AWT) remained largely unchanged from the 2020 core regime. In federal waters, the Alaska sablefish fishery is managed through the NPFMC's Gulf of Alaska (GOA) and Bering Sea and Aleutian Islands (BSAI) Groundfish Fishery Management Plans (FMPs), subject to MSA and corresponding federal regulations. The Council may amend the sablefish IFQ Program through amendments to these FMPs, as well as connected or independent federal regulations. Such amendments must be approved by the Secretary before they can be implemented by NMFS. The fishery's principal management changes consisted of pre-season and in-season adjustments to the 2020 management measures as described in section 7.2.1.

Sablefish in federal waters are managed by regions to distribute exploitation. The acceptable biological catch (ABC) is apportioned between these regions and then allocated between gear types. A stock assessment is performed annually for the federal fishery using an age-structured model; this assessment is reviewed by the North Pacific Management Council. The sablefish fishery's management plan for 2021 for the state's NSEI and SSEI subdistricts included a small number of regulatory provisions and rules as needed to ensure that management measures reflected decisions made and were legally binding and enforceable. Typically, these included changes to fleet and area allocation tables, fishing gear characteristics, quota sharing, bycatch provisions, area closures, opening and closing dates etc. (section 7.2.2.).

Sablefish are caught primarily with longline gear in Alaska; however, the Clarence Strait area has both a season for pot and longline gear. The Aleutian Islands state fishery allows longline, pot, jig, and hand troll gear, and one trawl vessel qualifies for the limited entry program in Prince William Sound. In federal waters, sablefish are

primarily caught in directed fisheries on longline gear; however, an increasing trend toward pot gear exists due to whale depredation of sablefish on longline gear. In addition, sablefish are caught as bycatch in trawl fisheries. The Audit Team concludes that the outcome of certification or the effect of the fishery on resources were not affected by adjustments to the fishery management measures and processes, including to existing federal and state legislation and regulations.

7.2.1 Key Federal Regulatory Amendments in respect of the Commercial Sablefish Fisheries in Federally managed waters in 2021[1]

A detailed list of regulatory amendments is available on NOAA Fisheries Alaska Region's website at: https://www.fisheries.noaa.gov/action/individual-fishing-quota-ifq-programalaska-federal-register-rules-and-notices-2004-present. Rules affecting the IFQ Program that were introduced in 2021 are summarized below.

1. **Temporary Rule:** IFQ/CDQ Sablefish Opening. Effective March 6, 2021, NOAA Fisheries announced the opening of directed fishing for sablefish with fixed gear managed under the IFQ Program and the Community Development Quota (CDQ) Program (86 FR 13493, 03/09/2021).[2] The season opened on March 6, 2021, and closed on December 7, 2021.
2. **Emergency Rule - Temporary Transfers:** Effective March 30, 2021, NMFS issued this temporary emergency rule to modify the temporary transfer provision of the IFQ Program for the fixed-gear commercial Pacific halibut and sablefish fisheries for the 2021 IFQ fishing year (86 FR 16542, 03/30/2021).[3] This emergency rule was intended to provide flexibility to quota share (QS) holders in 2021, while preserving the Program's long-standing objective of maintaining an owner operated IFQ fishery in future years and did not modify other provisions of the IFQ Program.
3. **Temporary Rule - Closure:** Effective July 17, 2021, NMFS prohibits the retention of non-Community Development Quota (CDQ) sablefish by vessels using trawl gear in the Bering Sea subarea of the Bering Sea and Aleutian Islands management area (BSAI).[4] This action is necessary because the 2021 non-CDQ sablefish initial total allowable catch (ITAC) in the Bering Sea subarea of the BSAI will be reached.
4. **Final Rule - Sablefish Pot Gear Tags and Notary Certification Requirements:** Effective December 13, 2021, NOAA Fisheries issued regulations to modify recordkeeping and reporting requirements by removing pot gear tag requirements in the sablefish IFQ fishery in the Gulf of Alaska (GOA) and removing requirements to obtain and submit a notary certification on various programs' application forms (86 FR 70751, 12/13/2021).[5] This action was intended to reduce administrative burden on the regulated fishing industry and NOAA Fisheries.

The NPFMC was active throughout 2021 and into 2022 with a full slate of business issues requiring either direction to staff, final decisions or decisions requiring action such as from NOAA Fisheries. Table 5 summarizes the actions taken by the Council at various meetings regarding the commercial sablefish fisheries of the UoA. Many of the discussions points were the result of advice from the Council's Advisory Panel.

[1] https://meetings.npfmc.org/CommentReview/DownloadFile?p=fa54a739-497e-4263-acbb-dcc5349bb88c.pdf&fileName=B1%20IFQ%20Report%20to%20the%20Fleet%20for%202021.pdf

[2] https://www.federalregister.gov/documents/2021/03/09/2021-04840/fisheries-of-the-exclusive-economic-zone-off-alaska-sablefish-managed-under-the-individual-fishing

[3] https://www.federalregister.gov/documents/2021/03/30/2021-06509/fisheries-of-the-exclusive-economic-zone-off-alaska-ifq-program-modify-temporary-transfer-provisions

[4] https://www.federalregister.gov/documents/2021/07/21/2021-15537/fisheries-of-the-exclusive-economic-zone-off-alaska-sablefish-in-the-bering-sea-subarea-of-the

[5] https://www.federalregister.gov/documents/2021/12/13/2021-26831/fisheries-of-the-exclusive-economic-zone-off-alaska-removal-of-goa-sablefish-ifq-pot-gear-tags-and

Table 5. Highlights of actions taken during the 2021 and 2022 NPFMC Virtual Meetings in respect of the Sablefish (and Pacific Halibut) commercial fisheries.
(Source: https://www.npfmc.org/meeting-minutes/)

Dates	Actions
February 5, 8-10, 2021	• Council received the report of its Community Engagement Committee whose recommendations are aimed at improving Council's engagement with rural and Alaska Native communities. Council approved several iterative actions that may require Council Executive Director, Executive Committee, or Finance Committee input prior to implementation. *Motion passed unanimously.* • Council suspended action on the IFQ Sablefish Release Allowance proposal until it can consider recommendations from the IFQ Committee concerning the relative priority of this action (possibly in April). *Motion passed with no objection.* • Council requested the Secretary promulgate emergency regulations under the authority of Section 305(c) of the *Magnuson-Stevens Act* to allow the temporary transfer of catcher vessel halibut and sablefish IFQ for all individual quota share holders for the 2021 fishing season. *Motion passed 10-1.* • Council requested the Secretary promulgate expedited regulations to remove vessel use cap regulations under 50 CFR Section 679.42(h) for IFQ halibut harvested in IPHC regulatory Areas 4A, 4B, 4C, and 4D for the 2021 IFQ fishing season. *Motion passed with no objection.* • Council requested the Secretary promulgate emergency regulations under the authority of Section 305(c) of the *Magnuson-Stevens Act* to suspend the residency requirements applicable to the Adak Community Quota Entity (CQE) Program for 2021 (50 CFR 679.41(g)(6)(ii)). *Motion passed 10-1.* • For detailed record, see: https://meetings.npfmc.org/CommentReview/DownloadFile?p=bf5d4d62-f6f4-47f9-8286-a6e952fbd145.pdf&fileName=February%20Council%20Summary.pdf
April 5-16, 2021	• Council received reports reviewing the GOA's sablefish pot fishery that were compiled by the IFQ Committee, stock assessment scientists, fishery managers and from public testimony. It agreed to initiate an analysis to revise several regulatory components of the IFQ Program to increase operational efficiency, reduce administrative burden in the fishery, and clarify how harvesters can meet existing regulatory requirements. Regulatory changes passed by Council included: (i) clarify that "slinky pots" are a legal gear, (ii) allow biodegradable twine in the door latch or pot tunnel, (iii) remove buoy configuration and flagpole requirements, (iv) authorize jig gear, (v) specify pot limits per vessel, and(vi) adjust the gear retrieval requirement. • Council also agreed to remove the Adak CQE residency requirement for 5 years. *Motion passed unanimously.* • Council also considered several amendments to the BSAI Halibut Abundance-based Management of the Amendment 80 PSC limit that would, *inter alia*, achieve better outcomes associated with MSA National Standards 1 and 9. Council agreed to release the analysis for final action and to trigger the public comment phase. A final action was proposed to be brought before Council in December 2021. *Vote on amended motion was 10-1 in favor.* • For summary record, see: https://meetings.npfmc.org/CommentReview/DownloadFile?p=6020b974-f715-40b0-bf4a-dacb36165c4e.pdf&fileName=Council%20Summary%20Final.pdf

Dates	Actions
June 9-11, 14-16, 2021	• Council provided various recommendations in respect of the draft NPOP's 2022 Annual Deployment Plan for partial fisheries. *Motion passed unanimously*. • Council took no action following a review of a discussion paper that looked at possible tools and management measures to limit or prevent trawl fisheries exceeding their area- and sector-specific allocations of sablefish. However, Council indicated that it was interested in hearing from the trawl sector about plans to avoid sablefish in the future. *Motion passes unanimously.* • For detailed record, see: https://meetings.npfmc.org/CommentReview/DownloadFile?p=1cf20f75-46df-4ff4-987a-1efd306b87de.pdf&fileName=June%202021%20Council%20Summary.pdf
October 6, 10-15, 2021	• Council reviewed an analysis on several revisions to the IFQ Program regulations. The analysis evaluated five elements relevant to pot gear used to fish IFQ, including gear specifications and configuration requirements, pot limits, and gear retrieval requirements, and one element to authorize jig gear as a legal gear type for the harvest of sablefish IFQ. Council reviewed an alternative to remove the Adak CQE residency requirement for a period of five years. It made some changes to the analysis and then approved it for final action. *Motion passed with no objection.* • Council reviewed a plan that will serve to guide its work associated with the planned allocation review of NOAA's Pacific halibut Catch Sharing Plan (CSP). Following discussion, Council adopted the proposed workplan and tentative scheduling for IPHC Areas 2C and 3A. *Motion passed with no objection.* • Council reviewed the Draft 2022 Annual Deployment Plan (ADP) for the partial coverage category of the North Pacific Observer Program and provided recommendations to NMFS for the Final 2022 ADP. *Motion passed unanimously.* • Council adopted the proposed 2022 and 2023 GOA groundfish specifications for OFLs and ABCs as recommended by the SSC and the TACs as presented. Final specifications will be approved in December. Council also adopted the proposed 2022 and 2023 annual and seasonal Pacific halibut PSC limits and apportionments in the GOA as presented. • Finally, Council adopted the proposed 2022 and 2023 halibut discard mortality rates for the GOA as presented. *Motion passed unanimously.* • Council requested that NOAA continue work with the IPHC to ensure the collection and timely input of CPUE data from the sablefish logbooks, and to continue efforts to input data from electronic monitoring logbooks, to support the sablefish stock assessment. *Motion passed unanimously.* • Council adopted the proposed 2022 and 2023 BSAI groundfish harvest specifications for OFLs and ABCs as recommended by the SSC as well as the TACs. All proposed specifications consisted of rollovers of 2022 final specifications from the 2021/2022 harvest specifications as approved in December 2020. Council also adopted the proposed 2022 and 2023 halibut discard mortality rates (DMRs) for the BSAI as presented. *Motion passed unanimously.* • Council directed staff to prepare a small sablefish release Initial Review document to be scheduled for an upcoming meeting. *Vote on amended motion passed unanimously.* • For detailed record, see: https://meetings.npfmc.org/CommentReview/DownloadFile?p=1f1d38a2-0053-4431-af3b-9778a456f670.pdf&fileName=October%20Final%20Council%20Summary.pdf
December 8-10, 13-15, 2021	• Council took final action on the draft Environmental Impact Statement (DEIS) for the abundance-based management (ABM) of the Amendment 80 (A80) halibut prohibited species catch (PSC) limit. The action links PSC limits in the A80 commercial groundfish trawl fleet in the BSAI to estimated halibut abundance. Under this ABM program, the A80 halibut PSC limit moves both up and down according to the indices of abundance and be responsive to changing halibut stock conditions that affect all halibut users, while never exceeding the current PSC limit.

Dates	Actions

	Implementation of this action will occur in either 2023 (mid-year) or for the beginning of the 2024 fishing year.
	• Council's preferred alternative selected determines the A80 PSC limit annually based on the most recent survey values and the associated PSC limit value from the table provided in the report.
	• Council authorized the Executive Director and the Chairman to review the draft proposed regulations when provided by NMFS to ensure that the proposed regulations to be submitted to the Secretary under section 303(c) are consistent with these instructions.
	Motion on Amendment passed with no objection.
	Motion on amended main motion passed 8-3.
	• For detailed record, see: https://meetings.npfmc.org/CommentReview/DownloadFile?p=b9593023-3fd6-4fa3-a91b-4044c25cf3bc.pdf&fileName=December%20Final%20Council%20Summary%20.pdf
	• Concerning 2022 BSAI Groundfish specifications, Council took the following actions:
	  • Council approved the 2021 BSAI Groundfish SAFE report as well as to adopt the 2022/2023 OFLs, ABCs and TACs for groundfish in the BSAI as presented.
	  • Council also approved the PSC amounts and distributions as presented, and also approved the Pacific halibut DMRs for 2022/2023 as presented.
	Motion passed with no objection.
	• Concerning 2022 GOA Groundfish specifications, Council took the following actions:
	  • Council approved the 2021 GOA Groundfish SAFE report as well as to adopt the final 2022 and 2023 GOA groundfish specifications for OFLs and ABCs as recommended by the SSC, and the TACs for groundfish as presented.
	  • Council sets the final 2022 and 2023 Pacific halibut PSC limits, allowances, and apportionments in the GOA as presented and also approved the halibut discard mortality rates for 2022 and 2023 as presented.
	Motion passed with no objection.
	• For detailed record, see: https://meetings.npfmc.org/CommentReview/DownloadFile?p=b9593023-3fd6-4fa3-a91b-4044c25cf3bc.pdf&fileName=December%20Final%20Council%20Summary%20.pdf

February 7-10, 2022	• Council accepted the Allocation Review of the Halibut Catch Charing Plan for Area 2C/3A allocation review as complete and final with the addition of information to the extent practicable recommended by the SSC. *Motion passed unanimously.* • The meeting agenda identified various issues regarding the current Groundfish Management Policy[1]. Council was to (i) review the policy, (ii) review its actions relative to the policy, (iii) consider whether modifications to the Management Objectives are called for (noting that any change requires and FMP amendment), and (iv) consider whether additional Council actions to better fulfill the Management Policy are required. *No action was taken.* • On another issue, Council requested that the Secretary promulgate emergency regulations under the authority of Section 305(c) of the *Magnuson-Stevens Act* to allow the temporary transfer of catcher vessel halibut and sablefish IFQ for all individual quota share holders for the 2022 fishing season. *Motion was passed 10-1.* • On another matter, Council requested that the Secretary promulgate expedited regulations to remove vessel use cap regulations under 50 CFR Section 679.42(h)(1) for IFQ halibut harvested in IPHC regulatory Areas 4A, 4B, 4C, and 4D for the 2022 IFQ fishing season. *Motion passed unanimously.* • For detailed record, see: https://meetings.npfmc.org/CommentReview/DownloadFile?p=fce7a315-a804-4398-984d-9e1f24ee9823.pdf&fileName=February%20Council%20Summary.pdf

Dates	Actions
April 6-9, 2022	• Council proposed revisions to parts of the IFQ/CDQ Programs. The preferred option included: (i) A change to biodegradable panel requirements to provide increased flexibility for innovation in gear designs for vessels fishing IFQ across the GOA and BSAI. (ii) Removal of flagpole, radar reflector, and buoy requirements for GOA sablefish longline pot gear. (iii) An element which would allow vessels targeting halibut IFQ in pot gear in the GOA to use a tunnel opening larger than 9 inches if they also have sablefish IFQ on board. This element would allow vessels with both sablefish and halibut IFQ to target halibut and larger sablefish more efficiently in longline pot gear. (iv) A change to pot limits in Western Yakutat which would allow vessels fishing IFQ to use 200 pots per vessel, and modifications to gear retrieval requirements in the Central GOA and Southeast Outside Area. (v) An element which would authorize jig gear as a legal gear type to harvest sablefish IFQ/CDQ in the BSAI and GOA. (vi) A five-year exemption to Adak CQE residency requirements. • Furthermore, Council authorized the Executive Director and the Chairman to review the draft proposed regulations when provided by NMFS to ensure that the proposed regulations to be submitted to the Secretary under section 303(c) are consistent with the proposed regulatory changes. *Amendment passed with no objection.* *Amended main motion passed 11-0.* • For detailed record, see: https://meetings.npfmc.org/CommentReview/DownloadFile?p=27dcf94c-d0a6-469d-b8c3-c3b4fcef1fd0.pdf&fileName=April%20Council%20Summary.pdf

7.2.1.1 Environmental Assessment/Regulatory Impact Review

The Council's April 2022 decision to seek amendments to parts of the IFQ/CDQ (see table above) triggered an EA/RIR analysis of various management measures that would apply to fishery participants in the halibut and sablefish Individual Fishing Quota (IFQ) and Community Development Quota (CDQ) Programs off the coast of Alaska as required by the MSA. The amendments were evaluated in relation to alternatives, elements, and options. The findings were reported in a draft for final action report that will be considered by the NPFMC at a forthcoming meeting.[6]

The Council on Environmental Quality regulations at 40 CFR 1508.27 state that the significance of an action should be analysed both in terms of "context" and "intensity." An action must be evaluated at different spatial scales and settings to determine the context of the action. Intensity is evaluated with respect to the nature of impacts and the resources or environmental components affected by the action. These factors form the basis of the analysis presented in this EA/RIR. Results are reported in the cited report, and included an assessment of the following issues:

- Can the proposed action reasonably be expected to cause both beneficial and adverse impacts that overall may result in a significant effect, even if the effect will be beneficial?
- Can the proposed action reasonably be expected to significantly affect **public health or safety?**
- Can the proposed action reasonably be expected to result in significant impacts to unique characteristics of the **geographic area**, such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas?

[6] file:///C:/Users/ocean/OneDrive/Desktop/Draft%20EA%20RIR%20IFQ%20Omnibus%20Amendments%20April%202022.pdf

- Are the proposed action's effects on the quality of the **human environment** likely to be highly controversial?
- Are the proposed action's effects on the human environment likely to be highly uncertain or involve unique or unknown risks?
- Can the proposed action reasonably be expected to establish a **precedent for future actions** with significant effects or represent a decision in principle about a future consideration?
- Is the proposed action related to other actions that when considered together will have individually insignificant but **cumulatively significant impacts?**
- Can the proposed action reasonably be expected to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant **scientific, cultural, or historical resources?**
- Can the proposed action reasonably be expected to have a significant impact on **endangered or threatened species, or their critical habitat** as defined under the *Endangered Species Act of 1973?*
- Can the proposed action reasonably be expected to threaten a violation of Federal, state, or local law or requirements imposed for **environmental protection?**
- Can the proposed action reasonably be expected to adversely affect **stocks of marine mammals** as defined in the *Marine Mammal Protection Act?*
- Can the proposed action reasonably be expected to adversely affect **managed fish species?**
- Can the proposed action reasonably be expected to adversely affect **essential fish habitat** as defined under the *Magnuson-Stevens Fishery Conservation and Management Act?*
- Can the proposed action reasonably be expected to adversely affect **vulnerable marine or coastal ecosystems**, including but not limited to, deep coral ecosystems?
- Can the proposed action reasonably be expected to adversely affect **biodiversity or ecosystem functioning** (e.g., benthic productivity, predator-prey relationships, etc.)?
- Can the proposed action reasonably be expected to result in the **introduction or spread of a nonindigenous species?**

7.2.2 Key State Regulatory Amendments in respect of the Commercial Sablefish Fisheries in State-managed waters in 2021 and 2022

According to the 2021 annual report compiled by the Legislative Affairs Agency of the State of Alaska, there were no repeals or amendments of legislation or Executive Orders introduced in respect of the sablefish fishery in state-managed waters (available at: http://akleg.gov/publications.php and select Summary of legislation 2021). Similarly, information posted on the state's Senate Resources Committee website indicated no Bills residing in Committee or Bills reported out in respect of the commercial fishery in 2021 to March 2022 (available at: http://www.akleg.gov/basis/Committee/Details/32?code=SRES#tab37).

Meetings of the **Alaska Board of Fisheries (BOF)** took place in a virtual setting in 2021 and 2022 (partial)(Table 6). It has a three-year meeting cycle and generally holds 4 to 6 meetings from October through March in communities around the state to consider proposed changes to fisheries regulations. The BOF's main role is to conserve and develop the fishery resources of the state. This involves setting seasons, bag limits, methods and means for the state's subsistence, commercial, sport, guided sport, and personal use fisheries, and it also involves setting policy and direction for the management of the state's fishery resources. The Board is charged with making allocative decisions, and the ADFG is responsible for management based on those decisions. It continued the practice of ensuring that its meetings, web conferences and information were well populated with relevant material to facilitate its communications with the public, stakeholders, and partners with respect to its discussions and decisions.

The Board`s decisions regarding sablefish are highlighted in Table 6. These decisions apply to the two commercial sablefish fisheries that are state managed i.e., Prince William Sound and Southeast Areas. The other sablefish fisheries are federally managed; hence they are beyond the Board`s mandate.

Note: The review of certain regulatory proposals affecting the sablefish fishery may require the participation of both the Board and the NPFMC. This process is enabled by the **Joint Protocol Committee (JPC)**. The JPC operates in accordance with its terms of reference that were revised in 2009.[7] It meets as needed to review and discuss areas of mutual interest. The council and board alternate serving as host for the meeting. The JPC last met in November 2020 to consider amendments to the commercial salmon fishery in the Cook Sound Area (federal waters). The meeting's record of discussion including written comments and oral testimonies were also published on the Board's website.

Table 6. Summary of Board Meetings and Summary of Actions 2021/22.
(Source: https://www.adfg.alaska.gov/index.cfm?adfg=fisheriesboard.meetinginfo)

Date	Summary of Actions
January 25, 2021	(i) Approved postponing its 2020/2021 meetings to 2021/2022 with dates to be determined at a March 8, 2021, board meeting (COVID-19 considerations). (ii) Approved keeping its current 2021/2022 meeting schedule as planned.
March 8, 2021	(i) The board voted to hold only the originally scheduled 2020/2021 meetings in 2021/2022. Meetings schedule here: https://www.adfg.alaska.gov/static/regulations/regprocess/fisheriesboard/pdfs/2020-2021/mar/soa.pdf
March 16, 2021	(i) Approved its 2022/2023 and 2023/2024 meeting cycles here: https://www.adfg.alaska.gov/static/regulations/regprocess/fisheriesboard/pdfs/2020-2021/mar16/soa.pdf
August 2, 2021	(i) No specific issues of relevance to either the Pacific halibut or Sablefish commercial fisheries.
October 20-21, 2021	(i) Approved by 7-0 vote to include pots as lawful gear for commercial halibut fishing statewide (5 AAC 28.051, 5 AAC 39.145). This allows holders of halibut IFQ or CDQ quotas to retain halibut from pot gear. State regulations were currently inconsistent with new federal and IPHC regulations for allowable gear types and pots were not legal gear in the commercial halibut fishery when the regulations were adopted in 2020. (ii) Board chair and vice-chair were re-elected by unanimous consent.
November 30 -December 6, 2021	(i) Approved by 6-0 vote to clarify possession and landing requirements for the **state managed sablefish fishery** in the Prince William Sound Area. (ii) Approved by 6-0 vote to include pots as lawful gear for commercial halibut fishing.
January 27, 2022	(i) This was a special meeting to review Southeast and Yakutat Finfish and Shellfish meeting location.

[7] https://www.npfmc.org/wp-content/PDFdocuments/meetings/JointProtocol1209.pdf

Date	Summary of Actions
March 10, 2022	(i) A request to align state waters **sablefish fishing season** with federal sablefish fishing season failed by a 6-0 vote. (ii) A request to extend the **sablefish fishing season** to December 15 also failed by a 6-0 vote. (iii) Approved by a 6-0 vote to allow pot gear in the Northern Southeast Inside Subdistrict **sablefish commercial fishery**. (iv) Approved by a 6-0 vote to reduce the minimum inside diameter of circular escape rings from four inches to three and three-fourths of an inch on pots used to take **sablefish**. (v) Approved by a 6-0 vote to require CFEC permit holders fishing for groundfish, or halibut using hook-and-line, pot, or jig gear in the Eastern Gulf of Alaska Area to retain and land all rockfish, including thornyhead rockfish.
March 26 - 30, 2022	(i) Several regulatory adjustments were tabled and decided but none were related to the commercial halibut and sablefish fisheries in state-managed waters.
Future meeting dates of the Board	
October 25 - 26, 27 - 28, 2022; November 29 - December 3, 2022; January 14 - 18, 2023; February 13 - 17, 2023; March 10 - 13, 2023.	

7.2.2.1 Current Regulatory Proposals

In its December 2021 report to the NPFMC, the ADFG indicated that several proposals would be before the Board for consideration in January 2022.[8] Those of relevance to the Pacific halibut and/or sablefish commercial fisheries in state-managed waters are included here:

- Proposal 215. In the Eastern GOA, align opening and closing of the state waters sablefish fishing season with the federal sablefish fishing season.
- Proposal 216. In the Eastern GOA, extend the sablefish fishing season from November 15 to December 15.
- Proposal 222. In the Eastern GOA, require CFEC permit holders fishing for groundfish or halibut using hook-and-line, pot, or jig gear retain and land all rockfish. This proposal mirrors federal rockfish retention requirements to provide better estimates of rockfish catch, reduce waste and incentives to discard, and maintain consistency between state and federal fisheries management.

An online search of the Board's Proposal Book for the 2021/2022 cycle indicated that most of the proposals were regarding the commercial sablefish fishery in state waters.[9] They included:

- Proposal 4. Clarify possession and landing requirements for the state-managed sablefish fishery in the Prince William Sound Area (AAC 28.272).
- Proposal 220. Allow pot gear in the Northern Southeast Inside Subdistrict sablefish commercial fishery in the Eastern GOA (AAC 28.130).
- Proposal 221. Reduce the minimum inside diameter of circular escape rings from four inches to three and three fourths of an inch on pots used to take sablefish in the Eastern GOA (AAC 28.130).

[8] https://meetings.npfmc.org/CommentReview/DownloadFile?p=ebc3d40d-da94-42e9-b13a-ad957a637fed.pdf&fileName=B5%20ADFG%20Report.pdf

[9] https://www.adfg.alaska.gov/index.cfm?adfg=fisheriesboard.proposalbook#,fixed,,2,,28,

7.2.3 NPFMC Written Public Comment Changes[10]

The Council has approved several changes to its written public comment procedures. Input from written comments is exceedingly valuable to the Council process, to understand the diversity of perspectives on potential Council action. At the same time, there have recently been instances of profanity or threats being included among the comments. Without moderation to filter out inappropriate content, the comment section can quickly begin to read like a blog with comments on comments, and disrespectful dialogue. As a result, staff is implementing the following changes:

- Post written comment policy on Council website and summarize on e-Agenda.
    - Clarify one comment per person per agenda item; however, an individual can submit comments on behalf of their organization as well as on behalf of themselves.
    - Consistent with the Department of Commerce policy: no vulgar language, personal attacks, offensive terms targeting protected classes, promoting service or products, non-fisheries-related (off topic), unsupported accusations.
- Allow staff to remove comments that are inconsistent with policy.
- Allow staff to sort comments to the appropriate agenda item as practicable (comments that are not associated with an agenda item would go in staff tasking).
- Changes to commenting period:
    - Open commenting later, once materials post online
    - Close commenting earlier to allow staff to review comments per revised policy
- Do not display comments publicly until after comment deadline closes.

7.2.4 Return to In-Person Meetings

The Council was briefed on staff progress with planning the transition back to in-person meetings, beginning in October 2021. All Plan Team and Committee meetings would be held virtually through September 2021, and the Advisory Panel and the SSC would also meet virtually for the October meeting. Based on Council direction, staff was to tentatively plan to hold the October 2021 Council meeting itself in person. The Council supported this phased-in approach to prioritize staff resources for piloting additional remote participation options as part of the return to in-person meetings, in particular allowing remote testimony at the Council, and in future, broadcasting AP and SSC meetings when they occur in-person. Council's April 2022 meeting was its first in-person meeting along with an online option for presenters and attendees.

The Audit Team concludes that the outcome of certification or the effect of the fishery on resources were not negatively affected by the annual adjustments to the fishery management regime and processes from the federal and state legislative and regulatory amendments or orders.

7.3 Changes to the organizational responsibility of the main management agencies

The organizational structures, mandates, and core responsibilities of the main agencies that comprise the management framework for the Alaskan commercial sablefish fishery have remained unchanged from the previous surveillance audit. However, there were several changes to federal staff within the main agencies, including to some of their subordinate bodies. These changes were both rotational (e.g., term expirations) and replacement (e.g., retirements, promotions).

7.3.1 Senior Personnel Changes

Senior level appointments included (i) Mr. Jon Kurland as NOAA Fisheries Regional Administrator for Alaska effective March 27, 2022, (ii) Rear Admiral Nathan Moore as Commander of the USCG District 17 effective April

[10] https://www.npfmc.org/april-2021-newsletter/

23, 2021, (iii) Ms. Sara Boario as the Regional Director for the USFW Service Alaska Region effective March 14, 2022, (iv) Mr. Paul Ryall (Canada) as Chairperson of the IPHC (2021), and (v) Mr. Glenn Merrill (U.S.A.) as Vice-Chairperson of the IPHC (2021). On June 27, 2022, the U.S. Secretary of Commerce announced the appointment of Ms. Angela Drobnica and the re-appointment of Ms. Nicole Kimball to the NPFMC.

The Audit team concludes that the personnel changes did not have a material negative impact on the governance systems of the principal federal organizations.

7.3.2 NPFMC Ideas for Process Change

At its March 14, 2022 meeting, Council members were brief on a February staff paper entitled, "Reflections on the Council Process and Ideas for Change."[11] The paper provided fourteen ideas for potential changes to the Council's meeting schedule and agenda timing, and to its advisory bodies. The ideas represented in the paper were in response to the movement to virtual and hybrid meetings, and in response to the Council's Community Engagement Committee recommendations in 2021. The listed ideas include:

- Reduce the number of annual Council meetings from 5 to 4 and drop the February meeting.
- Create a schedule that makes 1-2 meetings per year virtual, and the remaining meetings in-person.
- Consider issue-specific meetings, whether as virtual or in-person.
- Change the timing of the October meeting to avoid government shutdowns.
- Re-evaluate the timing of crab and groundfish harvest specifications in light of fishery needs and stock prioritization.
- Reconsider the frequency of agency reports.
- Consider the order of the agenda, and how to make time for longer-term planning.
- Consider ways to avoid duplicate staff presentations and public testimony, especially during virtual meetings.
- Changes to the nomination/reappointment process for the Advisory Panel - timing, qualifications, term length.
- Reconsider the size and/or composition of the Advisory Panel.
- Clarify the purpose of the AP, and consider operational changes to agenda, voting.
- Changes to the nomination/reappointment process for the SSC - timing, recruitment, soliciting SSC input.
- Consider how to reduce SSC workload.
- Evaluate the purpose and usefulness of all Council advisory bodies and consider ways to improve.

Council suggested four additional ideas, one of which included exploring ways to engage with new stakeholders as fish stocks and fisheries shift, particularly communities in the northern Bering Sea and Chukchi Sea who have so far not engaged as much in the Council process.

At the Council's April 2022 in-person meeting, it was reported that the Council would listen to public testimony about existing and new management measures that the public may be interested in and would provide feedback to staff and the Council Chair about how to prioritize staff work on existing and new projects.

[11] https://meetings.npfmc.org/CommentReview/DownloadFile?p=6ba2cd00-d353-40a5-bdbc-8e8131524242.pdf&fileName=B1%20Executive%20Committee%20Report%20on%20Ideas%20for%20Process%20Change.pdf

7.4 New information on the status of stocks

7.4.1 Alaska Bycatch Review Task Force

In November 2021, Governor Dunleavy crated the ABRTF to help better understand unintended bycatch of high value fishery resources in state and federal waters.[12] The Task Force's mandate which sunsets on November 30, 2022, is to:

- Study what impacts bycatch has on fisheries.
- Evaluate and recommend policies informed by a better understanding of the issue of bycatch of high-value Alaska fishery resources.
- Ensure state agencies are leveraging available resources to better understand the issue of bycatch.
- Utilize the best available science to inform policy makers and the public about these issues.

There are 13 voting members of the Task Force including two from the Alaska Departments of Fish and Game, and Commerce, Community and Economic Development, and single representatives from a broad cross-section of the various fisheries and including the NPFMC, Native Community, and the public. There is no representative of the commercial sablefish fishery sector. The Task Force may create advisory-only subcommittees, must meet monthly at a minimum, conduct its business using teleconferencing and other electronic means to the extent practicable, may convene public meetings in accordance with the *Open Meetings Act*, and must preserve all records

Stock Status

Sablefish are managed under Tier 3 of NPFMC harvest control rules. The updated point estimate of B40%, is 118,140 t. Since projected female spawning biomass (combined areas) for 2022 is 128,789 t (equivalent to B44%), sablefish is in sub-tier "a" of Tier 3. Spawning biomass is projected to continue to increase rapidly in the near-term reaching B44% in 2022 and B51% in 2023. The updated point estimates of F40% and F35% from this assessment are 0.080 and 0.094, respectively. Thus, the maximum permissible value of FABC under Tier 3a is 0.080, which translates into a 2022 maximum permissible ABC (combined areas) of 34,863 t. The OFL fishing mortality rate is 0.094, which translates into a 2022 OFL (combined areas) of 40,432 t. **Thus, current model projections indicate that the Alaskan sablefish stock is not subject to overfishing, not overfished, and not approaching an overfished condition.**

7.5 Update on fishery catches

7.5.1 GOA Final 2022 and 2023 Harvest Specifications for Sablefish[13]

On February 24, 2022, NMFS on advice from the NPFMC published in the *Federal Registry* the final 2022 and 2023 harvest specifications, apportionments, and Pacific halibut prohibited species catch limits for the groundfish fishery of the Gulf of Alaska (GOA). This action established harvest limits for groundfish during the remainder of the 2022 and the start of the 2023 fishing years and to (i) accomplish the goals and objectives of the Fishery Management Plan for Groundfish of the Gulf of Alaska (FMP), and (ii) to conserve and manage the groundfish resources in the GOA in accordance with the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act, 16 U.S.C. *1801 et seq*.).

The harvest specifications and related closures are effective from March 2, 2022, to December 31, 2023. The sum of the TAC amounts is 448,118 mt for 2022; for 1023, the sum of the TAC amounts is 443,615 mt. The final 2022 and 2023 OFLs and ABCs are based on the best available biological information, including projected biomass trends, information on assumed distribution of stock biomass, and revised methods used to calculate stock

[12] https://gov.alaska.gov/wp-content/uploads/sites/2/11.18.21-Administrative-Order-326-Alaska-Bycatch-Review-Task-Force.pdf
[13] https://www.govinfo.gov/content/pkg/FR-2022-03-02/pdf/2022-03844.pdf

biomass, and the final 2022 and 2023 TACs are based on the best available biological and socioeconomic information.

Allocations of the Sablefish TAC amounts to Vessels using Fixed and Trawl Gear

A single sablefish stock occupies the Bering Sea, Aleutian Islands, and Gulf of Alaska. As appropriate for a single stock, a single Overfishing Level (OFL) is established for sablefish, statewide. Current model predictions indicate that this stock is not subject to overfishing, not overfished, and not approaching an overfished condition. Acceptable Biological Catches (ABCs) for sablefish are specified by management area and have been reduced from the maximum permissible ABC for the last several years. Annual Catch Limits (ACLs) are set well below biomass estimates, and Total Allowable Catches (TACs) are set well below ABC.

In the Western and Central Regulatory Areas, 80 percent of each TAC is allocated to fixed gear, and 20 percent of each TAC is allocated to trawl gear. In the Eastern Regulatory Area, 95 percent of the TAC is allocated to fixed gear, and 5 percent is allocated to trawl gear. The trawl gear allocation in that area may only be used to support incidental catch of sablefish using trawl gear while directed fishing for other target species. Both the fixed and trawl gear allocations of sablefish for 2022 and 2023 are specified in Table 7 and Table 8.

Table 7. Final 2022 Sablefish TAC Amounts in the GOA and allocations to Fixed and Trawl Gear (values are rounded to the nearest metric ton).
(Source: https://www.govinfo.gov/content/pkg/FR-2022-03-02/pdf/2022-03844.pdf).

Area/district	TAC	Fixed gear	Trawl gear
Western	3,727	2,982	745
Central [1]	9,965	7,972	1,993
West Yakutat [2]	3,437	2,982	455
Southeast Outside	5,665	5,665	0
Total	**22,794**	**19,601**	**3,194**

[1] The trawl allocation of sablefish in the Central Regulatory Area is further apportioned to the Rockfish Program cooperatives (1,025 mt). This results in 968 mt being available for the non-Rockfish Program trawl fisheries.

[2] The trawl allocation is based on allocating 5 percent of the combined Eastern Regulatory Area (West Yakutat and Southeast Outside Districts) sablefish TAC as incidental catch to trawl gear in the West Yakutat District.

Table 8. Final 2023 Sablefish TAC Amounts in the GOA and allocations to Trawl Gear[1] (values are rounded to the nearest metric ton).
(Source: https://www.govinfo.gov/content/pkg/FR-2022-03-02/pdf/2022-03844.pdf).

Area/district	TAC	Fixed gear	Trawl gear
Western	3,951	n/a	790
Central [2]	9,495	n/a	1,899
West Yakutat [3]	3,159	n/a	428
Southeast Outside	5,398	n/a	0
Total	**22,003**	**n/a**	**3,117**

[1] The Council recommended that the final 2023 harvest specifications for the fixed gear sablefish Individual Fishing Quota fisheries not be specified in the final 2022 and 2023 harvest specifications.

[2] The trawl allocation of sablefish in the Central Regulatory Area is further apportioned to the Rockfish Program cooperatives (977 mt). This results in 922 mt being available for the non-Rockfish Program trawl fisheries.

[3] The trawl allocation is based on allocating 5 percent of the combined Eastern Regulatory Area (West Yakutat and Southeast Outside Districts) sablefish TAC as incidental catch to trawl gear in the West Yakutat District.

7.5.2 BSAI Final 2022 and 2023 Harvest Specifications for Sablefish[14]

On March 2, 2022, NMFS on advice from the NPFMC published in the *Federal Registry* the final 2022 and 2023 harvest specifications, apportionments, and Pacific halibut prohibited species catch limits for the groundfish fishery of the Bering Sea and Aleutian Islands.

The harvest specifications and related closures are effective from March 2, 2022, to December 31, 2023. The 2022 harvest specifications set in this final action supersede the 2022 harvest specifications previously set in the final 2021 and 2022 harvest specifications (86 FR 11449, February 25, 2021). Likewise, the 2023 harvest specifications herein will be superseded in early 2023 when the final 2023 and 2024 harvest specifications are published.

State of Alaska Guideline Harvest Levels (GHL)

For 2022 and 2023, Alaska's BOF established the guideline harvest level (GHL) for vessels using pot gear in State waters in the Bering Sea subarea (BS) equal to 11 percent of the Pacific cod ABC in the BS. The State's pot gear BS GHL will increase one percent annually up to 15 percent of the BS ABC, if 90 percent of the GHL is harvested by November 15 of the preceding year. If 90 percent of the 2022 BS GHL is not harvested by November 15, 2022, then the 2023 BS GHL will remain at the same percentage as the 2022 BS GHL (11 percent). If 90 percent of the 2022 BS GHL is harvested by November 15, 2022, then the 2023 BS GHL will increase by one percent and the 2023 BS TAC will be set to account for the increased BS GHL. Also, for 2021 and 2022, the BOF established an additional GHL for vessels using jig gear in State waters in the BS equal to 45 mt of Pacific cod in the BS. The final 2022 and 2023 tonnage limits for the commercial Sablefish fishery in the BSAI are presented in Table 9.

Table 9. Final 2022 and 2023 Sablefish Overfishing Level (OFL), Acceptable Biological Catch (ABC), Total Allowable Catch (TAC), Initial TAC (ITAC), CDQ Reserve Allocation, and the Non-Specified Reserves (NSR) in the BSAI (metric tons).
(Source: https://www.govinfo.gov/content/pkg/FR-2022-03-02/pdf/2022-04292.pdf).

Area	2022					
	OFL	ABC	TAC	ITAC	CDQ	NSR
Alaska-wide[1]	40,432	34,521	n/a	n/a	n/a	
Bering Strait	n/a	5,264	5,264	4,343	724	197
Aleutian Islands	n/a	6,463	6,463	5,251	1,091	121
Area	**2023**					
	OFL	**ABC**	**TAC**	**ITAC**	**CDQ**	**NSR**
Alaska-wide[1]	42,520	36,318	n/a	n/a	n/a	
Bering Strait	n/a	6,529	6,529	2,775	245	245
Aleutian Islands	n/a	7,786	7,786	1,655	146	146

[1] Includes the Gulf of Alaska

Sablefish Gear Allocations

Sections 679.20(a)(4)(iii) and (iv) require allocation of the sablefish TAC for the BS and AI subareas between the trawl gear and hook-and-line or pot gear sectors. Gear allocations of the sablefish TAC for the BS are 50 percent for trawl gear and 50 percent for hook-and-line or pot gear. Gear allocations of the TAC for the AI are 25 percent for trawl gear and 75 percent for hook-and-line or pot gear. Section 679.20(b)(1)(ii)(B) requires that NMFS apportions 20 percent of the hook-and-line or pot gear allocation of sablefish TAC to the CDQ reserve for each subarea.

[14] https://www.govinfo.gov/content/pkg/FR-2022-03-02/pdf/2022-04292.pdf

Also, § 679.20(b)(1)(ii)(D)(1) requires that in the BS and AI 7.5 percent of the trawl gear allocation of sablefish TAC from the non-specified reserve, established under § 679.20(b)(1)(i), be assigned to the CDQ reserve. The Council recommended that only trawl sablefish TAC be established biennially. The harvest specifications for the hook-and-line gear or pot gear sablefish Individual Fishing Quota (IFQ) fisheries are limited to the 2022 fishing year to ensure those fisheries are conducted concurrently with the halibut IFQ fishery. Concurrent sablefish and halibut IFQ fisheries reduce the potential for discards of halibut and sablefish in those fisheries. The sablefish IFQ fisheries remain closed at the beginning of each fishing year until the final harvest specifications for the sablefish IFQ fisheries are in effect. lists the 2022 and 2023 gear allocations of the sablefish TAC and CDQ reserve amounts.

Table 10. Final 2022 and 2023 Gear Shares and CDQ Reserve of BSAI Sablefish TACs (metric tons). (Source: https://www.govinfo.gov/content/pkg/FR-2022-03-02/pdf/2022-04292.pdf).

Subarea and gear	Percent of TAC	2022			2023		
		Share of TAC	ITAC	CDQ reserve	Share of TAC	ITAC	CDQ reserve
Bering Sea:							
Trawl [1]	50	2,632	2,237	197	3,265	2,775	245
Hook-and-line/pot gear [2]	50	2,632	2,106	526	n/a	n/a	n/a
Total	**100**	**5,264**	**4,343**	**724**	**3,265**	**2,775**	**245**
Aleutian Islands:							
Trawl [1]	25	1,616	1,373	121	1,947	1,655	146
Hook-and-line/pot gear [2]	75	4,847	3,878	969	n/a	n/a	n/a
Total	**100**	**6,463**	**5,251**	**1,091**	**1,947**	**1,655**	**146**

[1] For the sablefish TAC allocated to vessels using trawl gear, 15 percent of TAC is apportioned to the non-specified reserve (§ 679.20(b)(1)(i)). The ITAC for vessels using trawl gear is the remainder of the TAC after subtracting this reserve. In the BS and AI, 7.5 percent of the trawl gear allocation of the TAC is assigned from the non-specified reserve to the CDQ reserve (§ 679.20(b)(1)(ii)(D)(1)).

[2] For the portion of the sablefish TAC allocated to vessels using hook-and-line or pot gear, 20 percent of the allocated TAC for the BS and AI is reserved for use by CDQ participants (§ 679.20(b)(1)(ii)(B)). The ITAC for vessels using hook-and-line or pot gear is the remainder of the TAC after subtracting the CDQ reserve for each subarea. The Council recommended that specifications for the hook-and-line or pot gear sablefish IFQ fisheries be limited to one year. Note: Seasonal or sector apportionments may not total precisely due to rounding.

Recent and projected time series of catches is reported in the 2021 stock assessment:

Year	2021				2022*		2023*	
Region	OFL_w	ABC_w	TAC	Catch**	OFL_w	ABC_w***	OFL_w	ABC_w***
BS	--	3,396	3,396	3,667	--	5,264	--	6,529
AI	--	4,717	4,717	1,359	--	6,463	--	7,786
GOA	--	21,475	17,992	12,919	--	22,794	--	22,003
WGOA	--	3,224	2,428	1,609	--	3,727	--	3,951
CGOA	--	9,527	8,056	5,868	--	9,965	--	9,495
***WYAK	--	3,451	2,929	2,156	--	3,437	--	3,159
***EY/SEO	--	5,273	4,579	3,286	--	5,665	--	5,398
Total	60,426^	29,588+	26,105	17,945	40,432	34,521	42,520	36,318

*Based on model *21.12_Proposed_No_Skip_Spawn* and assuming a 50% stair step from fixed apportionment towards author recommended 5-year average survey apportionment in 2022 and a 75% stair step in 2023.

**As of October 28, 2021 Alaska Fisheries Information Network, (www.akfin.org).

***After 95:5 trawl split shown above and after whale depredation methods described above.

^Based on the maximum permissible ABC projections from model *16.5_Cont*.

+The SSC recommended and council adopted 2021 ABC was greater than the 2020 SAFE author recommended ABC, but less than the 2020 SAFE maximum permissible ABC as determined using model *16.5_Cont*.

7.6 Significant changes in the ecosystem effects of the fishery

There have not been significant changes in the ecosystem effects of the fishery.

The NPFMC and NOAA/NMFS conduct assessments and research related to fishery impacts on ecosystems and habitats and how environmental factors affect the fishery. Findings and conclusions are published in the Ecosystem section of the SAFE documents, annual Ecosystem Considerations documents, and various other research reports.

The sablefish benthic longline fishery has minimal and temporary impacts on the seabed and therefore on habitats. By- catches in the directed sablefish fishery are recorded by observers and reported through the NMFS catch accounting system. Most of bycatch include sharks, skate, sculpins, and rockfish species, but the fishery does not appear to pose a threat to bycatch species. Streamer lines limit interactions with seabirds and the fishery has minimal impact on the short- tailed albatross (i.e., no takes in 2021), the only seabird listed as endangered under the ESA. Interactions with whales remain a problem as they take fish off longline gear, but the fishery does not adversely affect whale populations.

The bycatch from the sablefish fishery was assessed in 2021, full details of which were reported in the 2021 sablefish SAFE report[15](Goethel *et al.* 2021). Giant Grenadier, a non-target species (Ecosystem Component in both the GOA and BSAI FMPs), continue to make up the bulk of the nontarget species bycatch. The species is not considered at risk of depletion or depleted.

Bycatch in the sablefish fishery (observer data)

The largest bycatch group in the sablefish fishery is GOA thornyhead rockfish with a bycatch average of 505 t/year and, 129 t discarded for years 2013-2021. Sharks and skates are also taken in substantial numbers and are mostly discarded. Giant grenadiers, a non-target species that is an Ecosystem Component in both the GOA and BSAI FMPs, make up the bulk of the nontarget species bycatch, with 2013 the highest in recent years at 13,638 t but has decreased by more than half in in the last few years.

In terms of seabirds affected, a 2020 report from NOAA Fisheries monitored bycatch seabirds and of ESA short-tailed albatross, where no catches were reported for the year. The 2020 estimated seabird bycatch for the combined groundfish fisheries (3,462 birds) was about half of the 2011 through 2020 annual average of 6,607 birds. The notable decline in estimated seabird bycatch in 2002 was due to the voluntary deployment of streamer lines as bird deterrents on many demersal longline vessels (Melvin *et al.* 2001)

The EFH Environmental Impact Statement (EFH EIS) (NMFS 2005) concluded that the effects of commercial fishing on the habitat of sablefish is minimal or temporary in the current fishery management regime primarily based on the criterion that sablefish are currently above Minimum Stock Size Threshold (MSST). The stock continues to be above its MSST level in 2018. The 2015 Essential Fish Habitats (EFH) 5-year review that concluded in June 2017 evaluated new information on EFH, concluded that no change to the conclusions of the evaluation of fishing effects on EFH was warranted based on new information

The 2021 List of Fisheries Summary Tables list U.S. commercial fisheries by categories according to the level of interactions that result in incidental mortality or serious injury of marine mammals. The sablefish fisheries in the GOA are listed as Category II (occasional interactions with North Pacific sperm whale and Steller sea lion, Western US) while the BSAI and state fisheries are classified as Category III[16] (remote likelihood of/no known interactions with no marine mammal species mentioned).

[15] https://apps-afsc.fisheries.noaa.gov/refm/docs/2021/sablefish.pdf

[16] https://www.fisheries.noaa.gov/national/marine-mammal-protection/list-fisheries-summary-tables#table-1-category-iii

Update Essential Fish Habitat Review 2022

2022 Updates

At the February 2022 meeting, the SSC reviewed the models and output being used for the updated Essential Fish Habitat (EFH) 5-year review summary report, which is under preparation for Council review later this year, and the Council supported the SSC's recommendations for improvements. The SSC received reports on progress with assessing EFH component 1, descriptions and maps of EFH by species, and EFH component 2, the effects of fishing on EFH. Under component 1, staff reported on results from the revised species distribution model (SDM)-based EFH maps, which have also undergone review by all stock assessment authors. The SSC found that overall, the information provided exhibits substantial improvement and refinement of EFH descriptions from the previous 5-year review (2017). There are, however, a subset of stocks for which stock assessment authors noted concerns with the SDM-based maps, particularly for species that are not well represented in surveys. The SSC had several recommendations for improvement to the component 1 assessment, as detailed in SSC report. For example, the SSC requests that the final report include a summary table that evaluates survey reliability, seasonal representativeness, and spatial representativeness of the data used in the SDM models, for species where concerns were raised in the stock author review.

The SSC also reviewed the methodology for the fishing effects (FE) model, which is largely the same as that used in 2017, although with new data and some updates. The SSC supports using this version to evaluate fishing impacts for the 2022 5-year EFH review cycle, after addressing the recommendations in the SSC report. The SSC recommended, and the Council concurred, that for species where concerns have been raised about SDM-based EFH descriptions, the analysis should bring in other sources of information to address any question of possible mitigation.

The SSC is currently scheduled to review output from the fishing effects model in June 2022, and the Council is tentatively scheduled to receive the 2022 EFH 5-year review summary report in October 2022. The Council noted that this schedule may be adjusted if needed, to ensure staff have sufficient time to address SSC recommendations.

7.7 Violations and enforcement information

The 2021 fishing season marked the second full year in which the Enforcement Section of NOAA's Office of General Counsel's Policy for the Assessment of Civil Administrative Penalties and Permit Sanctions (June 2019) was in effect. Like its predecessor, the revised policy is very comprehensive and prescriptive. All major federal statutes are embodied in the policy, and it is believed that the quality of the guidance provided to prosecutors and law enforcement managers will result in ensuring that (i) penalties and permit sanctions decisions are assessed fairly and consistently, and are appropriate for the gravity of the violation, and (ii) economic incentives for non-compliance are eliminated.

7.7.1 Monitoring, Control and Surveillance (MCS)

The MCS components in place during Alaska's 2021 commercial sablefish fishery for both the GOA and BSAI were, for all intent and purpose, similar to those that were in place for the 2020 commercial fishery. Adjustments to the fisheries management measures and allocations did not materially affect how the MCS aspects were planned and implemented by federal and state enforcement agencies. Despite the COVID-19 pandemic and its challenges, most operational agencies were able to adjust and fulfill their MCS mandates.

7.7.1.1 Alaska Department of Public Safety, Alaska Wildlife Troopers (2021)

In a letter dated March 5, 2021, to the fishery client, Captain Aaron Frenzel, Southern Detachment Commander provided information on the AWT's enforcement presence during the Chatham Sablefish fishery. He noted that AWT has both an at-sea and dockside presence during this fishery. Due to the length of the season, personnel do

not conduct vessel-based patrols specifically targeting operators in the fishery, but frequently have vessels in Chatham conducting multi-purpose patrols. When commercial vessels are observed they are contacted and inspected for compliance with the fishery they are participating in.

Dockside inspections are conducted by Troopers in ports where product is being delivered. The representative stated that the AWT does not dedicate Troopers specifically to sablefish offloads but when Troopers observer them they conduct inspections. The Division also has post-season enforcement efforts of the fishery when managers become aware of issues that occurred in-season. Over limits, bycatch overages, prohibited species, and fishing in closed areas are items that would be looked at during the post-season enforcement (meetings). These fishery-specific violations are not common occurrences and are handled within the state's administrative and legal systems.

A second letter dated June 30, 2022, indicated that fishermen participating in the fishery are checked to confirm they are properly permitted and licensed, fishing in the appropriate area and not exceeding limits set by ADFG for sablefish and bycatch species. During the past 3 years, troopers have investigated the over limits of sablefish quota on three occasions, retention of prohibited species once, and three incidents of bycatch over limits. Overall, the AWT does not feel there is an alarming violation rate that would encourage us to focus more attention on this fishery.

During the Audit team's virtual site visit with Captain Frenzel, he indicated that the annual JEA operations with NOAA involve defined operational levels (e.g., commitment of AWT patrol boat days for Pacific halibut fishing) in specified areas and times. Currently, 3 new troopers have joined the ranks and management is seeking an additional 5 positions.

Interagency Operational Patrols - 2021

In April, a team of four Enforcement Officers along with USCG and AWT boarding officers conducted boardings and surveillance in Southcentral Alaska during the 2021 Homer King Salmon Derby. Teams conducted 66 boardings and identified 16 violations including two failures to sign logbooks, four chunked halibut, eight state violations, and two USCG safety violations.

In June, a team consisting of three Enforcement Officers and one Alaska Wildlife Trooper completed a three-day patrol from Seward to Whittier, AK. A USCG Boarding officer joined on day two. A total of 20 boardings were completed and 25 violations were discovered. The violations consisted of four North Pacific Halibut Act violations, 18 State of Alaska violations, and three Coast Guard violations. Over 100 pounds of illegally processed halibut, 11 non-pelagic rockfish, and one lingcod were seized.

Also in June, OLE and AWT completed a patrol of Prince of Wales (POW) Island and surrounding communities. During the sea-based joint patrol, multiple strings of unmarked commercial shrimp gear were pulled, recorded, and deck loaded. Unmarked longline gear was also discovered. Officers provided outreach to the Thorne Bay Charter Association and to the community of Hollis during a town meeting. Multiple dockside boardings resulted in outreach with halibut charter operators to discuss and assist with elogbooks. In September, an Enforcement Officer completed a two-week patrol with AWT on the PV Enforcer in Southeast AK with a total of 92 vessels boarded and 18 state and federal citations. Four federal citations were issued, one fix-it for subsistence gear markings, and three unreported Guided Angler Fish (GAF).

In September, an Enforcement Officer completed a two-week patrol with AWT in Southeast AK with a total of 92 vessels boarded and 18 state and federal citations. Four federal citations were issued, one fix-it for subsistence gear markings, and three unreported Guided Angler Fish (GAF).

7.7.1.2 NPFMC Enforcement Committee Meeting Summaries - 2021 and 2022

The Enforcement Committee was established by the Council to review proposed FMP amendments, regulatory changes, and other management actions on matters related to enforcement and safety at sea. Its administrative and governance measures are contained in Terms of Reference (2016).[17] Meetings were subject to COVID-19 protocols with members and the public participating via conference call.

Committee members are appointed by the Council Chair from governmental agencies and organizations having expertise relating to the enforcement and monitoring of North Pacific groundfish and crab fisheries of the BSAI and GOA. At a minimum these agencies would include NOAA Fisheries Enforcement, NOAA Office of Sustainable Fisheries, U.S. Coast Guard, Alaska State Fish and Wildlife Protection, Alaska Department of Fish and Game, NOAA Fisheries Observer Program, and NOAA Office of General Counsel. The Committee is Chaired by a member of the Committee, as elected biennially by the Committee.

The committee met virtually on three occasions between January 2021 and March 2022. Highlights of the discussions are summarized here in as much as they related to the commercial sablefish fisheries.

Meeting - January 28, 2021

The committee's business was focussed on the enforcement implications of a proposed IFQ sablefish release allowance. For at-sea enforcement operations, this would involve observing fishery operations and ensuring that sablefish not retained by IFQ vessels are returned to the sea immediately, with a minimum of injury and that discards are accurately reported in the logbookas required. The primary compliance monitoring tools for this would be limited to at-sea boardings, observed trips, and electronic monitoring (EM) trips. The committee also discussed the potential need for increasing observer/EM coverage for IFQ sablefish vessels to better determine sablefish discard mortality estimates.

If the Council was to implement a size limit, this would create additional enforcement concerns pertaining to the limited compliance monitoring tools that would be available to enforce a size limit and detect high grading violations. The primary compliance monitoring tools would be limited to at-sea boardings, observed trips, and electronic monitoring trips. The committee also discussed the added cost that would be incurred to review electronic monitoring video for illegal discards, and current EM technology is not able to identify illegal discard (size limit) of sablefish to the accuracy/fidelity required as evidence to support a violation for prosecution.

Meeting - March 31, 2021

The committee's only agenda item involved consideration of the enforcement implications of a possible Recreational Quota Entity (RQE) funding mechanism, and enforcement issues associated with enforcing an RQE stamp program.

Meeting - March 29, 2022

The committee discussed supplementary business arising from the proposed IFQ Omnibus Amendments. Members provided commentary on the following topics:

[17] https://www.npfmc.org/wp content/PDFdocuments/membership/Enforcement/Enforcement_TermsReference_0616.pdf

- Clarify that “slinky pots” are a legal gear for the IFQ fishery and CDQ fisheries, and revise regulations to allow the use of biodegradable twine in the door latch or pot tunnel.
- Remove buoy configuration, radar reflector, and flagpole requirements in regulation but retain “LP” marking requirement.
- Remove the nine-inch max width of the tunnel opening for vessel IFQ sablefish.Would apply to GOA and BSAI.
- Change the pot limits and the gear retrieval requirements for West Yakutat and/or Southeast Outside for vessels targeting IFQ sablefish.
- Authorize jig gear as a legal gear type for the harvest of sablefish IFQ and CDQ.
- Daily Fishing Logbook (DFL) requirements for vessels less than 60 ft LOA using more than one gear type.

The committee reviewed the 3-meeting outlook to determine which agenda items the committee is planning on reviewing and has tentatively scheduled a review of the OLE Alaska Division 5-year priorities, Observer Annual Report for 2021 (Enforcement Chapter), and a review of the trawl EM analysis which are both scheduled for the June Council meeting.

7.7.1.3 USCG Operational Highlights – 2021 Year in Review

U.S./Canadian EEZ Boundary (Dixon Entrance) Enforcement

Canadian fishing activity along the U.S.- Canadian EEZ boundary in the vicinity of Dixon Entrance was low throughout 2021. There were no detected incursions by foreign fishing vessels into the U.S. EEZ in 2021.

Marine Protected Resources and Critical Habitat Enforcement

During 2021, the Coast Guard conducted 14 flights out of Kodiak, Nome (via FOL Kotzebue), and Sitka in support of Marine Protected Resources and NOAA’s Protected Resources Division (PRD). No violations were detected on these flights but were instrumental in collecting and reporting marine mammal stranding data, including for the gray whale and ice seal unusual mortality events (UMEs). Alaska Marine Mammal Stranding Network partners were able to conduct eight surveys of coastal Kodiak (the largest effort to date), respond to a live gray whale stranding, and a dead sperm whale north of Kodiak.

Commercial Fishing Vessel Boarding Statistics

District 17 conducted 595 federal fisheries boardings during 2021. Figures 1 and 2 show the historic trends for boardings and violations. The top five fisheries violations were (i) logbook discrepancies, (ii) no IFQ permit onboard, (iii) expired or no FFP onboard, (iv) sea-bird avoidance gear not onboard or improperly constructed, and (v) improperly marked buoys.

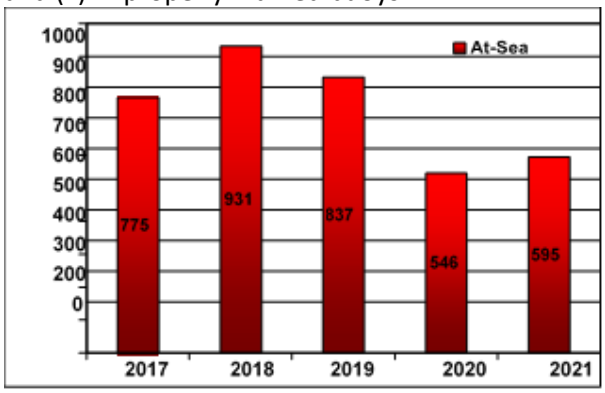

Figure 1. Fisheries boardings by year.

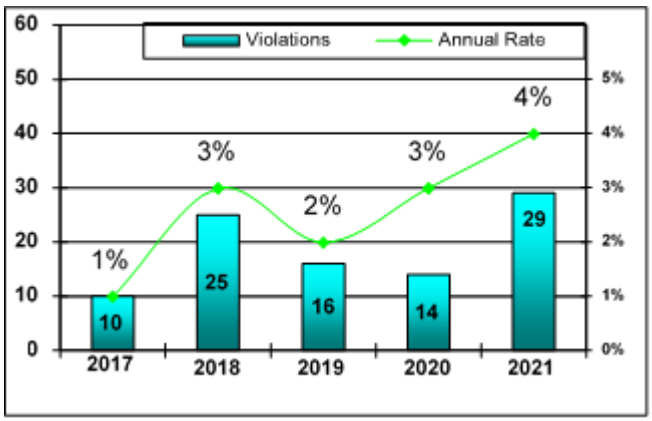

Figure 2. Fisheries violations by year.

During the 5-year period, a total of 3,684 at-sea boardings were conducted by the USCG's 17th District for an average of 737 annual inspections (Figure 1). Similarly, a total of 94 fisheries violations were detected, averaging 19 violations annually over the same period (Figure 2). Typically, USCG violations are handed off to NOAA-OLE when administrative or prosecutorial actions are warranted. Over the same reporting period, the annualized violation rate was between 2 and 3% (Figure 2).

Halibut and Sablefish Enforcement

In 2021, USCG District 17 conducted 515 boardings on commercial, charter, and recreational vessels targeting halibut and sablefish. Personnel conducted 152 boardings of IFQ halibut or sablefish vessels, detecting 22 fisheries violations, representing 76% of the commercial violations detected. The top violations included (i) logbook discrepancies, (ii) no IFQ permit and/or FFP onboard, (iii) sea-bird avoidance gear not onboard or improperly constructed, (iv) improper marked buoys, and (v) failure to retain Pacific cod. District 17 conducted 108 boardings on charter halibut vessels, detecting zero violations. District 17 conducted 255 boardings on recreational vessels targeting halibut and detected one violation for improper filleting at sea, which resulted in a seizure of the catch, and one violation for no subsistence halibut license onboard.

Coast Guard Resource Summary

Figure 3, Figure 4, Figure 5, and Figure 6 show the annual aircraft law enforcement hours, Major Cutter days, and Patrol Boat hours used in the Seventeenth District between 2017 and 2021.

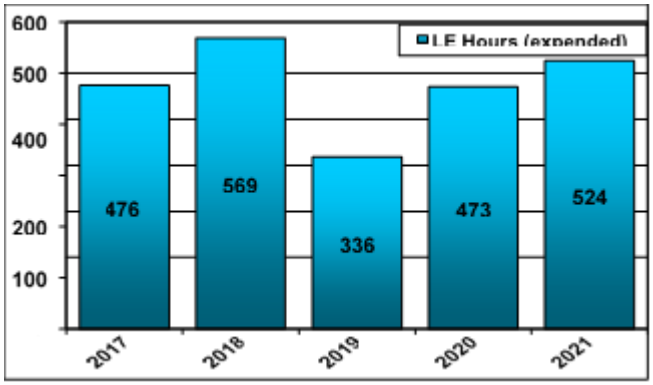

Figure 3. Annual Fixed Wing Hours.

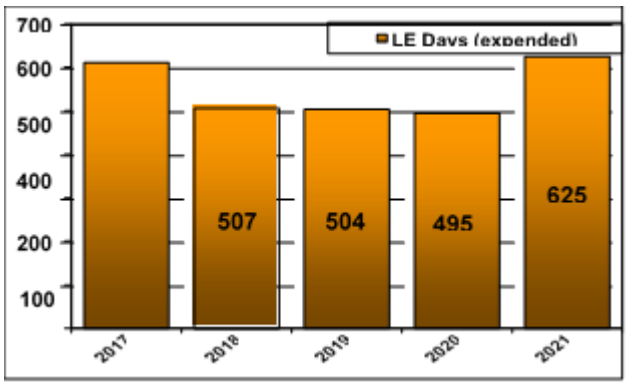

Figure 4. Annual Major Cutter Days.

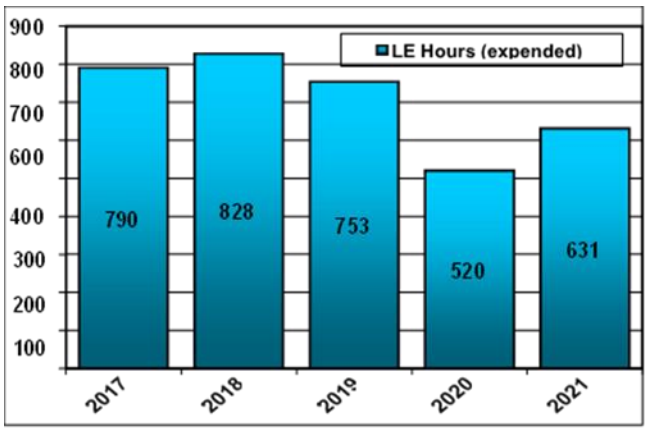

Figure 5. Annual Rotary Wing Hours.

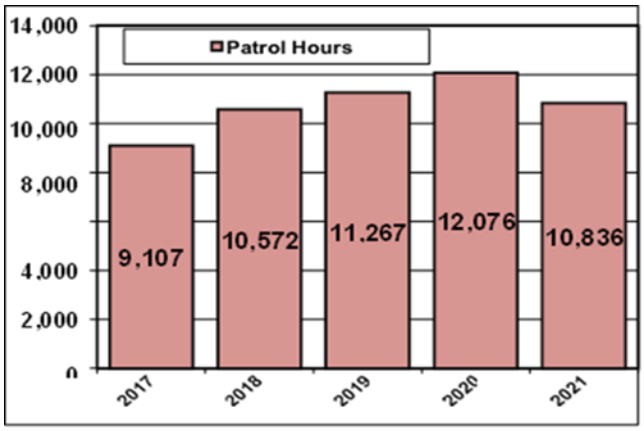

Figure 6. Annual Patrol Boat Hours.

7.7.1.4 Joint Enforcement Agreement - Annual Report 2020

The purpose of the Joint Enforcement Agreement (JEA) between NOAA-OLE and the Alaska Wildlife Troopers (AWT) is to support operations, administration, and funding for AWT to enforce Federal laws and regulations under the *Magnuson-Stevens Act, Endangered Species Act, Marine Mammal Protection Act, Lacey Act*, and *Northern Pacific Halibut Act*. Central to this JEA is the prevention and detection of violations by federally deputized Wildlife Troopers. In essence, deputized Wildlife Troopers provide an overt presence and force multiplier for Federal fisheries enforcement.

The reporting year for the JEA differed slightly from the Federal fiscal year: the "2020" JEA report ran from July 1, 2020, through June 30, 2021. AWT recorded the following actions in direct support of OLE and marine resource protection.

- 315 vessels boarded (commercial, charter, sportfish, and subsistence) including 111 gear inspections performed.
- 698 contacts (industry and public) during execution of field operations.
- 757 additional contacts through 41 outreach activities.
- 35 State warnings and 36 State citations (many are common state/federal fisheries); and
- 20 cases referred to OLE for federal enforcement action including 17 from JEA operation and 3 from non-JEA operations.

NOAA - OLE continued its outreach and education efforts aimed at facilitating and encouraging responsible and sustainable uses of marine resources. Approximately 16 community-based meetings were held remotely because of the COVID-19 pandemic between April and September 2021. Topics discussed were wide-ranging and included OLE priorities, enforcement procedures, regulations, new CHP requirements, fisheries management, and observer program.

7.7.1.5 NOAA-OGC Civil Administrative Cases

The NOAA Office of General Counsel, Enforcement Section (GCES) issued seven Notices of Violation and Assessment (NOVAs) during the reporting period. Examples included:

- AK1906496; Keta Seafoods, L.L.C. and Gregory V. McMillan
  Shoreside processor Keta Seafoods, LLC, and owner Gregory V. McMillan were charged jointly and severally under the Northern Pacific Halibut Act (NPHA) with failing to submit a required IFQ Registered Buyers ex- vessel Volume and Value Report. A $1,500 NOVA was issued.
- AK2004893; F/V Marathon
  Owner Marathon Fisheries, Inc. and operator Martin Stam were charged jointly and severally under the Magnuson-Stevens Act (MSA) with exceeding the maximum retainable amount of Pacific cod. A $3,625 NOVA was issued.
- AK2003816; F/V Gulf Maiden
  Owner Gulf Maiden Corporation and operator Randall Shears were charged jointly and severally under the NPHA and MSA with failing to return Pacific halibut to the sea with a minimum of injury, unlawful discard of rockfish and Pacific cod, and failure to record discards. A $22,800 NOVA was issued.
- AK2005521; F/V Legacy
  Crewman Tusi Tausaga was charged under the MSA with observer assault. A $72,000 NOVA was issued.

7.7.1.6 NOAA-OGC Cases Settled

The Office reported that a total of seven settlement agreements in respect of various civil administrative cases were entered into during the reporting period. Examples included:

- AK1905306; F/V Pacific Sojourn
  Owner Sojourn Fisheries, LLC and operator Roy Wilson were charged jointly and severally under the MSA with unlawfully discarding IFQ sablefish and failing to log the discards. A $21,500 NOVA was issued. The case settled for $17,200.
- AK1905767 and AK1905392 F/V Anita
  Owner F/V Anita LLC and operator Jay Gillman were charged jointly and severally under the MSA and the NPHA with discarding IFQ sablefish and IFQ halibut, failing to report discards, and failing to register

an IFQ fishing trip in the Observer Declare and Deploy System. A $78,250 NOVA was issued. The case settled for $55,270.

- AK2005638; Silver Bay Seafoods, LLC
  Plant operator was charged under the MSA for exceeding the applicable Rockfish Program processing cap for Pacific cod by 24,849 pounds, a 25.9% overage. A $20,475.58 amended NOVA was issued. The case settled for $18,428.
- AK1906825; F/V Cameron
  Owner Overa Fisheries, LLC and operator Roger Overa were charged jointly and severally under the MSA with operating a vessel in the Gulf of Alaska Pacific cod fishery without carrying an operable NMFS-approved Vessel Monitoring System (VMS) and without complying with VMS requirements. A $15,000 NOVA was issued, and the case settled for $10,000.
- AK2003816; F/V Gulf Maiden
  Owner Gulf Maiden Corporation and operator Randall Shears were charged jointly and severally under the NPHA and MSA with failing to return Pacific halibut to the sea with a minimum of injury, unlawful discard of rockfish and Pacific cod, and failure to record discards. A $22,800 NOVA was issued, and the case settled for $20,250.

7.7.1.7 NOAA-OGC Default Judgments

The NOVAs in the following civil administrative cases became final agency action via default:

- AK1708652; F/V Vaerdal
  Crewman Justin A. Williams was charged under the Magnuson- Stevens Act with harassing a female fisheries observer. A $24,000 NOVA was issued. The NOVA became a final administrative decision due to default.
- AK2005521; F/V Legacy
  Crewman Tusi Tausaga was charged under the *Magnuson-Stevens Act* with observer assault. A $72,000 NOVA was issued. The NOVA became a final administrative decision due to default.
- AK2101775; F/V Sentinel
  Owner/Operator Arseny Polushkin was charged under the *Magnuson-Stevens Act* with interfering with and harassing authorized officers during the lawful discharge of their duties. A $8,500 NOVA was issued. The NOVA became a final administrative decision due to default.

7.7.1.8 Criminal Sentencing

NOAA OLE and GCES assisted the U.S. Attorney's Office in Anchorage with the following criminal prosecution in U.S. District Court: United States v. Stevens, No. 3:20-cr-00773-JMK-DMS (D. Alaska 2021). On August 5, 2021, James A. Stevens, vessel owner, operator, fleet manager, and IFQ permit holder was sentenced for violating the *Lacey Act's* felony false labeling provision. Stevens was ordered to pay a $1,000,000 fine, serve six months in federal prison, 126 days in a halfway house, and perform 80 hours of community service. During the three years that he is supervised by the United States Probation Office after he is released from prison, Stevens will be subject to VMS and EM conditions, drug testing, and other standard conditions. Stevens pled guilty to knowingly submitting false information concerning the locations and regulatory areas where 903,208 pounds of IFQ halibut and IFQ sablefish were harvested on IFQ landing reports, ADFG fish tickets, and in his logbooks. His crime spanned four IFQ fishing seasons (2014 - 2017).

7.7.2 North Pacific Observer Program (NPOP)

The Program continues to be the largest observer program in the country and covers vessels in both partial coverage and full coverage. In the full coverage component of the program, every trip is monitored by 1 or 2 observers and the vast majority of groundfish harvest is covered by this portion of the program. Each year, the

Annual Deployment Plan (ADP) describes the science-driven method for deployment of observers on vessels in the partial coverage component of the program (50 CFR 679.51(a)).

7.7.2.1 Observer Program - 2021

Details for the 2021 operational year were presented in draft form to the Council in June 2022.[18] In December 2020, NMFS released the final 2021 ADP. In 2021 EM was deployed according to trip-selection. Due to limitations on transportation and health mandates associated with COVID-19, observers were deployed according to a port-based trip selection model. Under this model, observers were deployed on randomly selected trips from specific ports. This method excluded trips from observation if they did not depart and land within a port that was on the list of observable ports. The observable ports were identified as ports where travel and lodging conditions allowed observers to meet and maintain applicable health mandates and advisories for deployment into the commercial fisheries and where there were expected to be enough fishing trips originating and ending in these ports to make it cost effective to place observers in these communities.

In August 2021, NMFS released an Information Bulletin to announce the expansion of observer deployment for all ports throughout Alaska beginning on September 1, 2021. This change was consistent with the updated NOAA policy on observer waivers, which stated that vessels were no longer eligible for release from observer coverage under the Emergency Rule if a fully vaccinated or quarantined/shelter-in-place observer was available.

Despite the ongoing challenges of COVID-19 in 2021, the agency was able to safely continue most Observer Program operations. There were 378 individual observers that were trained, briefed, and equipped for deployment to vessels and processing facilities operating in the BSAI and GOA groundfish and halibut fisheries. Twenty Fisheries Monitoring and Analysis Division (FMA) staff members completed 532 debriefings from Seattle and Anchorage; most debriefings were completed virtually. In 2021, observers collected data on board 296 fixed gear and trawl vessels and at 12 processing facilities for a total of 35,769 observer days (32,672 full coverage days on vessels and in plants; and 3,097 partial coverage days on vessels and plants). NMFS approved 170 vessels in the 2021 EM selection pool and of these, 125 vessels fished at least 1 trip. In 2021, EM data was collected from 105 unique vessels on a total of 279 trips (195 hook-and-line trips and 84 pot trips).

Overall, for all federal fisheries off Alaska, 3,747 trips (43.2%) and 423 vessels (44.2%) were monitored by either an observer or EM system in 2021.Table 11 illustrates how the observer program's deployment categories by coverage type performed in FY20 and FY21.

Table 11. Observer Deployment Days by Coverage Type per ADP for FY20 and FY21.
(Source: NMFS Fisheries Monitoring and Analysis).

FY	Coverage Type	Total Distinct Observer Deployed Days		Total Vessel- Plant Deployed Days		Total Cruises		Total Vessel- Plant Assignment	
		Value	YOY change	Value	YOY change	Value	YOY change	Value	YOY change
2019	Full	35,940		36,004		686		993	
	Partial	3,849		3,867		141		660	
2020	Full	37,957	5.60%	38,000	5.50%	652	-5.0%	824	-17.0%
	Partial	1,826	-52.6%	1,867	-51.7%	109	-22.7%	293	-55.6%
2021	Full	34,616	-8.8%	34,827	-8.4%	600	-8.0%	795	-3.5%
	Partial	2,673	46.40%	2,766	48.20%	101	-7.3%	349	19.10%

[18] file:///C:/Users/Owner/Desktop/NOAA%20Annual%20Observer%20Program%20Report%202021.pdf

The total distinct observer deployed days for the full coverage component decreased by 8.8% in FY21; however, the partial coverage component increased by 46.4%. A similar trend is seen for the total vessel-plant deployed days. The increase in ports covered meant that partial coverage trips were less likely to be granted a coverage waiver.

There is no state-operated at-sea observer program in place for the commercial sablefish fishery.

7.7.2.2 At-Sea Observer Deployment and Electronic Monitoring Plan - Alaska Region 2022

As in previous years, NOAA's Annual Deployment Plan (ADP) describes how the National Marine Fisheries Service (NMFS) intends to assign at-sea and shoreside fishery observers and electronic monitoring (EM) to vessels and processing plants engaged in halibut and groundfish fishing operations in the North Pacific during the calendar year. This plan is developed under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (16 U.S.C. 1862), the Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands Management Area (BSAI FMP), the Fishery Management Plan for Groundfish of the Gulf of Alaska (GOA FMP), and the Northern Pacific Halibut Act of 1982.

For the program's vessel full coverage component, every trip is monitored by 1 or 2 observers and the vast majority of groundfish harvest is covered by this portion of the program. In 2022, NMFS expects to monitor 3,012 trips, consisting of an estimated 17,936 days.

The ADP mainly focuses on the partial coverage component of the program and specifies the scientific deployment design and selection rate—the portion of trips that are sampled by observers and EM. In 2022, NOAA has proposed 3 sampling strata for the deployment of observers: (i) Hook-and-line vessels greater than or equal to 40 ft LOA, (ii) Pot vessels greater than or equal to 40 ft LOA, and (iii) Trawl vessels making a trip not covered by the EM EFP.

The planned deployment rates (rounded to the nearest whole number) for the ADP in 2022 are as follows:

- No-selection pool: The no-selection pool is composed of vessels that will have no probability of carrying an observer on any trips for the 2022 fishing season. These vessels are fixed-gear vessels less than 40 ft LOA and vessels fishing with jig gear, which includes handline, jig, troll, and dinglebar troll gear.
- Observer trip-selection pool: Observers will be deployed from all ports throughout Alaska in 3 sampling strata:
    - Hook-and-line: This pool is composed of all vessels in the partial coverage category that are greater than or equal to 40 ft LOA that are fishing hook-and-line gear.
    - Pot: This pool is composed of all vessels in the partial coverage category that are greater than or equal to 40 ft LOA that are fishing pot gear.
    - Trawl: This pool is composed of all vessels in the partial coverage category fishing trawl gear.
- EM selection pool: The EM selection pool will be composed of up to 171 fixed gear vessels.
- Trawl EM trip-selection pool: This pool is composed of all vessels fishing under the EFP permit.

7.7.2.3 Enforcement Actions arising from NPOP Incidents

In its December 2021 report to the NPFMC, NOAA-OLE noted that in a normal year, very few observer contracts extend beyond 90 days. However, due to ongoing impacts from the COVID-19 pandemic in FY21, many contract extension were approved by the NPOP, resulting in longer and fewer observer deployments. Observer debriefings were completed remotely.

In FY21, OLE received 715 observer statements of potential violations, with 4,247 occurrences described (Table 12). In FY20, OLE received 597 statements describing 3,422 occurrences. In FY19, the last "normal" year had 956 statements describing 7,576 occurrences. The NPOP increased from deploying observers from 1 port (2020 onset of the pandemic) to 14.

Table 12. Status of Statements and Incidents (as of November 4, 2021).
(Source: NOAA Fisheries OLE Report to NPFMC, December 2021).

Statements	Incidents	Statuses
715 statements received and reviewed in FY2021; 56 statements did not document an actual violation (no incident created in TRIDENT)	638 statements were forwarded toagents and officers; assigned to 240 unique incidents.	81 Ongoing (226 statements) 1 Forwarded for prosecution (2 statements) 7 Written Warnings issued (24 statements) 4 Summary Settlements issued (12 statements) 50 Compliance Assistance provided (164 statements) 1 Closed - Referred to another Agency (1 statement) 98 Closed - No OLE Action (209 statements)

7.7.2.4 NOAA-OLE New Initiative

In 2021, OLE initiated a new process for industry to self-report potential violations. The mechanism is entirely voluntary. Between October 1, 2021, and March 31, 2022, OLE received 25 self-reports from industry personnel (vessel/plant owners/operators and personnel). The reports included potential infractions such as: (i) Halibut deck sorting issues, (ii) Disruptive/Bothersome Behavior-Conflict Resolved; (iii) Amendment 80 issues (generally electronic monitoring (EM)-related); (iv) Failure to Notify (of fish being brought aboard); (v) Reasonable Assistance (failure to provide to observers); (vi) Harassment-Sexual; (vii) Recordkeeping and Reporting; and (viii) Prohibited Species-Mishandling.

According to NOAA, self-reporting of potential violations is viewed positively by both the industry and the Agency. It allows industry to provide a documented record of their perspective of an incident. The Agency can explain what actions it has taken to mitigate the issue, and to cross-reference alleged violations against observers (if reporting vessels fall in the observer coverage sectors).

7.7.2.5 NOAA Alaska Electronic Technologies Implementation Plan (2021-2025)[19]

The Alaska Region's vision is a comprehensive, integrated, and adaptable monitoring program for the groundfish and Pacific halibut fisheries off Alaska that enables verification of catch composition and quantity, including those species discarded at sea, and collection of biological information on marine resources. It builds upon previous work in the Alaska Region including the 2015 Alaska Region Electronic Technologies Implementation Plan and 2018 update.

The plan's current iteration consists of 4 strategic goals, each supported by various objectives (not listed here):

- Goal 1: NMFS has the infrastructure and regulatory requirements to support EM/ER operations.
- Goal 2: NMFS is advancing cost-effective Electronic Monitoring (EM) and Electronic Reporting (ER) capabilities through science-based studies and technological developments.
- Goal 3: NMFS has a cost-effective, adaptable, and sustainable fishery data collection program that takes advantage of the full range of current and emerging technologies.
- Goal 4: The Council and NMFS leverage global EM/ER developments while sharing Alaska perspectives with others.

[19] https://media.fisheries.noaa.gov/2021-08/AK%20ETIP_080621.pdf

The region's ET prioritization process is led by 3 monitoring committees, with each having a specific scope: (i) Fishery Monitoring Advisory Committee (FMAC), (ii) Partial Coverage Fishery Monitoring Advisory Committee (PCFMAC), and (iii) Trawl EM Committee.

The 2021-2025 plan includes a suite of EM projects that are currently in progress, have been identified by the Council as high priorities, or have been suggested through the Council's monitoring committees but have not yet been identified as a priority. They are not presented here but will be included in the planned re-certification of Alaska's Pacific halibut and sablefish fisheries.

7.8 Other information that may affect the outcome of certification

There is no other information that may affect the outcome of certification.

7.9 Update on consistency to the fundamental clauses of the RFM Fishery Standard

There are no changes in the fishery relevant to the fundamental clauses of the RFM Fishery Standard.
The fishery continues to conform to the requirements of all Fundamental Clauses of the RFM Fishery Standard.

7.9.1 Section A. The Fisheries Management System

7.9.1.1 Fundamental Clause 1

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.**
Summary of relevant changes:	1.1. There shall be an effective legal and administrative framework established at local and national level appropriate for the fishery resource and conservation and management. The Alaska commercial sablefish fishery continues to be managed by the North Pacific Fishery Management Council (NPFMC) and NOAA's National Marine Fisheries Service (NMFS) in federal waters (3-200 nm); and by the Alaska Department of Fish and Game (ADFG) and the Board of Fisheries (BOF) in state waters (0-3 nm). In federal waters, the fishery is managed through the NPFMC's GOA and BSAI Groundfish Fishery Management Plans (FMPs) pursuant to the *Magnuson-Stevens Fishery Conservation and Management Act* (MSA). The management systems for the commercial sablefish fishery remained highly structured and legally supported by federal and state statutes and regulations. Changes to the management systems in 2021 were essentially those required to implement new or amended rules, and year-over-year adjustments to FMP measures, including allocative formulae (OFLs, ABCs, PSCs, GHLs, IFQ temporary transfers), opening and closing dates, bycatch monitoring, at-sea observer coverage levels (where implemented), and VMS requirements (where implemented). The 2021 NSEI Subdistrict commercial sablefish fishery AHO was 1,137,867 round pounds. There were 73 valid Commercial Fisheries Entry Commission (CFEC) permits for 2021, which was two fewer permits compared to 2020. The individual equal quota share (EQS) was 15,587 round pounds, a 5.5% increase from the 2020 EQS of 14,773 round pounds. The AHO was based on the sablefish ABC with decrements made for sablefish mortality in other fisheries. The recommended 2021 ABC was 1,255,056 round pounds (F_{ABC} = 0.061), a 3.1% increase from the 2020 ABC. The increase in the ABC was attributed to a series of relatively strong recruitment events occurring between 2013 and 2016 and a substantial increase in the longline survey catch per unit effort (CPUE). The 2021 SSEI AHO is 601,271 round lb, a 5% increase from the 2020 AHO. The recommended increase in the AHO will continue to provide fishery stability and sustainability through conservative management action. For the 2021 SSEI fishery, there were 19 Commercial Fisheries Entry Commission (CFEC) longline/pot (C61C) and three pot (C91C) permits, resulting in a 2021 Equal Quota Share (EQS) of 27,330 round lb for each permit holder. Positive indicators for sablefish in SSEI include increases in both the longline survey and fishery CPUE indices from 2019 to 2020 and continued recruitment from the 2014, 2016, and potentially 2017 age classes in other fisheries and neighboring geographic areas, although the overall magnitude of the projected increase in spawning stock biomass is uncertain and to what extent this projected increase may benefit SSEI is unknown. The State's sablefish fishery continues to be managed outside the IFQ program using a Guideline Harvest Level (GHL). As is the case for most federal groundfish fisheries, ADFG may issue emergency orders governing state sablefish fisheries that duplicate NMFS management actions, except that gear or other restrictions may vary. Typically, an order would be issued as the GHL is approached. According to ADFG staff, orders also may be issued in-season to adjust Board decisions affecting the southeast fisheries. Emergency orders have not been issued for the Aleutian Islands in many years.

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.**	
		1.2. Management measures shall take into account the whole stock unit over its entire area of stock distribution. The NMFS and ADFG conduct assessment surveys on sablefish in Alaskan waters. The NMFS conducts an annual longline survey and a triennial trawl survey in the Gulf of Alaska, and ADFG performs annual longline surveys in Chatham and Clarence Strait. These surveys provide estimates of catch per unit effort, relative abundance, and biological data. In addition, tagging studies exist to study sablefish movement for federal, state, and Canadian waters. The ADFG conducts an annual tagging survey in Chatham Strait as part of a mark-recapture study to estimate population abundance. Further investigations into the migration of sablefish are being conducted in Alaska. The NMFS is working on a migration model that includes both federal and state waters. In addition, the ADFG is conducting pilot studies to determine the feasibility of acoustic tagging of sablefish in Chatham Strait. Sablefish are assessed as a single population in Federal waters off Alaska with management and regulatory decisions being implemented at the regulatory area level. The NPFMC explicitly considers sablefish life cycle and migration when recommending apportionments of Allowable Biological Catch (ABC) and Overfishing Limit (OFL) between regulatory areas. As the biological stock unit encompasses multiple jurisdictions (i.e., U.S. state and federal) the NPFMC and NMFS consider exploitation by all parties when defining exploitation levels and determining stock health to avoid overfishing/depletion of the resource. The NPFMC apportions the ABC and OFL between regulatory areas based on a 5-year exponential weighting of the survey and fishery abundance indices. 1.3./1.4./1.5./1.6. Transboundary stocks. The GOA and BSAI sablefish stocks are both considered parts of the same stock but separate from sablefish further south along the southern coast of British Columbia and the U.S. west coast. There is no legal harvesting of sablefish in North Pacific waters outside the national jurisdiction of the U.S. or Canada. Similarly, there is no sablefish harvesting by U.S. vessels in Canadian waters, or by Canadian vessels in U.S. waters. During the 62nd annual meeting of the Canada-US Groundfish Technical Sub-committee in April 2022, the AFSC representative in Juneau focussed on Sablefish management developments. She reported that the first project concerned a tagging study investigating population dynamics where the longest tag at liberty was 42 years and the furthest traveled was 4,200 nautical miles (Aleutian Islands to Oregon). The age structure of Sablefish has shifted dramatically since 2014 and has become truncated recently, dominated by young fish. The 2014 year was the biggest recruitment event in approximately 40 years, perhaps due to warmer water temperatures in the North Pacific. Several larger recruitments have occurred since 2014 as well. These events are a positive development for Sablefish, but these fish are not marketable at their current size and there are concerns about harvesting too many immature fish. Overall, Sablefish biomass is up dramatically as a result of these recent recruitments, but the population is largely immature. Pot gear has been permitted in the Sablefish fishery in the GOA since 2017. This has been great for fishermen because the use of pot gear greatly reduces whale depredation, as opposed to the traditional longline gear. Many fishermen are quickly transitioning to pots, “slinky” pots especially. Both landings and effort are increasing. Currently, it is unknown what proportion of the fishery is using slinky versus conventional pot gear. The AFSC is now collecting data on pot type in fishery logbooks, electronic monitoring, and fish tickets. Also, the AFSC is planning to determine the characteristics of the different types of pot gear,

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.**
	as a goal for 2022. As the fishery is transitioning very quickly to this new gear type, this will be an important consideration for future stock assessments. 1.7. Review and Revision of conservation and management measures. The core management regime and processes for the 2021 commercial sablefish fishery within Alaska's EEZ involving federal agencies (NOAA-NMFS, NPFMC, USCG) and state agencies (ADFG-ABOF, ADPS-AWT) remained largely unchanged from the 2020 core regime. The sablefish fishery's management plan for 2021 for the state's NSEI and SSEI subdistricts included a small number of regulatory provisions and rules as needed to ensure that management measures reflected decisions made and were legally binding and enforceable. Typically, these included changes to fleet and area allocation tables, fishing gear characteristics, quota sharing, bycatch provisions, area closures, opening and closing dates etc. (section 7.2.2.). A list of key federal regulatory amendments in respect of the 2021 commercial sablefish fisheries is reported at section 7.2.1 of the main report. Also, Table 1 summarises the actions taken by the NPFMC in 2021 and 2022 (partial months) regarding the sablefish commercial fisheries. The Alaska Board of Fisheries' decisions regarding sablefish are highlighted in Table 2. These decisions apply to the two commercial sablefish fisheries that are state managed i.e., Prince William Sound and Southeast Areas. The other sablefish fisheries are federally managed; hence they are beyond the Board`s mandate. Note: If the review of certain regulatory proposals affecting the sablefish fishery require the participation of both the Board and the NPFMC, the process is enabled by the Joint Protocol Committee (JPC). The JPC operates in accordance with its terms of reference (2009). It last met in November 2020 to consider amendments to the commercial salmon fishery in the Cook Sound Area (federal waters). 1.8. Transparent management arrangements and decision making. During the COVID pandemic (2020-2022), all federal and state agencies implicated in the management of the Sablefish fisheries in federal and state waters off Alaska were required to modify their outreach and public consultation processes in accordance with public health restrictions. They were successful in doing so and thus were able to fulfil their responsibilities in a manner that allowed stakeholders to remain engaged in the deliberations and decision-making activities. 1.9. Compliance with international conservation and management measures. The fishery does not occur in the high seas; as such this Clause is not applicable.
References:	1.Federal statutes: *Magnuson-Stevens Fishery Conservation and Management Reorganization Act, Sustainable Fisheries Act, Marine Mammal Protection Act; Federal Registry*. 2. State statutes: *Alaska Administrative Code, Alaska Statutes.* 3. Management actions 2021 (NOAA): see Section 7.2.1 4. Management actions 2021 (NPFMC): see Section 7.2.1, Table 1 5. Management actions 2021 (AKBOF): see Section 7.2.2, Table 2 6. Management Agencies: annual reports, committees meeting minutes, press releases. 7. ADFG Northern Southeast Inside Subdistrict Sablefish Plan and Stock Assessment for 2021: https://www.adfg.alaska.gov/static/regulations/regprocess/fisheriesboard/pdfs/2021-

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.**
	2022/se/rcs/rc069_ADF&G%20Northern%20Southeast%20Inside%20Subdistrict%20Sablefish%20Management%20Plan%20and%20Stock%20Assessment%20for%202021.pdf 8. ADFG Southern Southeast Inside Subdistrict Sablefish Plan for 2021: https://www.adfg.alaska.gov/FedAidPDFs/RIR.1J.2021.12.pdf 9. Site visit (virtual): June 21, 2022, with ADFG staff - F. Bowers, P. Joy, R. Ehresmann, A. Beder. 10. Site visit (virtual): June 22, 2022, with NOAA Regional Office staff - M. Furuness, A. Miller, M. Smith, M. Zaleski. 11. Site visit (virtual): June 23, 2022, with NOAA staff - D. Witherell, S. Cunningham, D. Evans, S. Cleaver, A. Henry. 12. Site visit (virtual): June 24, 2022, with IPHC staff - I. Stewart, A. Hicks, B. Hutniczak. 13. Site visit (virtual): June 30, 2022, with ABOF staff - K. Tibbles. 14. Site visit (virtual): June 30, 2022, with client representative - W. Lew. 15. Site visit (virtual): July 7, 2022, with NOAA Auke Bay Lab staff - C. Lunsford, C. Rodgveller.
Statement of consistency to the RFM Fishery Standard	The management systems of the primary federal (NOAA-OLE, NMFS, USCG), and state (ADFG) agencies are supported by effective legal, policy, and administrative processes that, collectively and separately, continued to ensure responsible utilization of the sablefish stock throughout its biological range including conservation of the marine environment within which it resides. **As such, the commercial sablefish fishery conforms to the requirements of Fundamental Clause 1 of the RFM Standard**.

7.9.1.2 Fundamental Clause 2

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.**
Summary of relevant changes:	2.1./2.2./2.3./2.4. Policy, legal and institutional frameworks adopted to achieve sustainable and integrated use of marine resources along with mechanisms to avoid conflict shall be in place. Representatives of the fisheries sector and fishing communities shall be consulted in decision making processes and information related to management measures shall be disseminated. The Covid-19 pandemic required that management organizations and their subordinate bodies carry out their activities and decision-making processes in a virtual setting as required by public health directives. The documents examined by the Audit team showed that federal and state agencies and their subordinate committees were able to successfully adapt their processes and activities to mitigate the ongoing health risks posed by the coronavirus. Users and stakeholders were equally able to participate either through written communications or via meetings of the federal and state agencies. As in 2021, the operations of the principal federal and state agencies continued to be guided by their multi-year strategic plans and/or annual operational plans that span their various programs, and by internal policies and practices that govern all aspects of their operations. There was no evidence to indicate that the decisions rendered in 2021 led to physical conflicts between users or others. All the fishery agencies have processes, committees and groups that allow coastal zone resource management issues to be brought to formal review and engagement. The NPFMC, the IPHC and the

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.**	
		ADFG meetings are fora for consulting and creating awareness of issues to do with coastal resource management and their potential impact on fish stocks and socio-economic interests. Large-scale projects in Alaska are managed by the Office of Project Management and Permitting of the Department of Natural Resource (ADNR). The Office is the lead coordinating agency for interstate agency participation in implementation of the *Alaska National Interest Lands Conservation Act* (ANILCA). ANILCA specifically directs federal agencies to consult and coordinate with the State of Alaska. There is also the Alaska Marine Ecosystem Forum (AMEF) which brings together Alaska's Federal and State agencies as well as the NPFMC to address issues of shared responsibilities related to the marine ecosystems off Alaska's coast. The AMEF's Memorandum of Understanding (MOU) promotes the collective aim of Federal and State agencies and the Council to achieve sustainable management and use of Alaska's marine ecosystems in the most effective and efficient manner, consistent with the missions of those agencies. The coastal zone is monitored as part of the coastal management process using physical, chemical, biological, economic, and social parameters. Involvement includes federal and state agencies and programs including the U.S. Fish and Wildlife Service, the NMFS Fisheries Science Centre, the NMFS' Habitat Conservation Division, and their Essential Fish Habitat monitoring and protection program, the USCG, and the ADFG. For example, in Alaska, the State has established Critical Habitat Areas (AS 16.20.500) to "protect and preserve habitat areas especially crucial to the perpetuation of fish and wildlife, and to restrict all other uses not compatible with the primary purpose." Permits are required from the Habitat Section for any habitat altering activity (AS 16.20.520-530) or any activity which disturbs fish or wildlife other than lawful hunting, trapping, and fishing. Moreover, mechanisms remained in place to allow cooperation between neighboring States to improve coastal resource management through information exchange, joint or coordinated planning and decision-making, and integrated coastal management plans. Laws, regulations, and public outreach activities were in place to settle conflicts that may arise within the fisheries sector, or between fisheries resource users and other coastal users. There was no evidence to indicate that the decisions rendered in 2021 and 2022 (partial) led to conflicts between users or others. Moreover, the management system was not subject to continual unresolved or repeated disputes or political instability. All major agencies at the federal and state levels participate in the NEPA processes that are intended to manage coastal area resources in a transparent, responsible, and sustainable manner. Section 307(c)(1) of the federal *Coastal Zone Management Act* requires federal activities that affect any land or water use or natural resource of a state's coastal zone be conducted in a manner consistent, to the maximum extent practicable, with approved state coastal management programs. The requirements for the consistency determination are set forth in NOAA regulations at 15 CFR part 930, subpart C. <u>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.</u> NOAA's Alaska Fisheries Science Centre runs the Economic and Social Sciences Research Program in Alaska. The aim of the Program is to provide economic and sociocultural information to assist NMFS in meeting its stewardship responsibilities. Regarding socio-economic data collection, the Program

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.**	
		produces an annual Economic Status Report of the Groundfish fisheries in Alaska. NOAA staff also conduct research to evaluate the benefits and costs of alternative management actions for commercial fisheries, prioritize management needs, and design policies that sustainably maximize societal benefits from ocean and coastal resources. The agency's main areas of interest include: • Cost and earning reports • Economic performance of fisheries • Regional economic impacts • Spatial choice behavior • Market dynamics and consumer preferences • Capacity and technical efficiency measurement • Allocation of resources among user groups The Research and Planning Section of Alaska's Commercial Fisheries Entry Commission produces and publicizes several fishery-related reports. Much of the data that are used in the reports are shared with the ADFG, NMFS and NPFMC through the Alaska Fisheries Information Network. Core reports include: • Economic reporting • Buyback consultation and implementing • Permit value reports • Gross earnings • Regulatory reviews and comments • Permit holder surveys • Ex-vessel price estimates • Fisheries monitoring Evidence of the process implemented and current status with regards to economic, social and cultural value of Alaska's groundfish resources is contained in the report titled: *Stock Assessment and Fishery Evaluation Report for the Groundfish Fisheries of the Gulf of Alaska and Bering Sea/Aleutian Islands Area: Economic Status of the Groundfish Fisheries off Alaska, 2020*. <u>2.6./2.7./2.8. Research and monitoring of the coastal environment, mechanisms for cooperation and coordination, appropriate technical capacities and financial resources, conflict avoidance amongst user groups.</u> Monitoring of the coastal environment in Alaska is performed by federal and state agencies. The NMFS and NPFMC as federal agencies participate in coastal area management-related institutional frameworks through federal NEPA processes. Other federal and State agencies that cooperate at the sub-regional level to improve coastal area management include: • Alaskan Department of Environmental Conservation (DEC) • Alaska Department of Fish and Game (ADFG) • Alaskan Department of Natural Resources (DNR) • DNR Office of Project Management and Permitting (OPMP) • U.S. Fish and Wildlife Service (USFWS) • Bureau of Ocean Energy Management (BOEM) The ADFG's Habitat Division conducts research on coastal and marine environments throughout Alaska to document and mitigate human-related impacts, changes in habitat and species abundance. The agency also collects physical and chemical data, including temperature, depth, salinity, and

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.**
	conductivity. Other entities involved in collaborative research in the North Pacific region include the Alaska Fisheries Science Center (AFSC), North Pacific Research Board (NPRB), NMFS Pacific Marine Environmental Lab (PMEL) and institutes of higher learning such as the University of Alaska Fairbanks' (UAF) Institute of Marine Science (IMS). The NPFMC's administrative rules provide a venue for the resolution of potential conflicts with users being afforded the opportunity to testify in person or in writing. These dispute resolution mechanisms have proven to be effective at dealing with most issues avoiding the necessity for disputes to escalate to the stage of legal action. However, in cases where processes have not resulted in the resolution of disputes, parties can and do resolve the disputes in the federal court system.
References:	1. Management organizations and committees: various technical and scientific reports, meeting minutes, formal operational policies, and practices (2021 and 2022). 2. Alaska Marine Ecosystem Forum - Memorandum of Understanding (2006): https://www.npfmc.org/wpcontent/PDFdocuments/conservation_issues/AIFEP/AMEF MOU.pdf 3. Site visit (virtual): June 21, 2022, with ADFG staff - F. Bowers, R. Ehresmann, A. Beder, P. Joy. 4. Site visit (virtual): June 22, 2022, with NOAA Regional staff - M. Furuness, A. Miller, M. Smith, M. Zaleski. 5. Site visit (virtual): June 23, 2022, with NOAA staff - D. Witherell, D. Evans, S. Cunningham, S. Cleaver, A. Henry. 6. Site visit (virtual): June 24, 2022, with IPHC staff - I. Stewart, A. Hicks, B. Hutniczak. 7. Site visit (virtual): June 30, 2022, with ABOF staff - K. Tibbles. 8. Site visit (virtual): June 30, 2022, with client representative - W. Lew. 9. Site visit (virtual): July 7, 2022, with NOAA Auke Bay Lab staff - C. Lunsford, C. Rodgveller
Statement of consistency to the RFM Fishery Standard	The principal management agencies (and their subordinate committees) at the state and federal levels remained active participants in the coastal area management program for Alaska in 2021 and 2022 (partial). Their respective decision-making processes generated numerous outcomes related to the management of the sablefish resource and its users. There was no evidence that the actions or decisions of the organizations led to conflicts within the fisheries sectors specifically and within the public generally. **The fishery conforms to the requirements of Fundamental Clause 2 of the RFM Fishery Standard.**

7.9.1.3 Fundamental Clause 3

3.	**Management objectives shall be implemented through management rules and actions formulated in a plan or other framework.**
Summary of relevant changes:	3.1. Long-term management objectives shall be translated into a plan or other management document and be subscribed to by all interested parties. The management objectives attributed to Alaska's commercial sablefish fishery remained unchanged in 2021. Formal FMPs were in place for both the Northern Southeast Inside subdistrict (NSEI) and the Southern Southeast Inside subdistrict (SSEI)(Figure 7).

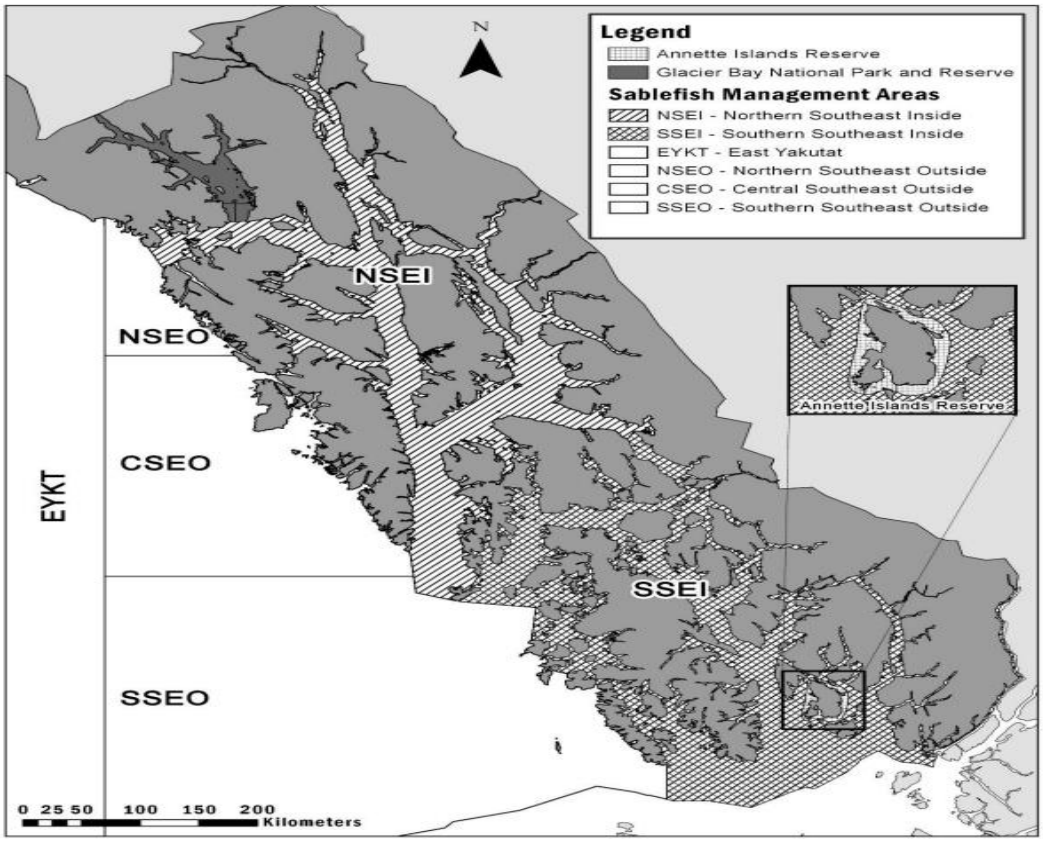

Figure 7. NSEI and SSEI Subdistricts including restricted waters of Glacier Bay National Park and Preserve and Annete Island Reserve

State Waters - Northern Southeast Inside subdistrict:

The 2021 NSEI Subdistrict commercial sablefish fishery Annual Harvest Objective (AHO) was 1,137,867 lbs. (round weight). There were 73 valid Commercial Fisheries Entry Commission (CFEC) permits, which was two fewer permits compared to 2020. The individual equal quota share (EQS) was 15,587 lbs. (round weight), a 5.5% increase from the 2020 EQS of 14,773 lbs. (round weight). The 2021 Acceptable Biological Catch (ABC) was 1,255,056 lbs. (round weight), a 3.1% increase from the 2020 ABC. The increase in the ABC is attributed to a series of relatively strong recruitment events occurring between 2013 and 2016 and a substantial increase in the longline survey catch per unit effort (CPUE).

The principal management measures in effect for the 2021 commercial sablefish fishery were similar to those for the 2020 fishery and included: (i) fisher registration and logbook requirements, (ii) sablefish possession and landing requirements, (iii) bycatch allowances for other species, (iv) specific prohibitions, (v) area and time closures, and (vi) at-sea observer coverage.

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

State Waters - Southern Southeast Inside subdistrict:

The 2021 Southern Southeast Inside (SSEI) Subdistrict sablefish commercial annual harvest objective (AHO) was 601,271 lbs. (round weight), a 5% increase from the 2020 AHO. Equal quota share (EQS) for each of the 22 permit holders was 27,330 lbs. (round weight). The number of permits for this fishery did not change for the 2021 season.

Management measures in effect for the 2021 commercial sablefish fishery were similar to those for the 2020 fishery and included: (i) legal gear specifications, (ii) registration and logbook requirements, (iii) fish ticket requirements, (iv) possession and landing requirements, (v) bycatch allowances, and (vi) specific prohibitions.

The ABOF took the following actions in 2021 and 2022 (partial) regarding the state managed commercial sablefish fishery.

Month/Year	Actions (Policy, Regulatory)
November - December 2021	(i) Approved by 6-0 vote to clarify possession and landing requirements for the **state managed sablefish fishery** in the Prince William Sound Area. (ii) Approved by 6-0 vote to include pots as lawful gear for commercial halibut fishing.
March 2022	(i) A request to align state waters **sablefish fishing season** with federal sablefish fishing season failed by a 6-0 vote. (ii) A request to extend the **sablefish fishing season** to December 15 also failed by a 6-0 vote. (iii) Approved by a 6-0 vote to allow pot gear in the Northern Southeast Inside Subdistrict **sablefish commercial fishery**. (iv) Approved by a 6-0 vote to reduce the minimum inside diameter of circular escape rings from four inches to three and three-fourths of an inch on pots used to take **sablefish**. (v) Approved by a 6-0 vote to require CFEC permit holders fishing for groundfish, or halibut using hook-and-line, pot, or jig gear in the Eastern Gulf of Alaska Area to retain and land all rockfish, including thornyhead rockfish.

Federal Groundfish FMP – Alaska EEZ

As is the past, sablefish FMPs are not stand-alone plans, rather they are a subset of annual multi-species integrated Groundfish FMPs. The status of groundfish stocks and federally managed fisheries in the GOA and BSAI areas are summarized in annual stock assessment and fishery evaluation (SAFE) reports. Both FMPs have nearly an identical overarching management policy framework and a comprehensive set of objectives (45 for the GOA and 46 for the BSAI).

The NPFMC took the following actions in 2021 and 2022 (partial) regarding the federally managed commercial sablefish fishery.

Month/Year	Actions (Policy, Regulatory)
February 2021	• Council considered several iterative actions proposed by the Community Engagement Committee that are aimed at improving Council's engagement with rural and Alaska Native communities. • Council suspended action on the IFQ Sablefish Release Allowance proposal until it could consider recommendations from the IFQ Committee concerning the relative priority of this action (possibly in April). *Motion passed with no objection.* • Council requested the Secretary promulgate emergency regulations under the authority of Section 305(c) of the *Magnuson-Stevens Act* to allow the temporary

3.	Management objectives shall be implemented through management rules and actions formulated in a plan or other framework.	
		transfer of catcher vessel sablefish IFQ for all individual quota share holders for the 2021 fishing season. *Motion passed 10-1.* • Council requested the Secretary promulgate emergency regulations under the authority of Section 305(c) of the *Magnuson-Stevens Act* to suspend the residency requirements applicable to the Adak Community Quota Entity (CQE) Program for 2021 (50 CFR 679.41(g)(6)(ii)). *Motion passed 10-1.* • For detailed record, see: https://meetings.npfmc.org/CommentReview/DownloadFile?p=bf5d4d62-f6f4-47f9-8286-a6e952fbd145.pdf&fileName=February%20Council%20Summary.pdf
	April 2021	• Council received reports reviewing the GOA's sablefish pot fishery that were compiled by the IFQ Committee, stock assessment scientists, fishery managers and from public testimony. It agreed to initiate an analysis to revise several regulatory components of the IFQ Program to increase operational efficiency, reduce administrative burden in the fishery, and clarify how harvesters can meet existing regulatory requirements. Regulatory changes passes by Council included: (i) clarify that "slinky pots" are a legal gear, (ii) allow biodegradable twine in the door latch or pot tunnel, (iii) remove buoy configuration and flagpole requirements, (iv) authorize jig gear, (v) specify pot limits per vessel, and(vi) adjust the gear retrieval requirement. • Council also agreed to remove the Adak CQE residency requirement for 5 years. *Motion passed unanimously.* • For summary record, see: https://meetings.npfmc.org/CommentReview/DownloadFile?p=6020b974-f715-40b0-bf4a-dacb36165c4e.pdf&fileName=Council%20Summary%20Final.pdf
	June 2021	• Council provided various recommendations in respect of the draft NPOP's 2022 Annual Deployment Plan for partial fisheries. *Motion passed unanimously*. • Council took no action following a review of a discussion paper that looked at possible tools and management measures to limit or prevent trawl fisheries exceeding their area- and sector-specific allocations of sablefish. However, Council indicated that it was interested in hearing from the trawl sector about plans to avoid sablefish in the future. *Motion passes unanimously.* • For detailed record, see: https://meetings.npfmc.org/CommentReview/DownloadFile?p=1cf20f75-46df-4ff4-987a-1efd306b87de.pdf&fileName=June%202021%20Council%20Summary.pdf
	October 2021	• Council reviewed an analysis on several revisions to the IFQ Program regulations. The analysis evaluated five elements relevant to pot gear used to fish IFQ, including gear specifications and configuration requirements, pot limits, and gear retrieval requirements, and one element to authorize jig gear as a legal gear type for the harvest of sablefish IFQ. Council reviewed an alternative to remove the Adak CQE residency requirement for a period of five years. It made some changes to the analysis and then approved it for final action. *Motion passed with no objection.* • Council reviewed the Draft 2022 Annual Deployment Plan (ADP) for the partial coverage category of the North Pacific Observer Program and provided recommendations to NMFS for the Final 2022 ADP. *Motion passed unanimously.* • Council adopted the proposed 2022 and 2023 GOA groundfish specifications for OFLs and ABCs as recommended by the SSC and the TACs as presented. Final specifications will be approved in December. • Council requested that NOAA continue work with the IPHC to ensure the collection and timely input of CPUE data from the sablefish logbooks, and to continue efforts to

3.	Management objectives shall be implemented through management rules and actions formulated in a plan or other framework.	
		input data from electronic monitoring logbooks, to support the sablefish stock assessment. *Motion passed unanimously.* • Council adopted the proposed 2022 and 2023 BSAI groundfish harvest specifications for OFLs and ABCs as recommended by the SSC as well as the TACs. All proposed specifications consisted of rollovers of 2022 final specifications from the 2021/2022 harvest specifications as approved in December 2020. • Council directed staff to prepare a small sablefish release Initial Review document to be scheduled for an upcoming meeting. *Vote on amended motion passed unanimously.* • For detailed record, see: https://meetings.npfmc.org/CommentReview/DownloadFile?p=1f1d38a2-0053-4431-af3b-9778a456f670.pdf&fileName=October%20Final%20Council%20Summary.pdf

	December 2021	• Concerning 2022 BSAI Groundfish specifications, Council took the following actions:
		  • Council approved the 2021 BSAI Groundfish SAFE report as well as to adopt the 2022/2023 OFLs, ABCs and TACs for groundfish in the BSAI as presented.
		  • Council also approved the PSC amounts and distributions as presented. *Motion passed with no objection.*
		• Concerning 2022 GOA Groundfish specifications, Council took the following actions:
		  • Council approved the 2021 GOA Groundfish SAFE report as well as to adopt the final 2022 and 2023 GOA groundfish specifications for OFLs and ABCs as recommended by the SSC, and the TACs for groundfish as presented.
		• For detailed record, see: https://meetings.npfmc.org/CommentReview/DownloadFile?p=b9593023-3fd6-4fa3-a91b-4044c25cf3bc.pdf&fileName=December%20Final%20Council%20Summary%20.pdf

	February 2022	• The meeting agenda identified various issues regarding the current Groundfish Management Policy[1]. Council was to (i) review the policy, (ii) review its actions relative to the policy, (iii) consider whether modifications to the Management Objectives are called for (noting that any change requires and FMP amendment), and (iv) consider whether additional Council actions to better fulfill the Management Policy are required. *No action was taken.* • On another issue, Council requested that the Secretary promulgate emergency regulations under the authority of Section 305(c) of the *Magnuson-Stevens Act* to allow the temporary transfer of catcher vessel sablefish IFQ for all individual quota share holders for the 2022 fishing season. *Motion was passed 10-1.* • For detailed record, see: https://meetings.npfmc.org/CommentReview/DownloadFile?p=fce7a315-a804-4398-984d-9e1f24ee9823.pdf&fileName=February%20Council%20Summary.pdf

	April 2022	• Council proposed revisions to parts of the IFQ/CDQ Programs. The preferred option included:
		  (vii) A change to biodegradable panel requirements to provide increased flexibility for innovation in gear designs for vessels fishing IFQ across the GOA and BSAI.
		  (viii) Removal of flagpole, radar reflector, and buoy requirements for GOA sablefish longline pot gear.
		  (ix) An element which would allow vessels targeting halibut IFQ in pot gear in the GOA to use a tunnel opening larger than 9 inches if they also have sablefish

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

IFQ on board. This element would allow vessels with both sablefish and halibut IFQ to target halibut and larger sablefish more efficiently in longline pot gear.

(x) A change to pot limits in Western Yakutat which would allow vessels fishing IFQ to use 200 pots per vessel, and modifications to gear retrieval requirements in the Central GOA and Southeast Outside Area.

(xi) An element which would authorize jig gear as a legal gear type to harvest sablefish IFQ/CDQ in the BSAI and GOA.

(xii) A five-year exemption to Adak CQE residency requirements.

- Council authorized the Executive Director and the Chairman to review the draft proposed regulations when provided by NMFS to ensure that the proposed regulations to be submitted to the Secretary under section 303(c) are consistent with the proposed regulatory changes.
  Amendment passed with no objection.
  Amended main motion passed 11-0.
- For detailed record, see:
  https://meetings.npfmc.org/CommentReview/DownloadFile?p=27dcf94c-d0a6-469d-b8c3-c3b4fcef1fd0.pdf&fileName=April%20Council%20Summary.pdf

3.2. Management measures should limit excess fishing capacity, promote responsible fisheries, take into account artisanal fisheries, protect biodiversity and allow depleted stocks to recover.

The federal IFQ sablefish fisheries are all closed access fisheries. All but the small Cook Inlet state fishery are also closed access fisheries. The Cook Inlet fishery is managed using Guideline Harvest Levels (GHLs) and other management measures to ensure the harvest remains within set limits. The fishery's Individual Fishing Quotas (IFQs) program is explicitly intended to alleviate excess fishing capacity and improve the economic viability of the industry. The quota share system has resulted in the removal of excess fishing capacity, fewer active vessels deploying less gear, greatly extended fishing seasons and increased economic viability within the fishing industry.

The Western Alaska Community Development Quota (CDQ) program has helped to develop commercial fisheries in communities of the BSAI coast, by allowing them exclusive access to specified amounts of sablefish (and halibut) in the BSAI management area. All state and federal managed fisheries are well within target reference point and are not depleted.

References:

1. Ehresmann, R., and A. Olson. 2021. Northern Southeast Inside Subdistrict sablefish management plan and stock assessment for 2021. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report 1J21-13, Douglas: https://www.adfg.alaska.gov/FedAidPDFs/RIR.1J.2021.13.pdf
2. ADFG News Release: 2021 Northern Southeast Inside (NSEI) Subdistrict Sablefish Fishery Annual Harvest Objective Correction: https://www.adfg.alaska.gov/static/applications/dcfnewsrelease/1297213194.pdf
3. ADFG News Release: 2021 Southern Southeast Inside Subdistrict Sablefish Fishery: https://www.adfg.alaska.gov/static/applications/dcfnewsrelease/1261281340.pdf
4. NPFMC Meeting Minutes 2021 and 2022.
5. ABOF Meeting Minutes 2021 and 2022.
6. Site visit (virtual): June 21, 2022, with AFDFG staff - F. Bowers, R. Ehresmann, A. Beder, P. Joy.
7. Site visit (virtual): June 22, 2022, with NOAA Regional staff - M. Furuness, A. Miller, M. Smith, M. Zaleski.
8. Site visit (virtual): June 23, 2022, with NOAA staff - D. Witherell, S. Cunningham, D. Evans, S. Cleaver, A. Henry.
9. Site visit (virtual): June 24, 2022, with IPHC staff - I. Stewart, A. Hicks, B. Hutniczak.

3.	Management objectives shall be implemented through management rules and actions formulated in a plan or other framework.
	10. Site visit (virtual): June 30, 2022, with ABOF staff - K. Tibbles. 11. Site visit (virtual): June 30, 2022, with client representative - W. Lew. 12. Site visit (virtual): July 7, 2022, with NOAA Auke Bay Lab staff - C. Lunsford, C. Rodgveller.
Statement of consistency to the RFM Fishery Standard	The actions and decisions of the main federal and state management agencies and their subordinate committees in 2021 and 2022 (partial) were consistent with the management objectives for the fishery. **As such, the fishery conforms to the requirements of Fundamental Clause 3 of the RFM Standard.**

7.9.2 Section B. Science and Stock Assessment Activities

7.9.2.1 Fundamental Clause 4

4.	There shall be effective fishery data (dependent and independent) collection and analysis systems for stock management purposes.
Summary of relevant changes:	4.1. All fishery removals and mortality of the target stock(s) shall be considered by management. All fishery removals and mortality of the target stocks is considered by management. There is an effective and comprehensive monitoring system to collect fishery removals and mortality of the target stock. These data are considered by management in the quantitative statistical peer reviewed stock assessment. The most recent (terminal year 2021, https://www.fisheries.noaa.gov/resource/data/2021-assessment-sablefish-stock-alaska) stock assessment documents all fishery-independent and fishery-dependent data collection activity. No significant changes have occurred in the procedures or methods to determine fishery removal and mortality of the target stock. Commercial sector catch data are collected from fixed gear vessels that deploy longline, pot, and collapsible 'slinky pot' designs. The catches used in the 2021 assessment represent total catch (landings plus bycatch or discards assuming 100% mortality) and include catches from minor State-managed fisheries in the northern GOA and in the AI region (1960 to 2021). Fish caught in State waters are reported using the area code of the adjacent Federal waters in the Alaska Regional Office catch reporting system (https://www.fisheries.noaa.gov/alaska/sustainable-fisheries/alaska-catch-accounting-system), the source of the catch data used in the assessment. Minor State fisheries catches averaged 180 t from 1995 to 1998, about 1% of the average total catch. Most of the Minor State fisheries catch (80%) is from the AI region. In response to Annual Catch Limit (ACL) requirements, the assessment documents all removals including catch that are not associated with a directed fishery. Research catches of sablefish have been reported in stock assessments since 2009. The sablefish research removals are small relative to the fishery catch, but substantial compared to the research removals for many other species. These research removals are high because of the annual AFSC longline survey, which is possible to conduct annually because of its cost-recovery design where catch is sold to offset survey costs. Additional sources of significant removals are bottom trawl surveys and the International Pacific Halibut Commission's longline survey. Sources of catch not included in the assessment model but known to the assessment team are 1.) catches from state areas that conduct their own assessments and set Guideline Harvest levels (e.g., Prince William Sound, Chatham Strait, and Clarence Strait), and 2.) the sport fishery catch. The sport fishery catch has been increasing in recent years, which occurs primarily in State waters. Total removals from activities other than the directed fishery have been between 239 to 359 t

4.	There shall be effective fishery data (dependent and independent) collection and analysis systems for stock management purposes.
	since 2006. These removal estimates equate to less than 1% of the recommended ABC and the assessment team concludes that this is a relatively low risk to the sablefish stock. Commercial fishery landings are reported through two different data collection portals. The first is the "eLandings" system, an electronic fish ticket system. All catch data are required to be reported, including IFQ/CDQ sablefish and halibut. Each industry report submitted via eLandings is evaluated (quality control and quality assurance are performed) and entered along with observer data into the catch accounting system (CAS) maintained by NMFS. The CAS integrates observer and industry information to determine estimates of total catch. The CAS procedures complement the sampling procedures established under the observer program. Cahalan *et al.* (2014), Hanselman *et al.* (2018), and Goethel *et al.* (2020) provide details on the catch reporting and estimation processes of commercial sablefish catches. The second data collection mechanism in the commercial fishery is the Alaska Fisheries Information Network (AKFIN, https://akfin.psmfc.org/). This was established in 1997 in response to an increased need for detailed, organized fishery information to aid decision-making by managers with the aims of consolidating, managing and dispensing information related to commercial fishing in Alaska. The AFKIN maintains a searchable database of both state and federal commercial landings data for which is Alaska relevant to the needs of scientists and other users. Upon request, AKFIN provides that data in usable formats. AKFIN does not collect data but maintains this library comprised of data from agency sources that includes NMFS Alaska Region, NMFS Alaska Fisheries Science Center, and the Alaska Department of Fish and Game. By-catch in the directed sablefish fishery are recorded by observers, reported through the CAS, and presented in the annual stock assessments. Sablefish discards in groundfish target fisheries are greatest in the hook and line along with trawl gear types, but the predominant source varies over times and across regions. In both the BSAI and GOA in recent years, trawl gears have constituted the primary source of discards. Generally, discards of sablefish in pot gear in non-sablefish fisheries has been low (pot includes halibut and Pacific cod targeting. In 2020, sablefish removals in the midwater trawl walleye pollock fishery were at a high of 2,867 t and in 2021 it decreased to 956 t (as of October 2021); a moderate portion of the catch is discarded. Catch was also substantial in the Arrowtooth flounder fishery from 2020 to 2021 and the Kamchatka founder fishery from 2019 to 2021. Killer whale depredation has been recorded by observers since 1995. Killer whales typically depredate on longline gear in the BS, AI, and WG areas and at low levels in the CG. These sets are excluded from catch rate analyses in the observer data set. The percent of sablefish directed sets that are depredated by killer whales is on average 13% in the BS, 1% in the AI, 3% in the WG, and 1% in the CG. Likely, because of small sample sizes, the annual range in the rate of depredation is 3 to 26% in the BS. Observers also record sperm whale depredation; however, determining if sperm whales are depredating can be subjective, because they do not take a large majority of the catch like killer whales do. In the observer data, sperm whale depredation occurs in the GOA and less so in the AI. Depredation in the CG was highest in 2020, at 6%. In the WY and EY/SE areas peaks were around 17% and 18%, respectively, which were the highest rates in the GOA.

Figure 8. Percent of human observed sablefish targeted logline sets with whale depredation by FMP subarea. Years with fewer than three vessels were not included due to confidentiality. Note that the x- and y- axes vary with panel.

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

An extensive industry-funded cooperative on-board observer program exists in Alaskan waters to cover various fisheries, including sablefish, and provide fishery catch, length- and age-composition(https://www.fisheries.noaa.gov/alaska/fisheries-observers/north-pacific-observer-program). Beginning January 1, 2013, amendment 86 (BSAI) and amendment 76 (GOA) were added to the Federal Fisheries Regulations 50 CFR Part 679: Fisheries of the Exclusive Economic Zone Off Alaska. In compliance with the MSA, these amendments restructured the funding and deployment system for observers in the North Pacific groundfish and halibut fisheries and include some vessels less than 60 ft. in length, as well as halibut vessels in the North Pacific Groundfish Observer Program.

The 2021 Annual Deployment Plan (ADP) documents how the National Marine Fisheries Service (NMFS) assigns fishery observers and electronic monitoring (EM, https://www.npfmc.org/electronic-monitoring-3/) to vessels and processing plants engaged in

4.	**There shall be effective fishery data (dependent and independent) collection and analysis systems for stock management purposes.**	
		halibut and groundfish fisheries in the North Pacific. Observer coverage and EM deployment in the partial coverage category is funded through a system of fees based on the ex-vessel value of groundfish and halibut landed by vessels in the partial coverage category. The sampling design for at-sea deployment of observers and EM in the partial coverage category involves three elements: 1) the selection method to accomplish random sampling; 2) division of the population of partial coverage trips into selection pools or strata; and 3) the allocation of deployment trips among strata. NMFS recognizes the challenging logistics of putting observerson small vessels and recommended that vessels less than 40' LOA be in the no selection pool for observer coverage. Fishery information is available from longline sets that target sablefish in the IFQ fishery. Records of catch and effort for these vessels are collected by observers and by vessel captains in voluntary and required logbooks. Fishery data from the Observer Program is available since 1990. Logbooks are required for vessels over 60 feet beginning in 1999. Since 2000, a longline fishery catch rate index has been derived from observed sets and logbook data for use in the model and in apportionment calculations. Based on data from NMFS/AFSC/NPFMC, less than 2.5% of the sablefish catch since 2014 was taken by vessels < 40' LOA. The lack of observer coverage in this fishery sector is not considered a major data gap and does not pose a large risk. 4.3 Management entities shall make data available in a timely manner and in an agreed format in accordance withagreed procedures. The NPFMC has substantial information on management of sablefish in Alaskan waters. These data, summarized in reports and executive summaries, are made widely available throughout to allowfor timely resource management, such as quota setting; through the agency websites, publications, and at various public meetings. Data on certain aspects of commercial fishing are confidential, such as individuals or individual vessels in the analysis of fishery CPUE data, depending on the number of individuals or entities involved[20], consistent with the information confidentiality policies of NMFS. The Commercial Fisheries Entry Commission[21] is the designated records manager for ADFG fish ticket records. Fish ticket records are retained by the Commission for 45 years and are confidential as defined by AS 16.05.815 and 16.40.155. 4.4/4.5. States shall stimulate the research required to support national policies related to fish as food and collect sufficient knowledge of social, economic, and institutional factors relevant to the fishery in question to support policy formulation. State and national policies regarding seafood are guided by the Alaska Seafood Marketing Institute (ASMI), U.S. Food and Drug Administration (FDA), U.S. Department of Agriculture (USDA), and the U.S. National Institute of Health (NIH). ASMI is the state agency primarily responsible for increasing the economic value of Alaskan seafoodthrough marketing programs, quality assurance, industry training and sustainability certification. ASMI's role includes conducting or contracting for scientific research to develop and discover health, dietetic, or other uses of seafood harvested and processed in the state[22]. Through the University of Alaska Fairbanks, the state of Alaskaalso operates the Kodiak Seafood and Marine Science Center[23], which directs research efforts in several fields, including seafood processing technology, and seafood quality and safety.

[20] https://www.afsc.noaa.gov/REFM/Docs/2018/BSAI/BSAIsablefish.pdf
[21] https://www.cfec.state.ak.us/
[22] http://www.alaskaseafood.org/quality/
[23] https://www.uaf.edu/sfos/about-us/locations/kodiak/about-ksmsc/

4.	**There shall be effective fishery data (dependent and independent) collection and analysis systems for stock management purposes.**	
		Socio-economic data collection and 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 produces an annual Economic Status Report of the Groundfish fisheries in Alaska (Fissel *et al.* 2018)[24]. 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 sablefish, and relates changes in value, price, and quantity, across species, product, and gear types, to changes in the market. A variety of academic evaluations on impacts of policy making on the social, economic, and institutional factors to support policy. Some examples of this are investiagation on ecosystem impacts of alternative management policies (Kroetz *et al.* 2019), examination of long-term dynamics of sablefish (Zolotov 2021), and examination of the IFQ policy (Matulich and Clark, 2003). 4.6 States shall investigate and document traditional fisheries knowledge and technologies, those applied to small scale fisheries, in order to assess their application to sustainable fisheries conservation, management and development. The sablefish fisheries in Alaska are well established and any original knowledge and technologies have been part of the evolution of the mature fisheries. Virtually all data from the state and federally managed sablefish fisheries are included in the stock assessments (NOAA Species Directory, https://www.fisheries.noaa.gov/species/sablefish). There is minimal recreational, personal use, or subsistence fishing for sablefish in Alaskan waters, and all estimates are included in the catch data. At the 2012 Alaska BOF meeting, a regulation was passed to require personal use and subsistence use sablefish permits, and at the 2015 BOF meeting, limits were defined for personal use sablefish fisheries for the number of fish, number of permits per vessel, and number of hooks. No changes were made to sablefish subsistence fisheries in 2015[25]. Southeast sablefish subsistence and personal use fishing permits for 2017 were available from May 2017[26]. 4.7 States conducting scientific research activities in waters under the jurisdiction of another State shall ensure that their vessels comply with the laws and regulations of that State and international law. Data from the annual setline survey conducted by IPHC, using commercial vessels from USA and Canada, are considered in the annual sablefish assessments. In 2018 the survey encompassed both nearshore and offshore waters of southern Oregon, Washington, British Columbia, southeast Alaska, the central and western Gulf of Alaska, Aleutian Islands, and the Bering Sea continental shelf[27]. Thus, only the waters under jurisdiction of USA and Canada were surveyed. Survey activities were compliant with all laws and regulations of those countries, registered commercial halibut vessels were chartered, and all catches in the survey were recorded and

[24] https://www.afsc.noaa.gov/refm/stocks/plan_team/2018/economic.pdf
[25] http://www.psmfc.org/tsc-drafts/2017/ADFG_2017_AK_TSC_Alaska_FINAL.pdf
[26] http://www.adfg.alaska.gov/static-f/applications/dcfnewsrelease/781728075.pdf
[27] https://iphc.int/uploads/pdf/im/2018im/iphc-2018-im094-07.pdf

4.	There shall be effective fishery data (dependent and independent) collection and analysis systems for stock management purposes.
	reported. Other scientific surveys used directly, or considered, in the sablefish stock assessments include NMFS annual setline and trawl surveys in GOA and BSAI, surveys by ADF&G in state waters, and a trap survey by DFO (Canada)in British Columbia. 4.8 States shall promote the adoption of uniform guidelines governing fisheries research conducted on the high seas. As this stock of sablefish is not distributed in high seas areas, there is no research conducted in those waters. Sharing of sablefish information between Canada and USA, for research carried out in their EEZs, is accomplishedthrough the stock assessment process, e.g., results from the stratified random trap surveys conducted in Canadianwaters by DFO are available to NMFS scientists and included in the annual SAFE stock assessment reports.
References:	2021 Assessment Of The Sablefish Stock In Alaska. 2022. https://www.fisheries.noaa.gov/resource/data/2021-assessment-sablefish-stock-alaska Alaska Regional Office catch reporting system (https://www.fisheries.noaa.gov/alaska/sustainable-fisheries/alaska-catch-accounting-system) Alaska Fisheries Information Network (AKFIN, https://akfin.psmfc.org/) e-Landings, https://elandings.alaska.gov/elandings/Login North Pacific Observer Program, https://www.fisheries.noaa.gov/alaska/fisheries-observers/north-pacific-observer-program electronic monitoring (EM), https://www.npfmc.org/electronic-monitoring-3/ North Pacific Fishery Management Council (https://www.npfmc.org/) NOAA Species Directory, https://www.fisheries.noaa.gov/species/sablefish Fissel, B., M. Dalton, B. Garber-Yonts, A. Haynie, S. Kasperski, J. Lee, D. Lew, A. Lavoie, C. Seung, K. Sparks, M. Szymkowiak, and S. Wise. “Stock Assessment and Fishery Evaluation Report for the Groundfish Fisheries of the Gulf of Alaska and Bering Sea/Aleutian Island Area: Economic Status of the Groundfish Fisheries off Alaska, 2017”, NPFMC, November, 2018 Kroetz, K., Reimer, M. N., Sanchirico, J. N., Lew, D. K., & Huetteman, J. 2019. Defining the economic scope for ecosystem-based fishery management. *Proceedings of the National Academy of Sciences of the United States of America*, *116*(10), 4188–4193. Matulich, S. C., & Clark, M. L. 2003. *North Pacific Halibut and Sablefish IFQ Policy Design: Quantifying the Impacts on Processors*. Marine Resources Economics. Zolotov, A. O. 2022. The Long-Term Dynamics of Sablefish (Anoplopoma fimbria) Stocks in the Western Bering Sea and Prospects for their Commercial Exploitation. *Russian Journal of Marine Biology 2021 47:7*, *47*(7), 563–582.
Statement of consistency to the RFM Fishery Standard	**The fishery conforms to the requirements of Fundamental Clause 4 of the RFM Fishery Standard**

7.9.2.2 Fundamental Clause 5

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.**
Summary of relevant changes:	5.1 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. The mission of the NOAA Fisheries is to conduct scientific research to generate data and analysis for understanding, managing, and sustaining living marine resources. Appropriate, adequate, and directed research is conducted for the management of sablefish in Alaska waters. NMFS and ADFG conduct surveys on sablefish in Alaskan waters. The NOAA Fisheries conducts an annual longline survey and a biennial trawlsurvey in the GOA and the Aleutian Islands (alternating years between the two regions), and an annual trawl survey in the Eastern Bering Sea and ADFG performs annual longline surveys in Chatham and Clarence Strait. These surveys provide estimates of CPUE, relative abundance, and biological data. In addition, tagging studies exist to study sablefish movement for federal, state, and Canadian waters. The ADFG conducts an annual tagging survey in Chatham Strait as part of a mark-recapture study to estimate population abundance. The mark-recapture data is used to determine an annual relative abundance index and to understand movement dynamics (Heifetz and Maloney, 2001). The Auke Bay Laboratory continued the 40+ year time series of sablefish tagging in 2021. Approximately 6,155 sablefish were tagged on the annual NMFS longline survey. Approximately 270 sablefish tags have been recovered in 2021 to date. Of those recovered tags, the longest time at liberty was a little over 41 years (15,110 days), the shortest recovered tag at liberty was for 35 days, and the greatest distance traveled was 2,357 nautical miles from a fish tagged in the Northwest Aleutian Islands on 5/25/1982 and recovered off the Oregon coast on 4/19/2021. In the 2021 sablefish stock assessment moderate changes to the assessment methodology were implemented. The increasing retrospective patterns in recent recruitment estimates were persistent as new data were added to the model. Since 2017, maximum Acceptable Biological Catch (ABC) projections based on model “16.5_Cont” using the North Pacific Fishery Management Council’s (NPFMC) tier 3 FMP B40% harvest control rule (HCR) had been deemed unreliable for sablefish due to overly optimistic population growth forecasts. For the 2021 SAFE, multiple model updates are being proposed, including refinements to the biological inputs, new selectivity and catchability parametrizations, and improved data reweighting approaches, all of which have helped to address retrospective patterns. The sablefish assessment authors explored a number of alternative models using a thorough model development exercise and a new model configuration was developed. The final proposed model for the 2021 SAFE, “21.12_Proposed_No_Skip_Spawn” resolves the recruitment estimation issues associated with model “16.5_Cont” and ABC projections are once again deemed adequate for the basis of management advice. The assessment document includes extensive treatment of Ecosystem and Socioeconomic Profile and the evaluation of trawl removals of small sablefish in the Bering Sea have both been updated with new data for 2021. Biological characteristics describing updates to weight and growth, maturity, model updates and new parametrizations, and a description of the final proposed model updates and the full factorial model building exercise are included.

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.**	
		In addition to the annual stock assessment and its related/supporting work, extensive research is ongoingin Alaskan waters which have relevance for the sablefish stock and Alaskan ecosystems. This work includes: **North Pacific Research Board (NPRB)** [28] The NPFB conducts research activities on or relating to the fisheries or marine ecosystems in the North Pacific Ocean, Bering Sea, and Arctic Ocean prioritizing on research efforts designed to address pressing fishery management or marine ecosystem information needs. **Bering Sea Integrated Ecosystem Research Program**[29] is a $52 million partnership between the NPRB and the National Science Foundation (NSF) that seeks to understand the impacts of climate change and dynamic sea ice cover on the eastern Bering Sea ecosystem. More than one hundred scientists are engaged in field research and ecosystem modeling to link climate, physical oceanography, plankton, fishes, seabirds, marine mammals, humans,traditional knowledge and economic outcomes to better understand the mechanisms that sustain this highly productive region. **The Gulf of Alaska Integrated Ecosystem Research Project (IERP)**[30] is a program of the NPRB that seeks to understand how environmental and anthropogenic processes, including climate change, affect trophic levels and dynamic linkages among trophic levels, with emphasis on fish and fisheries, marine mammals, and seabirds withinthe GOA. Implementation of the GOA IERP is structured around four separately completed components which willlink together to form a fully integrated ecosystem study in the Gulf of Alaska. The four components of this programare Upper Trophic Level, Forage Base, Lower Trophic Level and Physical Oceanography, and Ecosystem Modelling. **The Alaska Climate Integrated Modelling (ACLIM) project**[31] is a collaboration of diverse researchers aimed at giving decision makers critical information regarding the far-reaching impacts of environmental changes in the Bering Sea. To better predict and respond to future changes, the ACLIM project will develop cutting-edge and multi-disciplinary models. The models will consist of alternative climate scenarios and the associated estimates ofpotential impacts or benefits to people, industry and the Bering Sea ecosystem. The ACLIM team has 19 membersand includes oceanographers, ecosystem modelers, socioeconomic researchers and fishery management experts from NOAA Alaska Fisheries Science Center, NOAA Pacific Marine Environmental Laboratory, the University of Washington Joint Institute for the Study of Atmosphere and Ocean (JISAO) and School of Aquatic and Fishery Sciences (SAFS) and the Norwegian Institute for Water Research (NIVA). **The North Pacific Marine Science Organization (PISCES)**[32] is an intergovernmental scientific organization, established in 1992 to promote and coordinate marine research in the northern North Pacific and adjacent seas. Its present members are Canada, Japan, People's Republic of China, Republic of Korea, the Russian Federation, and the United States of America. Its scientific program named FUTURE[33] (Forecasting and Understanding Trends,Uncertainty and Responses of

[28] https://www.nprb.org/
[29] https://www.nprb.org/nprb/integrated-ecosystem-research-program
[30] https://www.nprb.org/gulf-of-alaska-project/about-the-project/
[31] https://www.fisheries.noaa.gov/alaska/ecosystems/alaska-climate-integrated-modeling-project
[32] https://meetings.pices.int/
[33] https://meetings.pices.int/members/scientific-programs/FUTURE

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.**	
		North Pacific Marine Ecosystems) is an integrative program undertaken by the member nations and affiliates of PICES to understand how marine ecosystems in the North Pacific respond to climate change and human activities. As part of IPHC's annual setline survey, which provides data for the sablefish assessment, IPHC conducts an extensive oceanographic monitoring program which includes waters off British Columbia, and into the Gulf of Alaska, Bering Sea, and Aleutian Islands (Sadorus and Walker, 2017). The IPHC is collaborating with the Joint Institute for the Study of the Atmosphere and Ocean (JISAO) at the University of Washington and NOAA's Pacific Marine Environmental Laboratory to process the oceanographic data and make them publicly accessible, and a number of years of data up to 2014 are currently available[34]. Also, the Pacific States Marine Fisheries Commission[35] coordinates research activities, monitors fishing activities,collects and maintains databases on marine fish occurring off the California, Oregon, Washington, and Alaska coasts. Another major ecosystem research report is the AFSC Ecosystem Consideration Report series[36]. The Ecosystem Considerations reports are produced annually to compile and summarize information about the status of the Alaska marine ecosystems for the North Pacific Fishery Management Council, the scientific community and the public. As of 2018, there are separate reports for the Eastern Bering Sea (EBS), Aleutian Islands (AI), the Gulf of Alaska (GOA), and Arctic (forthcoming) ecosystems. These reports include ecosystem assessments, and ecosystem-based management indicators that together provide context for ecosystem-based fisheries management in Alaska. In an ecosystem context, NOAA's Alaska Fisheries Science Center produces annual "Alaska Marine Ecosystem Status Reports" which describe oceanographic and productivity characteristics of the Eastern Bearing Sea, Aleutian Islands, and Gulf of Alaska. For the Eastern Bering Sea they report that along with much of the North Pacific, the eastern Bering Sea has remained in an extended warm phase since approximately 2014. Satellite observations of sea surface temperatures (SSTs) in both the northern and southern Bering Sea have remained higher than the average from 1985-2014. However, after the extremely warm years of 2018 and 2019, conditions in 2020 and 2021 subsided to 1°C above average. The extended warm phase also impacts sea ice formation and extent. Water temperature and winds play key roles in the annual development and retreat of sea ice. For the Aleutian Islands they report that sea surface temperatures during August and September 2021 in the western and central Aleutians were the highest since the satellite record began in 2003. In the eastern Aleutians, temperatures were mostly cooler relative to last year and closer to the long-term average. Low sea level pressure caused a stormier winter than usual. This was followed by westerly winds in spring, which suppressed transport through eastern passes. Slightly stormier conditions returned in summer in the western and central Aleutians. In general, environmental conditions were near average over much of the year, continuing the largely more favourable conditions for the biota in 2020 relative to recent years. Overall, sea surface temperatures are expected to decrease to average levels through winter 2021 and early spring 2022. Both planktivorous and piscivorous seabirds had reproductive success above the long-term average, suggesting wide availability of prey. The abundance of Eastern Kamchatka pink salmon was the

[34] https://www.pmel.noaa.gov/
[35] https://www.psmfc.org/
[36] https://www.fisheries.noaa.gov/alaska/ecosystems/ecosystem-status-reports-gulf-alaska-bering-sea-and-aleutian-islands

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.**
	second highest on record. This may be expected to have ecosystem impacts, as increased competition for prey and trophic cascades have been shown in years of high abundance of pink salmon. Lastly, paralytic shellfish toxins were reported to be 75x above the regulatory limit in Unalaska. This continues to pose a risk to human health and food webs in the region. And for the Gulf of Alaska, they report that the area is in its second consecutive non-marine heatwave year, with average ocean temperatures at surface and depth. There are mixed trends in prey abundance and reduced abundance of groundfish apex predators (Pacific cod, arrowtooth flounder, Pacific halibut). They speculate that the biological community experiencing continued impacts from the 2014-2016 and 2019 marine heatwave periods In 2016, NPFMC appointed 12 people to a Plan Team to begin developing the Council's Bering Sea Fishery Ecosystem Plan (FEP). The Team's primary responsibilities were to develop the core FEP document, to discuss potential and ongoing FEP action modules, make recommendations to the Ecosystem Committee and the Councilabout future steps, and to help communicate results to the Council. While the team is a scientific and technical team, the focus is also to ensure that FEP action modules interface with the Council's management needs, and can be integrated into the Council's decision making and management process. In December 2018 NPFMC adopted the Bering Sea Fishery Ecosystem Plan (FEP)[37]. The Bering Sea FEP establishes a framework for the Council's continued progress towards ecosystem-based fishery management (EBFM) of the Bering Sea fisheries, and relies and builds on the Council's existing processes, advisory groups, and management practice. The Council noted that adoption of the FEP represents a major milestone in what has been a multi-yearprocess to develop this FEP. The FEP builds from the Council's Ecosystem Vision Statement, adopted in 2014, and is a continued commitment by this Council to use the best science to sustainably manage fisheries using a precautionary, transparent and inclusive process. The BSFEP document identifies management goals and objectives for the FEP and for monitoring of the Bering Sea ecosystem and describes how the FEP framework will support research projects (Action Modules) to address Council priorities. The Council also adopted the five action modules included in the draft, and initiated action ontwo of them. For year 2019, NPFMC staff will work with the BS FEP Team to bring back workplans for how to manage the workload associated with the initiated modules. The two action modules for the Council to work on are: • Develop protocols for using Local Knowledge and Traditional Knowledge in management and understandingimpacts of Council decisions on subsistence use. • Evaluate the short- and long-term effects of climate change on fish and fisheries. Regarding socio-economic data collection, AFSC's Economic and Social Sciences Research Program produces an annual Economic Status Report of the Groundfish fisheries in Alaska. This comprehensive report (Fissel, *et al.*, 2018) provides estimates of total groundfish catch, groundfish discards and discard rates, prohibited species catch (PSC) and PSC discards 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

[37] https://www.npfmc.org/bering-sea-fishery-ecosystem-plan/

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.
	range of indices for different sectors of the NorthPacific fisheries, and relates changes in value, price, and quantity, across species, product, and gear types, to changes in the market. This report includes extensive economic data for the commercial sablefish fishery. Various studies have been conducted on the economic value of sportfishing in Alaska (e.g. Lew *et al.* 2015), whichinclude sablefish, although sablefish is not a major target species for sport fishing. The Alaska Seafood MarketingInstitute has contracted studies to determine the value of Alaska's seafood industry, and the University of Alaska,Institute of Social and Economic Research conducts research on the economics of various Alaskan fisheries. Since 2002 IPHC has been working cooperatively with the Alaska Department of Environmental Conservation (ADEC) in a project monitoring environmental contaminants in Alaskan fish. The fish being studied include sablefish, and these are analyzed for organochlorine pesticides, dioxins, furans, polybrominated diphenyl ethers, PCB congeners, methyl mercury and heavy metals (arsenic, selenium, lead, cadmium, nickel, and chromium). The Oil Spill Recovery Institute (OSRI) was established by US Congress in response to the 1989 Exxon Valdez oil spill. OSRI is administered through and housed at the Prince William Sound Science Center, a non-profit researchand education organization located in Cordova, AK. The PWS Science Center facilitates and encourages ecosystemstudies in the Greater Prince William Sound region. OSRI produces an annual report[38], among other publications.The 2017 report contains details on their activities, including ongoing research projects, an update of field guide for oil spill response in arctic waters, and shore-zone mapping of the eastern Aleutian Islands. <u>5.2 The state of the stocks under management jurisdiction, including the impacts of ecosystem changes resultingfrom fishing pressure, pollution or habitat alteration shall be monitored.</u> The NMFS, ADFG, and University of Alaska maintain established and funded research programs to monitor the state of the sablefish stocks and effects of fishing, pollution, habitat alteration and climate change. These programs are described in Clause 5.1 above. Alaska's sablefish stock assessment programs (NMFS, ADF&G) are robust, extensive, and comprehensive. The process to determine the stock removals used in the assessment and management considerations is explained in Clause 4.1.Research capacity in environmental science is also discussed in Clause 5.1. The program to determine reference points and evaluate the stock against these in a precautionary approach is described in Clauses 6.1, 6.2 and 6.3. Additional information on ecosystem aspects of the stock and fishery is contained in Clause 12. The state of the sablefish stock is monitored mainly through survey and the resulting patterns are evaluated in the context of peer-reviewed stock assessment which is comprised primarily of an age-structured statistical model. The 2021 stock assessment (Goethel *et al.* 2021) reported that the longline survey abundance index (relative population numbers, RPNs) increased by 9% in 2021 following a 32% increase in 2020. The trawl survey biomass index has increased nearly five-fold since 2013, with a 40% increase from 2019 to 2021 (Figure 3.10c). The age and length composition data from the various fishery (i.e., fixed gear and trawl) and surveys (i.e., longline and trawl) continue to indicate strong year classes in 2014, 2016, 2017, and 2018.

[38] https://osri.us/projects/featured/entry/263/

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.**	
		NOAA identifies habitats essential for managed species and conserves habitats from adverse effects on those habitats[39]. These habitats are termed "Essential Fish Habitat" or EFH, and are defined as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity". NMFS and NPFMC must describe and identify EFH in fishery management plans (FMPs), minimize to the extent practicable the adverse effects of fishing on EFH, and identify other actions to encourage the conservation and enhancement of EFH. Federal agencies that authorize, fund, or undertake actions that may adversely affect EFH must consult with NMFS, and NMFS must provide conservation recommendations to federal and state agencies regarding actions that would adversely affect EFH. More specific information on EFH and recent activities pertaining to this are described in Clause 12 below. Ecosystem considerations for Alaska sablefish are available from the yearly SAFE and addressed in Clause 12.1. The Alaska Department of Fish and Game (ADF&G) evaluates stock status and establishes the SSEI AHO using commercial fishery and survey catch per unit effort (CPUE) data, fishery and survey biological data (age, weight, length, and maturity), and stock status trends of sablefish populations in surrounding geographic areas. For state-managed fisheries, ADF&G has a well-developed research capacity[40] and conducts stock assessments inState waters to determine safe harvest levels. In 1988, the department began annual longline research surveys inboth Southeast inside sub-districts where the majority of state fleet fishing effort is focused, in order to assess the relative abundance of sablefish over time and differing environmental conditions. Biological data is also collectedduring the surveys and ADF&G has standardized its survey methods with the NMFS longline survey. These data are presented and reviewed as part of the overall annual sablefish assessment process, and ADF&G scientists participate in the NPFMC Plan Team. The Prince William Sound sablefish fishery is managed using a GHL[41] and derived from the estimated area of sablefish habitat and a yield-per-unit-area model. For the Clarence and Chatham Strait fisheries (Southeast Inside areas) an annual harvest objective is set with regard to survey and fishery catch per unit effort and biological characteristics of the population. In addition, in Chatham Strait an annual stock assessment is performed which is based, in part, on estimates from mark-recaptured individuals. ADF&G arranges public meetings to present and discuss the scientific findings on these sablefish management areas. The following summarizes stock indices in SSEI and adjacent waters for recent years[42]: • The 2021 Southern Southeast Inside (SSEI) Subdistrict sablefish commercial annual harvest objective (AHO) is 601,271 round pounds, a 5% increase from the 2020 AHO. • Positive indicators for sablefish in SSEI include increases in both the longline survey and fishery CPUE indices from 2019 to 2020 and continued recruitment from the 2014, 2016, and potentially 2017 age classes. 5.3 Management organizations shall cooperate with relevant international organizations to encourage research to ensure optimum utilization of fishery resources.

[39] https://www.fisheries.noaa.gov/resource/document/alaska-essential-fish-habitat-research-plan-processed-report-2017-05
[40] https://www.adfg.alaska.gov/
[41] https://www.adfg.alaska.gov/static/applications/dcfnewsrelease/1364504348.pdf
[42] https://www.adfg.alaska.gov/FedAidPDFs/RIR.1J.2021.12.pdf

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.**
	The only two nations involved in the sablefish fishery in the eastern North Pacific are Canada and the United States of America. The resources in each nation's waters are managed separately, and each nation conducts surveys that occur in adjacent geographical areas, as well as a survey conducted by IPHC that covers areas in the EEZs of both countries. Japan and USA conducted cooperative longline surveys from 1978 to 1994, these data are used in the current stock assessment as an index of abundance. There is cooperation on various aspects of research, stock assessment, and management between the fisheries agencies (e.g., DFO and NMFS) of USA and Canada[43]. 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. The main transboundary issues for the Alaskan sablefish stock are between Canada and USA. Both countries have extensive scientific programs for research and assessment and collaborate on numerous topics related to sablefish science and management. Data from the DFO sablefish surveys in B.C. waters are considered in the NMFS/NPFMC assessment process and SAFE document[44]. The similarly low abundance (through 2014) south of Alaska is of concern, and points to the need to better understand the contribution to Alaska sablefish productivity from B.C. sablefish. Some potential ideas which have been discussed are to conduct an area-wide study of sablefish tag recoveries, and to attempt to model the population to include B.C. sablefish and U.S. West Coast sablefish. Recent data from Canadian surveys in BC waters have shown an increase in sablefish abundance and biomass. 5.5 Data generated by research shall be analysed and the results of such analyses published in a way that ensures confidentiality is respected, where appropriate. Data collected by scientific surveys and sablefish fisheries are analysed and presented in peer-reviewed meetings and in primary literature, following rigorous scientific protocols. These have been described extensively in previous Clauses. 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 higher transparency 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. By Alaska Statute (16.05.815 Confidential Nature of Certain Reports and Records)[45], except for certain circumstances, all records obtained by the state concerning the landing of fish, shellfish, or fishery products and annual statistical reports of fishermen, buyers, and processors may not be released. To ensure confidentiality, fishery data are routinely redacted from ADFG reports if the data for a time/area stratum were obtained from a small number of participants.
References:	Fissel, B., M. Dalton, B. Garber-Yonts, A. Haynie, S. Kasperski, J. Lee, D. Lew, A. Lavoie, C. Seung, K. Sparks, M. Szymkowiak, and S. Wise. "Stock Assessment and Fishery Evaluation Report for the Groundfish Fisheries of the Gulf of Alaska and Bering Sea/Aleutian Island Area: Economic Status of the Groundfish Fisheries off Alaska, 2017", NPFMC, November, 2018 Heifetz and Maloney. 2001. Estimation of Tag-reporting rates for sablefish in the Northeastern Pacific Ocean. Alaska Fishery Research Bulletin 8(1): 1-11.

[43] https://apps-afsc.fisheries.noaa.gov/refm/docs/2021/sablefish.pdf
[44] https://apps-afsc.fisheries.noaa.gov/refm/docs/2021/sablefish.pdf
[45] https://www.touchngo.com/lglcntr/akstats/statutes/title16/chapter05/section815.htm

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.**
Statement of consistency to the RFM Fishery Standard	**The fishery conforms to the requirements of Fundamental Clause 5 of the RFM Fishery Standard**

7.9.3 Section C. The Precautionary Approach

7.9.3.1 Fundamental Clause 6

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.**
Summary of relevant changes:	6.1/6.2/6.3/6.4 States shall determine for the stock both safe targets for management (Target Reference Points) and limits for exploitation (Limit Reference Points), shall measure the status of the stock against these reference points and agree to actions to be undertaken if reference points are exceeded. No significant change in the assessment methodology occurred in 2021, or in the reference point definitions usedto manage the fishery. The NPFMC harvest control system is complex and tailored to address issues related to sustainability, legislative mandates, and quality of information. The NPFMC tier system[46] specifies the maximum permissible Allowable Biological Catch (ABC) and the Overfishing Limit (OFL). The BSAI and GOA groundfish fishery management plans have pre-defined harvest control rules that define a series of target and limit reference points for sablefish and other groundfish covered by these plans. Each SAFE report describes the current fishing mortality rate, and stock biomass relative to the target and limit reference points. Sablefish are managed under Tier 3 of NPFMC harvest control rules[47]. The updated point estimate of B40%, is 118,140 t. Since projected female spawning biomass (combined areas) for 2022 is 128,789 t (equivalent to B44%), sablefish is in sub-tier "a" of Tier 3. Spawning biomass is projected to continue to increase rapidly in the near-term (Figure 3.48), reaching B44% in 2022 and B51% in 2023. The updated point estimates of F40% and F35% from this assessment are 0.080 and 0.094, respectively. Thus, the maximum permissible value of FABC under Tier 3a is 0.080, which translates into a 2022 maximum permissible ABC (combined areas) of 34,863 t. The OFL fishing mortality rate is 0.094, which translates into a 2022 OFL (combined areas) of 40,432 t. Thus, current model projections indicate that the Alaskan sablefish stock is not subject to overfishing, not overfished, and not approaching an overfished condition. The author recommended ABC for 2022 is the Tier 3a maximum permissible ABC of 34,863 t. The final whale-adjusted 2022 ABC is 34,521 t. From the 2021 stock assessment: Given the large quantities of data, the high quality of data, and general agreement in recent population trends in the sablefish indices, there were no major concerns about the data used in the sablefish assessment. Similarly, there were no major retrospective patterns or other diagnostic issues with the proposed assessment model (21.12_Proposed_No_Skip_Spawn). As such, the assessment considerations category for sablefish was rated '1 – Normal'. Although minor uncertainty in the exact magnitude of recent recruitment events exists, there are now enough observations of these cohorts to validate estimates of multiple large recent cohorts. Evidence is also mounting that the 2016 recruitment is likely the largest on record. However, sablefish age structure is severely truncated and the SSB relies heavily on these recent cohorts with little contribution from early 2000s-year classes. Thus, the population dynamics category was rated '2 – Increased Concern'.

[46] https://www.fisheries.noaa.gov/resource/data/2021-assessment-sablefish-stock-alaska
[47] https://apps-afsc.fisheries.noaa.gov/refm/docs/2021/sablefish.pdf

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.**
	Overall, environmental and ecosystem indicators suggest stable temperatures at depth, moderate to warm surface temperature conditions, a mix of average to below average indicators of foraging conditions, no apparent increases in predation pressure, and reduction in potential competition due to juvenile sablefish moving off the shelf and into adult slope habitat. Given that no major concerns are apparent for sablefish, the environmental and ecosystem category was rated '1 – Normal'. [48]In recent years, there has been a rapid shift in the composition of the fixed gear fleet where pot gear now constitutes more than 50% of sablefish removals, which is not fully accounted for in the assessment. In addition, the rapid decline in overall market conditions, particularly due to the influx of small sablefish, may be contributing to differences in targeting and selectivity in all fisheries. Therefore, the fishery performance category was rated '2 – Increased Concern'. Given the lack of major concerns for sablefish along with improved model performance of the proposed assessment model, no additional reductions in ABC are being recommended (though deductions for whale depredation are still incorporated). However, a few additional considerations are worth noting for future sablefish management. First, the projected maximum ABC would represent the largest catch since the late 1980s, which, due to high catches and extended periods of poor recruitment, was followed by subsequent declines in biomass and SSB. Similarly, given concerns regarding the contracted age structure, the abundance of older ages in the population should continue to be monitored. Alternate metrics of spawning potential, which better emphasize fully mature age classes (e.g., the biomass of ages > 10), could help maintain a strong spawning portfolio and avoid future contraction of the age structure, thereby improving resilience of the sablefish resource[49] (Hixon *et al.*, 2014; Lowerre-Barbieri *et al.*, 2016; Licandeo *et al.*, 2020). Similarly, given that sablefish are such a long-lived species along with the cyclic nature of sablefish dynamics, exploration of a capped (i.e., implementing a maximum cap on the ABC) management procedure (or an 'inventory management' strategy) for sablefish may be worthwhile. Compared to using a maximum yearly catch strategy, capped HCRs could aid in stabilizing long-term sablefish dynamics (i.e., help to prevent long-term cyclical declines as the resource transitions between high and low recruitment regimes; Licandeo *et al.*, 2020). For state-managed sablefish fisheries, the Cook Inlet, Prince William Sound, and the Aleutian Islands state fisheries have guideline harvest limits (GHL)[50] and are managed using NMFS assessment data (and therefore federal reference points), historical catches and effort, projected catch and effort, and a yield-per- unit-area model, among other parameters. The 2021 Southern Southeast Inside (SSEI) Subdistrict sablefish commercial annual harvest objective (AHO) is 601,271 round pounds[51], a 5% increase from the 2020 AHO. Equal quota share (EQS) for each of the 22 permit holders will be 27,330 round pounds.

[48] https://apps-afsc.fisheries.noaa.gov/refm/docs/2021/sablefish.pdf
[49] https://apps-afsc.fisheries.noaa.gov/refm/docs/2021/sablefish.pdf
[50] https://www.adfg.alaska.gov/static/applications/dcfnewsrelease/1364504348.pdf
[51] https://www.adfg.alaska.gov/static/applications/dcfnewsrelease/1261281340.pdf

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.**
	The 2021 Northern Southeast Inside (NSEI) Subdistrict commercial sablefish fishery annual harvest objective (AHO) is 1,136,685 round pounds[52]. There are 75 valid Commercial Fisheries Entry Commission (CFEC) permits for 2021, which is the same number of permits as in 2020. The individual equal quota share (EQS) is 15,156 round pounds, a 2.6% increase from the 2020 EQS of 14,773 round pounds. Although there is not a full suite of reference points for these state-managed sablefish resources, the fisheries continue to be well managed, with recent catches often being less than the specified GHLs.
References:	
Statement of consistency to the RFM Fishery Standard	**The fishery conforms to the requirements of Fundamental Clause 6 of the RFM Fishery Standard**

7.9.3.2 Fundamental Clause 7

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.**
Summary of relevant changes:	7.1 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. No significant change has occurred since the previous assessment. The stock is managed using a Tier system, based on knowledge and uncertainties of the stock in question (the quality of the data, precision in the model). Sablefish harvest specifications are made annually by NPFMC, and include the Overfishing Level (OFL), acceptable biological catch (ABC), and total allowable catch (TAC). TACs are generally set more conservatively than ABCs, which in turn are generally set more conservatively than OFLs. Since OFLs are consistent with MSY and catches are generally within TAC levels, harvests tend to always be at the conservative side of MSY. As can be seen below, recent catches of Alaska sablefish have been well within recommendations, indicating that the harvest control rules continue to work well and within precautionary set limits. Sablefish have been managed under Tier 3 of NPFMC harvest rules[53]. Reference points were calculated using the average year class strength from 1977 - 2017. The updated point estimate of B40%, is 118,140 t. Since projected female spawning biomass (combined areas) for 2022 is 127,789 t (9% higher than B40%, or equivalent to B44%), sablefish is in sub-tier "a" of Tier 3. The updated point estimates of F40%, and F35% from this assessment are 0.080 and 0.094, respectively. Thus, the maximum permissible value of FABC under Tier 3a is 0.080, which translates into a 2022 ABC (combined areas) of 34,863 t. The adjusted OFL fishing mortality rate is 0.094, which translates into a 2022 OFL (combined areas) of 40,432 t. **Current model projections indicate that this stock is not subject to overfishing, not overfished, and not approaching an overfished condition.** **State of Alaska Survey:**

[52] https://www.adfg.alaska.gov/static/applications/dcfnewsrelease/1269953262.pdf
[53] https://apps-afsc.fisheries.noaa.gov/refm/docs/2021/sablefish.pdf

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.**	
		In 2021, sablefish longline surveys were conducted for both the Northern Southeast Inside (NSEI) and Southern Southeast Inside (SSEI) areas[54][55]. These surveys are designed to measure trends in relative abundance and biological characteristics of the sablefish population. Biological data collected in these surveys include length, weight, sex, and maturity stage. In addition to longline surveys, a mark-recapture survey is conducted using longlined pots in most years since 2000. This survey has used the state research vessel Medeia since 2012[56]. A survey was not completed in 2021 due to budgetary constraints, but the survey will occur in May 2022. The mark-recapture results serve as a component of the NSEI stock assessment (Contact Rhea Ehresmann). In Central Region, ADF&G conducted longline surveys for sablefish from 1996 through 2006 in PWS. Longline survey effort was extended into the North Gulf District in 1999, 2000 and 2002. All longline surveys were discontinued due to lack of funding, and with the goal of transitioning to a pot longline survey, particularly in PWS. Between 1999 and 2005, sablefish were opportunistically tagged in PWS on ADF&G trawl surveys. [57] Sablefish tagging surveys were conducted in PWS in 2011, 2013, and 2015 using pot longline gear. There were 1,203 fish, 318 fish, and 26 fish tagged in 2011, 2013, and 2015, respectively. CPUE was very low in 2013 with an average of 0.11 fish per pot. To date, 349 fish have been recaptured from the 2011 survey and 63 were captured from the 2013 survey and 10 from the 2015 survey. Of all tagged releases, 52% have been recaptured within PWS and 43% outside in the GOA with the remainder of unknown location. There have been no PWS sablefish tagging surveys since 2015. Sablefish are captured in Central Region Tanner crab bottom trawl surveys. A population biomass index from the PWS and Cook Inlet bottom trawl surveys is generated each year of those surveys with the catch composed of predominantly 1 and 4-yr old fish (see Skate – Research section above for more information on these surveys)[58]. PWS trawl surveys were not conducted in 2020–2021. The historical survey area will again be surveyed annually beginning in 2022. No Cook Inlet surveys have been conducted since 2019 and it is uncertain when that survey will resume. In Central Region, skipper interviews and biological sampling in 2021 occurred in Whittier, Seward, and Cordova[59]. Data collected included date and location of harvest, length, weight, sex, gonad condition, and otoliths. Otoliths were sent to the Age Determination Unit. Logbooks are required in both fisheries to provide catch and effort data by date and location (Contact Elisa Russ). The Division of Sport Fish—Southeast Region collects catch, harvest, and biological data from sablefish as part of a marine harvest survey program. Ports sampled in 2021 included Juneau, Sitka, Craig, Petersburg/Wrangell, Gustavus, Yakutat, and Ketchikan. Length data were collected from 469 sablefish in 2021, primarily from the ports of Sitka, Ketchikan, and Juneau.

[54] https://www.adfg.alaska.gov/FedAidPDFs/ROP.CF.1J.2021.08.pdf
[55] https://www.adfg.alaska.gov/FedAidPDFs/ROP.CF.1J.2021.07.pdf
[56] https://www.psmfc.org/tsc-drafts/2022/TSC_Report_2022_Alaska_Final.pdf
[57] https://www.psmfc.org/tsc-drafts/2022/TSC_Report_2022_Alaska_Final.pdf
[58] https://www.psmfc.org/tsc-drafts/2022/TSC_Report_2022_Alaska_Final.pdf
[59] https://www.psmfc.org/tsc-drafts/2022/TSC_Report_2022_Alaska_Final.pdf

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.**
	The Age Determination Unit worked with the AFSC, Auke Bay Laboratories to investigate the use of age-0 lapillar and sagittal otoliths to infer daily growth in juvenile sablefish in the Gulf of Alaska. Otoliths from rhinoceros auklet bill-load samples from 1978 to present, survey samples, and samples from laboratory reared juvenile sablefish were removed and prepared. The external and internal structure of otoliths collected from bill-load samples were significantly damaged due to storage and were not useful for modelling size nor daily growth. Focus was shifted to samples included in growth trials conducted at Auke Bay Laboratories. Otolith size and daily increment width was measured using image analysis. The relationships between lapillar and sagittal otolith increment width, comparison of total increment count on both structures, otolith size to fish size, temperature and feeding ration were modeled. Evaluations of survey and laboratory reared juvenile sablefish found close agreement in daily age between otoliths, strong linear relationships between otolith size and fish size, and peak otolith increment width in both structures between 14°C and 18°C and at maximum feed rations. These findings support current and previous studies, and investigators plan to publish methods and findings. **State of Alaska Assessment** In the Southeast Region, the department uses mark-recapture methods with external tags and fin clips to estimate abundance and exploitation rates for sablefish in the NSEI Subdistrict. Sablefish are captured with pot gear in May or June, marked with a tag and a fin clip then released. Tags are recovered from the fishery and fish are counted at the processing plants and observed for fin clips. In addition to the mark-recapture work, an annual longline survey is conducted in NSEI to provide biological data as well as relative abundance information. In the NSEI Subdistrict, the 2021 recommended ABC was 569.3 mt, a 3.1% increase from the 2020 ABC[60]. The ABC was generated using a statistical catch-at-age (SCAA) model, which reduces reliance on the annual mark recapture project by integrating multiple indices of abundance and biological data (catch, mark recapture abundance estimates, survey and fishery CPUE, and survey length and age composition data). In the SSEI Subdistrict, the 2021 annual harvest objective (AHO) was set at 272.7 mt, a 5% increase from 2020[61]. For SSEI, an annual longline survey is conducted to provide biological data as well as relative abundance information. Unlike NSEI, the department does not currently estimate the absolute abundance of SSEI sablefish. There appears to be substantial movement of sablefish in and out of the SSEI area, which violates the assumption of a closed population; consequently, Peterson mark-recapture estimates of abundance or exploitation rates are not possible for this fishery. Instead, the SSEI sablefish population is managed based on relative abundance trends from survey and fishery CPUE data, as well as with survey and fishery biological data that are used to describe the age and size structure of the population and detect recruitment events. **State of Alaska Management** There are three separate internal water areas in Alaska which have state-managed limited-entry commercial sablefish fisheries. The NSEI and SSEI (Southeast Region) and the PWS Inside District (Central Region) each have separate seasons and GHLs. In the Cook Inlet Area, there is a state-managed open access sablefish fishery with a separate GHL. In the Southeast Region both the SSEI and NSEI sablefish fisheries have been managed under a license limitation program since 1984.

[60] https://www.psmfc.org/tsc-drafts/2022/TSC_Report_2022_Alaska_Final.pdf
[61] https://www.adfg.alaska.gov/FedAidPDFs/RIR.1J.2021.12.pdf

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.**	
		In 1994 the BOF adopted regulations implementing an equal share quota system where the annual GHL was divided equally between permit holders and the season was extended to allow for a more orderly fishery. In 1997 the BOF adopted this equal share system as a permanent management measure for both the NSEI and SSEI sablefish fisheries. During the February 2009 BOF meeting, the BOF made no changes affecting the regulation of commercial sablefish fisheries; however, bag and possession limits were established for the sablefish sport fishery. At the 2012 BOF meeting, a regulation was passed to require personal use and subsistence sablefish household fishing permits. Bag (50 fish per permit), vessel (200 fish per vessel) and hook (350 per permit) limits were adopted for personal use sablefish fishing at the 2015 BOF meeting. In 2017, the CFEC approved a public petition for SSEI longline permit holders to fish pot gear due to whale depredation and rockfish bycatch issues, thus making the permit a longline/pot permit[62]. The NSEI fishery is restricted to longline gear only. In 2018, the BOF amended SSEI sablefish longline and pot seasons to a concurrent season occurring from June 1 to November 15, adopted new regulations to require commercial sablefish pots to have two 4-inch circular escape rings and allowed for the possession of live sablefish for delivery as a live product. In 2018, the BOF also approved the use of pots in the personal use sablefish fishery with a limit of two pots per person, 8 pots per vessel. There is no open-access sablefish fishery in the Southeast Outside District as there are limited areas that are deep enough to support sablefish populations inside state waters. In some areas of the Gulf, the state opens the fishery concurrent with the EEZ opening. These fisheries, which occur in Cook Inlet Area's North Gulf District and the Aleutian Island District, are open access in state waters, as the state cannot legally implement IFQ management at this time[63]. The fishery GHLs are based on historic catch averages and closed once these have been reached. In Central Region, the Cook Inlet Area sablefish GHL[64] is set using a historic baseline harvest level adjusted annually by the relative change to the ABC in the federal CGOA. In 2004, the BOF adopted a sablefish fishery-specific registration, logbook requirement, and 48-hour trip limit of 1.8 mt in the Cook Inlet Area. For PWS, a limited-entry program that included gear restrictions and established vessel size classes was adopted in 1996. Between 1996 and 2014, the PWS fishery GHL was set at 110 mt, which is the midpoint of the harvest range set by a habitat-based estimate. Tagging studies conducted by NMFS and ADF&G indicate that sablefish populations throughout GOA including PWS are likely mixed. Therefore, the GHL was adjusted by applying the relative change each year in the NMFS GOA sablefish ABC, which is derived from NMFS stock assessment surveys. The GHL was adjusted beginning in 2015 by applying the relative change in the GOA-wide ABC for sablefish back to 1994; this adjustment continued in 2021. PWS fishery management developed through access limitation and in 2003 into a shared quota system wherein permit holders are allocated shares of the GHL. Shares are equal within each of four vessel size classes but differ between size classes. In 2009, the BOF adopted regulations which included a registration deadline, logbooks, and catch reporting requirements; new season dates of April 15August 31 were also adopted. The new season opening date, one month later than in previous years, was adopted to reduce the opportunity for whale depredation on hooked sablefish which predominately occurred prior to May 1.

[62] https://www.psmfc.org/tsc-drafts/2022/TSC_Report_2022_Alaska_Final.pdf
[63] https://www.psmfc.org/tsc-drafts/2022/TSC_Report_2022_Alaska_Final.pdf
[64] https://www.adfg.alaska.gov/static/applications/dcfnewsrelease/1349410294.pdf

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.**
	The sole Westward Region sablefish fishery occurs in the Aleutian Islands[65]. The GHL for the Aleutian Islands is set at 5% of the combined Bering Sea Aleutian Islands TAC[66]. The state GHL can be adjusted according to recent state-waters harvest history when necessary. From 1995 to 2000 the fishery opened concurrently with the EEZ IFQ sablefish fishery. In 2001 the BOF changed the opening date of the state-waters fishery to May 15 to provide small vessel operators an opportunity to take advantage of potentially better weather conditions. From 1995 to 2000 all legal groundfish gear types were permissible during the fishery. Effective in 2001, longline, pot, jig and hand troll became the only legal gear types. Vessels participating in the fishery are required to register and fill out logbooks provided by ADF&G. In 2013, the BOF changed the season opening and closing dates reverting them back to coincide with the federal IFQ season. The Southeast Region sport fishery for sablefish was regulated for the first time in 2009. Sport limits in 2021 were four fish of any size per day, four in possession, with an annual limit of eight fish applied to non-residents. The sablefish sport fishery in the remainder of Alaska has no limits.
References:	
Statement of consistency to the RFM Fishery Standard	**The fishery conforms to the requirements of Fundamental Clause 7 of the RFM Fishery Standard**

7.9.4 Section D. Management Measures

7.9.4.1 Fundamental Clause 8

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.**
Summary of relevant changes:	8.1. 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. The Magnuson-Stevens Fishery Conservation and Management Act (MSA)[67] is the primary domestic legislation governing management of US marine fisheries. The act establishes MSY as the basis for fishery management and requires that: the fishing mortality rate does not jeopardize the capacity a stock or stock complex to produce MSY; the abundance of an overfished stock or stock complex is rebuilt to a level that is capable of producing MSY; and OY not exceed MSY. FMPs for GOA[68] and BSAI[69] Regions present long-term management objectives for the Alaska sablefish fishery. Updated last in November 2020 these include: Optimum Yield (keeping all groundfish TACs within the BSAI and GOA ecosystem caps) six management areas through which ABCs and TACs are apportioned (i.e. BS, AI, Western GOA, Central GOA, W Yakutat, E Yakutat), quota allocation (by fixed and trawl gears) through IFQ quota share since 1995, CDQ allocations, in-season

[65] https://www.psmfc.org/tsc-drafts/2022/TSC_Report_2022_Alaska_Final.pdf
[66] https://www.psmfc.org/tsc-drafts/2022/TSC_Report_2022_Alaska_Final.pdf
[67] https://www.fisheries.noaa.gov/resource/document/magnuson-stevens-fishery-conservation-and-management-act
[68] http://www.npfmc.org/wp-content/PDFdocuments/fmp/GOA/GOAfmp.pdf
[69] https://www.npfmc.org/wp-content/PDFdocuments/fmp/BSAI/BSAIfmp.pdf

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.**
	adjustments and management, time and area restrictions, recordkeeping, and observer requirements, PSC limits (for species like crab and halibut), maximum retainable allowances for sablefish catches in other fisheries, licenses, permits and legal gear (IFQ for longline and pot, demersal trawl is non-IFQ). Pot fishing in the BSAI IFQ fishery is legal and landings have increased dramatically since 2000. Pots in the BSAI are longlined with approximately 40-135 pots per set[70]. One of the newest development in management measures is the allowance of pot gear for catching sablefish in the GOA, partly due to sperm whale predation. Since January 2017, Amendment 101[71] to the Fishery Management Plan for Groundfish of the Gulf of Alaska authorizes the use of longline pot gear in the GOA sablefish IFQ fishery. Partly related to this fishery, the Council authorized allowing sablefish pots in the BSAI[72]. In the October 2018 meeting the NPFMC took final action[73] to allow for: (1) more efficient harvest of the halibut resource by decreasing the wastage of legal-size halibut discarded in the BSAI sablefish pot fishery, and (2) reduced whale depredation of halibut caught on hook-and-line gear by allowing operators that hold both halibut IFQ or CDQ the opportunity to retain halibut in pot gear. This action includes the following elements[74]: 1) an exemption to the 9-inch maximum width of the tunnel opening on pots, 2) VMS and logbook requirements for all vessels using pot gear to fish IFQ/CDQ, and 3) in the event that the overfishing limit for a shellfish or groundfish species is approached, regulations would allow NMFS to close IFQ fishing for halibut as necessary. Additionally, the Pribilof Islands Habitat Conservation Zone would be closed to all fishing with pot gear. Sablefish also are caught incidentally during directed trawl fisheries for other species groups such as rockfish and deepwater flatfish. Allocation of the TAC by gear group varies by management region and influences the amount of catch in each region. Trawl catches in 2020 were about 43% of the total catches, while in 2019 they were about 31%[75]. Using the NEPA process, agencies evaluate the environmental and related social and economic effects of their proposed actions. Agencies also provide opportunities for public review and comment on those evaluations[76]. The most recent NEPA compliant Regulatory Impact Review/ Environmental Assessment was performed in regards to the proposed NPFMC action to allow halibut retention in BSAI sablefish pots, issued for public review in October 2018[77].

[70] https://apps-afsc.fisheries.noaa.gov/refm/docs/2020/sablefish.pdf
[71] https://www.fisheries.noaa.gov/action/amendment-101-fmp-groundfish-gulf-alaska-management-area
[72] https://meetings.npfmc.org/CommentReview/DownloadFile?p=2dcf0126-26d7-478a-a2c6-c8f1dc234d58.pdf&fileName=C4%20Halibut%20Retention%20in%20BSAI%20Pots%20Public%20Review%20-%20pdf%20version.pdf
[73] http://meetings.npfmc.org/CommentReview/DownloadFile?p=94b0f940-78a1-45d9-bc75-3686b6ccb3a9.pdf&fileName=C4%20Action%20Memo.pdf
[74] https://www.npfmc.org/halibut-in-pots/
[75] https://apps-afsc.fisheries.noaa.gov/refm/docs/2020/sablefish.pdf
[76] https://www.epa.gov/nepa/what-national-environmental-policy-act
[77] https://meetings.npfmc.org/CommentReview/DownloadFile?p=2dcf0126-26d7-478a-a2c6-c8f1dc234d58.pdf&fileName=C4%20Halibut%20Retention%20in%20BSAI%20Pots%20Public%20Review%20-%20pdf%20version.pdf

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.**	
		In terms of the state fisheries, three major state fisheries exist which are limited entry and are located in Prince William Sound, Chatham, and Clarence Strait[78]. The Prince William Sound sablefish fishery is managed using a GHL and derived from the estimated area of sablefish habitat and a yield-per-unit-area model. For Clarence and Chatham Strait fisheries an annual harvest objective is set with regard to survey and fishery catch per unit effort and biological characteristics of the population. In addition, in Chatham Strait an annual stock assessment is performed which includes a mark-recapture estimate of the population abundance. Minor fisheries for sablefish include the Aleutian Islands state fishery, which allows longline, pot, jig, and hand troll gear, and the Cook Inlet fishery. These catches are reported and included in the federal SAFE assessment for sablefish. Further details about these fisheries have been provided under Fundamental Clause 7. Detailed management measures for the sablefish state fisheries have been published for 2020 and 2021 Commercial regulations for groundfish fisheries[79]. The management measures summarized above, as well as those highlighted under Clause 7 directly leading to sustainable harvesting of sablefish resources, are designed to ensure the long-term sustainability of fishery resources at levels which promote the objective of optimum utilization, and are based on verifiable and objective scientific and/or traditional sources. Harvest levels for each sablefish as set by NPFMC are based on the best retention of halibut in biological[80], ecological[81], and socioeconomic information[82] available, published yearly. Accordingly, the 2021 SAFE report indicates that model projections indicate that the sablefish stock is not subject to overfishing, overfished, nor approaching an overfished condition[83]. 8.2 States shall prohibit dynamiting, poisoning and other comparable destructive fishing practices. The GOA and BSAI FMPs[84] and NMFS regulations[85] make clear that the only legal gears for taking sablefish in Alaska are hook and line, pot, trawl (and jig and hand troll in the AI state fishery[86]). No destructive practices such as dynamite or poison are permitted, nor is there any evidence that such gears are being used illegally. 8.3 States shall seek to identify domestic parties having a legitimate interest in the use and management of the fishery. The NPFMC is responsible for allocation of the sablefish resource among user groups in Alaska waters. In addition, the Alaskan Board of Fisheries (BOF)[87] public meetings process provides a regularly scheduled public forum for all interested individuals, fishermen, fishing organizations, environmental organizations, Alaskan Native organizations and other governmental and non-governmental entities that catch sablefish off Alaska to participate in the development of legal regulations for fisheries.

[78] https://www.adfg.alaska.gov/index.cfm?adfg=sablefish.management
[79] https://www.adfg.alaska.gov/static/regulations/fishregulations/pdfs/commercial/2020_2021_cf_groundfish_regs.pdf
[80] https://www.npfmc.org/wp-content/PDFdocuments/fmp/BSAI/BSAIfmp.pdf
[81] https://www.fisheries.noaa.gov/alaska/ecosystems/ecosystem-status-reports-gulf-alaska-bering-sea-and-aleutian-islands
[82] https://www.fisheries.noaa.gov/alaska/ecosystems/ecosystem-status-reports-gulf-alaska-bering-sea-and-aleutian-islands
[83] https://apps-afsc.fisheries.noaa.gov/refm/docs/2020/sablefish.pdf
[84] https://www.npfmc.org/bering-seaaleutian-islands-groundfish/
[85] https://www.ecfr.gov/cgi-bin/text-idx?SID=0cc954068b4cef56066a93c0ecbd605f&mc=true&node=pt50.13.679&rgn=di
[86] https://www.adfg.alaska.gov/index.cfm?adfg=fishresearch.sablefish
[87] https://www.fisheries.noaa.gov/alaska/commercial-fishing/pacific-halibut-and-sablefish-individual-fishing-quota-ifq-program

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.**
	The Pacific Halibut and Sablefish IFQ Program was adopted by the NPFMC under Amendment 15 to the BSAI FMP and Amendment 20 to the GOA FMP in October 1992[88]. Participation in the IFQ Program is limited to persons that hold Quota Share (QS), although there are several very limited provisions for "leasing" of annual IFQ. QS is a transferable permit that was initially issued to persons who owned or leased vessels that made legal commercial fixed-gear landings of Pacific halibut or sablefish in the waters off Alaska during1988-1990. An IFQ Committee provides recommendations to the Council regarding potential future revisions to the IFQ program. Membership is intended to represent a broad range of stakeholders in the IFQ fisheries, including representatives from both directed halibut and sablefish fisheries, representation covering multiple areas, and IFQ processors[89]. The Western Alaska Community Development Quota (CDQ) Program created by the NFMC in 1992 provides western Alaska communities opportunities to participate in the BSAI fisheries. There are 65 communities participating in the program[90]. The Gulf of Alaska parallel of the CDQ program is the Community Quota Entity Program, which authorizes 45 eligible communities in areas 2C, 3A and 3B and one community in the Aleutian Islands to form Community Quota Entities (CQEs)[91] that may purchase commercial halibut and sablefish quota share (QS) for lease to community residents. The overarching purpose of this program is to remedy barriers to participation in remote coastal communities and to provide these communities with long-term opportunities to access the halibut and sablefish resources[92]. The Council formed the Community Engagement Committee in June 2018 to identify and recommend strategies for the Council to provide effective community engagement with rural and Alaska Native communities. The Community Engagement Committee will develop tools and processes to facilitate improved communication and understanding between rural communities and tribes and the Council. In June 2019 the Council reviewed a discussion paper outlining domestic and international examples of programs that facilitate access opportunities for rural communities and new entrants within limited access fisheries and tasked staff to come back with an expanded paper[93]. The Council requested this discussion paper at the June 2018 meeting in response to information from the IFQ 20-year program review, academic research, and public testimony regarding access challenges in the IFQ Program. The discussion paper provided a more detailed review of Norway's Recruitment Quota, and highlighted access program design specifications, distributional impacts, and legal considerations that may be relevant to an application in the North Pacific for the Halibut and Sablefish IFQ Program.

[88] https://www.npfmc.org/halibutsablefish-ifq-program/
[89] https://www.npfmc.org/halibutsablefish-ifq-program
[90] https://www.federalregister.gov/documents/2016/07/12/2016-16418/proposed-information-collection-comment-request-western-alaska-community-development-quota-cdq
[91] https://www.npfmc.org/community-quota-entity-program/
[92] https://meetings.npfmc.org/CommentReview/DownloadFile?p=60c6260c-faa3-4eed-87e9-2a324869f26b.pdf&fileName=C6%20MOTION.pdf
[93] https://www.npfmc.org/ifq-access-opportunities-global-examples/

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.**
	As a result of that, the Council directed staff to develop an expanded discussion paper identifying considerations related to the creation of a quota Access Pool for halibut and sablefish QS that facilitates entry-level opportunities. The Access Pool would be targeted at crewmembers and vessel owner-operators whose QS holdings equate to less than 5,000 lbs. of IFQ in 2019. Participation in the Access Pool would be temporary, meaning that a qualifying individual could only fish this quota for a set number of years. Access Pool QS could not be sold. The Access Pool would be structured such that a Regional Fishery Association (RFA) or another entity receives the allocation and determines the criteria for distribution to applicants; criteria would be reviewed by the Council and approved by NMFS. The discussion paper will highlight explicit Council decision points necessary for this approach, the amount of detail needed to develop criteria for allocation, effects on the QS market and existing QS holders, and MSA considerations regarding the ability to allocate QS to RFAs. At the state level, Advisory committees (AC) are local groups that meet to discuss fish and wildlife issues, provide a local forum for those issues, and make recommendations to the Alaska boards of fisheries and game. Their purpose as established by the Joint Board of Fisheries and Game includes developing regulatory proposals, evaluating regulatory proposals and making recommendations to the appropriate board, providing a local forum for fish and wildlife conservation and use, including matters relating to habitat, consulting with individuals, organizations, and agencies[94]. The regulations governing the advisory committee are 5 AAC Chapters 96 and 97. More than 700 Alaskans belong to 84 advisory committees up and down the coast and throughout the interior, arctic and southcentral. It is through these individuals that the Alaska Board of Fisheries develop regulations that are responsive to local needs. In 2019, five individuals were awarded the Excellence in Service Award recognizing outstanding contributions in service to Alaska's communities, fish and wildlife, and regulatory process by Fish and Game Advisory Committee members across the state. 8.4. Mechanisms shall be established where excess capacity exists, to reduce capacity. 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. Amendment 20 to the GOA Fishery Management Plan and 15 to the BS/AI Fishery Management Plan established IFQ management for sablefish beginning in 1995. These amendments also allocated 20% of the fixed gear allocation of sablefish to a CDQ reserve for the BS and AI. Since the implementation of IFQs, the number of longline vessels with sablefish IFQ harvests experienced a substantial anticipated decline from 616 in 1995 to 362 in 2011 (NOAA 2016). This decrease was expected as shareholders have consolidated their holdings and fish them off fewer vessels to reduce costs (Fina2011). IFQ management has increased fishery catch rates and decreased the harvest of immature fish (Sigler and Lunsford 2001). Catching efficiency (the average catch rate per hook for sablefish) increased 1.8 times with the change from an open-access to an IFQ fishery. The change to IFQ also decreased harvest and discard of immature fish which improved the chance that these fish will reproduce at least once. Thus, the stock can provide a greater yield under IFQ at the same target fishing rate because of the selection of older fish (Sigler and Lunsford 2001)[95].

[94] http://www.adfg.alaska.gov/index.cfm?adfg=fisheriesboard.main
[95] https://apps-afsc.fisheries.noaa.gov/refm/docs/2020/sablefish.pdf

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.**
	There are detailed records of all fishing operations and permits allowed in Alaska. There were 1,054 entities holding Sablefish QS in 1995. The number of entities has declined over time to 809, or 23% fewer entities holding QS by 2017, and the number of active CV and CP sablefish vessels decreased to 285, by 11 catcher vessels in 2017[96], from 2016. Current (as of 2019) Quota Share with Holders and QSUnits - by species, area, vessel category, blocks, and CDQ compensation flag are listed on the NOAA website[97]. All the federal IFQ fisheries and the three major state fisheries are limited access fisheries. Exploitation is regulated and controlled through TACs in federal fisheries and GHL/TACs in state fisheries. None of these fisheries is considered depleted or overexploited. 8.5. Technical measures shall be taken into account, where appropriate, in relation to: fish size, mesh size or gear, closed seasons, closed areas, areas reserved for particular (e.g., artisanal) fisheries, protection of juveniles or spawners. A summary of the NPFMC management measures that govern the GOA and BSAI groundfish fisheries are contained in the FMPs and are summarized below. Fish size. The fishery is primarily managed through IFQ and through Maximum Retainable Allowances[98] for other fisheries to account for incidental catches of sablefish in those fisheries. Minimum size requirements are not currently in use. However, a recent discussion paper on sablefish discard allowance (Armstrong *et al.*, 2018) provides information on biological and economic impacts for introducing minimum size regulations for sablefish. In 2018, there was a marked increase in sablefish landings for small (1-3 pound) sablefish in the BSAI fisheries, most notably the midwater pollock fishery, and an associated large decrease in value for these same sized fish(Armstrong et al., 2018). Gear. Sablefish in Alaska is caught with longline, pot and bottom trawl gear. In short, longliners use streamer lines to avoid seabird bycatch, demersal trawls are required to carry raised bobbins when targeting flatfish and cod in the BSAI and the Central GOA. Research has demonstrated that this gear modification reduces unobserved mortality of red king crab, Tanner crab, and snow crab, reducing contact with the ocean floor by as much as 90%[99]. In addition to this there are extensive habitat closures in Alaska[100]. Pot gear carry biodegradable panels to avoid ghost fishing in case of gear loss, as well as escape rings in State fisheries[101]. Mesh size for the relevant gear is specified in Federal regulation 679 (on the management of fisheries within Alaska's EEZ[102]).

[96] https://www.fisheries.noaa.gov/resource/data/2017-economic-status-groundfish-fisheries-alaska
[97] https://www.fisheries.noaa.gov/alaska/commercial-fishing/permits-and-licenses-issued-alaska#individual-fishing-quota-(ifq)-halibut/sablefish-and-cdq-halibut-ifq
[98] https://meetings.npfmc.org/CommentReview/DownloadFile?p=b6b509dd-a14c-442b-867b-3f88fa9f8d98.pdf&fileName=D2%20Sablefish%20Discard%20Allowance.pdf
[99] https://www.fisheries.noaa.gov/resource/document/ea-rir-frfa-amendment-94-bsai-groundfish-fmp-require-trawl-sweep-modification-bs
[100] https://www.adfg.alaska.gov/static/regulations/fishregulations/pdfs/commercial/2020_2021_cf_groundfish_regs.pdf
[101] https://www.adfg.alaska.gov/static/regulations/fishregulations/pdfs/commercial/2020_2021_cf_groundfish_regs.pdf 4
[102] https://www.ecfr.gov/cgi-bin/text-idx?SID=0cc954068b4cef56066a93c0ecbd605f&mc=true&node=pt50.13.679&rgn=div5#se50.13.679_124

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.**
	Closed seasons/areas. In 1995, Individual Fishery Quotas (IFQ) were implemented for hook-and-line vessels along with an 8- month season. The season dates have varied by several weeks since 1995, but the monthly pattern has been from March to November with the majority of landings occurring in May - June. Extensive trawl closures have been implemented to protect benthic habitat or reduce bycatch of prohibited species (i.e., salmon, crab, herring, and halibut) in the BSAI and GOA. Seasonal closures are used to reduce bycatch by closing areas where and when bycatch rates had historically been high[103]. Over 95% of the AI management area is closed to bottom trawling (277,100 nm2). With the Arctic FMP closure included (an area roughly 150,000 sq nm2), almost 65% of the U.S. EEZ of Alaska is closed to bottom trawling. Artisanal fisheries. At the time the Federal Government began the IFQ program, the State established two minor fisheries in Cook Inlet and the Aleutian Islands, so that open-access fisheries were available to fishermen that were not allowed to participate in the IFQ program[104]. Three major state fisheries exist which are limited entry and are located in Prince William Sound, Chatham, and Clarence Strait. 8.6. Fishing gear shall be marked. Regulations pertaining to vessel and gear markings in the sablefish fishery are established in NMFS regulations, as prescribed in the annual management measures published in the Federal Register (part 679.24) [105]. They state: 1. Marking of hook-and-line, longline pot, and pot-and-line gear. a) All hook-and-line, longline pot, and pot-and line marker buoys carried on board or used by any vessel regulated under this part shall be marked with the vessel's Federal fisheries permit number or ADF&G vessel registration number. b) Markings shall be in characters at least 4 inches (10.16 cm) in height and 0.5 inch (1.27 cm) in width in a contrasting color visible above the water line and shall be maintained so the markings are clearly visible. c) Each end of a set of longline pot gear deployed to fish IFQ sablefish in the GOA must have attached a cluster of four or more marker buoys including one hard buoy ball marked with the capital letters "LP" in accordance with paragraph (a)(2) of this section, a flag mounted on a pole, and radar reflector floating on the sea surface. 8.7. Measures shall be introduced to identify and protect depleted resources and those resources threatened with depletion, and to facilitate the sustained recovery/restoration 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. The sablefish resource is not depleted. According to the 2021 SAFE report for Sablefish, model projections indicate that this stock is not subject to overfishing, overfished, nor approaching an overfished condition. The overall objectives of the GOA and BSAI FMPs is consistent with preventing overfishing and optimizing the yield from the fishery through the promotion of conservative harvest levels while

[103] https://apps-afsc.fisheries.noaa.gov/REFM/docs/2020/EBSecosys.pdf
[104] https://www.adfg.alaska.gov/index.cfm?adfg=sablefish.management
[105] https://www.ecfr.gov/cgi-bin/text-idx?SID=0cc954068b4cef56066a93c0ecbd605f&mc=true&node=pt50.13.679&rgn=div5

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.**
	considering as well as addressing the differing levels of uncertainty[106]. Management measures are summarized under clause 8.1. 8.8/8.9/8.10/8.11/8.12/8.13. States shall encourage the development and implementation of technologies and operational methods that reduce waste and discards and reduce the loss of fishing gear. The implications of the introduction of new fishing gears, methods and operations shall be assessed and the effects of such introductions monitored. New developments shall be made available to all fishers and shall be disseminated and applied appropriately. The federal sablefish fishery is managed under an IFQ system. The fishery is for the most part a demersal longline fishery. Longline is typically not associated with as much ghost fishing as some other fishing gears, such as gillnets and some types of traps (NOAA 2015[107]). Longline gear is also required to carry streamer lines to avoid seabird interactions and fishermen deploy weighted lines that sink faster and further decrease possible interactions with these animals. In recent years, an increasing percentage of sablefish is also caught and retained with pot gear, due to depredation by whales in longline gear. Groundfish pots are required to comply with a number of specifications, including use of a biodegradable panel[108], and tunnel openings (rigid or soft) which must not exceed maximum dimensions. These gear constructions minimize impacts of ghost fishing and of catch of certain non-target species and sizes, hence reducing waste, discards and mortality in case of gear loss. Escape rings in pots are required in some sablefish state fisheries as per 2020-2021 state regulations[109]. In one the newest developments to reduce wastage and discards in the IFQ fishery, the NPFMC, in October 2018 took final action[110] to allow for: 1) more efficient harvest of the halibut resource by decreasing the wastage of legal-size halibut discarded in the BSAI sablefish pot fishery, and 2) reduced whale depredation of halibut caught on hook-and-line gear by allowing operators that hold both halibut IFQ or CDQ the opportunity to retain halibut in pot gear. This action includes the following elements[111]: 1) an exemption to the 9-inch maximum width of the tunnel opening on pots, 2) VMS and logbook requirements for all vessels using pot gear to fish IFQ/CDQ, and 3) in the event that the overfishing limit for a shellfish or groundfish species is approached, regulations would allow NMFS to close IFQ fishing for halibut as necessary. Additionally, the Pribilof Islands Habitat Conservation Zone would be closed to all fishing with pot gear. Sablefish also are caught incidentally during directed trawl fisheries for other species groups such as rockfish and deep-water flatfish. Trawl catches in 2020 were about 43% of the total catches, while in 2019 catches were about 31%[112]. Research has demonstrated that trawl sweep gear modification required in the trawl flatfish fisheries in the EBS (since 2010) and the central GOA (since 2013) reduces unobserved mortality[113] of red king crab, Tanner crab, and snow crab.

[106] https://www.npfmc.org/bering-seaaleutian-islands-groundfish/
[107] https://marinedebris.noaa.gov/sites/default/files/publications-files/Ghostfishing_DFG.pdf
[108] https://www.ecfr.gov/cgi-bin/text-idx?SID=0cc954068b4cef56066a93c0ecbd605f&mc=true&node=pt50.13.679&rgn=div5
[109] https://www.adfg.alaska.gov/static/regulations/fishregulations/pdfs/commercial/2020_2021_cf_groundfish_regs.pdf
[110] http://meetings.npfmc.org/CommentReview/DownloadFile?p=94b0f940-78a1-45d9-bc75-3686b6ccb3a9.pdf&fileName=C4%20Action%20Memo.pdf
[111] http://meetings.npfmc.org/CommentReview/DownloadFile?p=94b0f940-78a1-45d9-bc75-3686b6ccb3a9.pdf&fileName=C4%20Action%20Memo.pdf
[112] https://apps-afsc.fisheries.noaa.gov/refm/docs/2020/sablefish.pdf
[113] https://www.npfmc.org/habitat-protections/gear-modifications/

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.**	
	A recent discussion paper on sablefish discard allowance (Armstrong *et al.*, 2018) provides information on biological and economic impacts for introducing minimum size regulations for sablefish[114]. In 2018, there was a marked increase in sablefish landings for small (1-3 pound) sablefish in the BSAI fisheries, most notably the midwater pollock fishery, and an associated large decrease in value for these same sized fish (Armstrong *et al.*, 2018). This size range is the likely age for the 2014-to-2016-year classes (age 2-4). In terms of sablefish discards in 2018, 42.29% of the combined catch by trawl, pot and jig gear was discarded. Since April 2018, a regulatory change that would allow discarding of small sablefish in the Individual Fishing Quota (IFQ) sablefish fishery has been discussed as a potential tool to mitigate fishery and population impacts of very large sablefish year classes[115]. This change was first suggested by IFQ stakeholders following enormous increases in survey catches of small sablefish from the 2014-year class, the largest on record. In October 2018, the Council has reviewed an initial discussion paper that evaluated a range of biological, economic, and management considerations related to a discarding allowance, and which pointed out that growth of fish from the 2014 year class into typical market categories would outpace the timing of the proposed management change. After review of the October 2018 discussion paper, the Council passed a motion instructing staff to gather more information on the possible implications of permitting sablefish discarding, identifying in the motion nine areas of concern for staff to focus on. In April 2019, the NPFMC motioned to initiate an expanded discussion paper to gather more information on the possible implications of modifying the requirement (e.g. to proxy DMR, gear specific DRMs, etc..) to retain small sized sablefish and to explore the implications of these changes on overall stock abundance and allocations to trawl and IFQ fisheries. All new proposals, for and resulting developments to reduce waste and discards in the sablefish and other groundfish fisheries, are made available to all fishers through the NPFMC/NMFS and Board of Fishery processes and published online for all relevant stakeholders. <u>8.14. Policies shall be developed for increasing stock populations and enhancing fishing opportunities through the use of artificial structures.</u> Not applicable. Sablefish is not an enhanced species	
References:		
Statement of consistency to the RFM Fishery Standard		**The fishery conforms to the requirements of Fundamental Clause 8 of the RFM Fishery Standard**

[114] https://meetings.npfmc.org/CommentReview/DownloadFile?p=af8355e5-8e81-4165-b20e-2ce11cade94d.pdf&fileName=D2%20Small%20Sablefish%20Discarding%20Discussion%20Paper.pdf

[115] https://meetings.npfmc.org/CommentReview/DownloadFile?p=b40b8eb3-a783-421c-9c3a-4497b1432159.pdf&fileName=D8%20Action%20Memo.pdf

7.9.4.2 Fundamental Clause 9

9.	**Fishing operations shall be carried out by fishers with appropriate standards of competence in accordance with international standards and guidelines and regulations.**
Summary of relevant changes:	9.1./9.2./9.3. Education and training programs. No significant changes have occurred since the 4rth Surveillance audit. To be eligible to purchase sablefish (and halibut) IFQ shares, new participants must apply for and obtain a Transferable Eligibility Certificate issued by the North Pacific Region of NMFS. An applicant must be a U.S. citizen and show documentation of 150 days of commercial fishing experience[116] in the U.S. Obtaining IFQ share most often will require the purchaser (aspirant sablefish fisherman) to enter into loan capital arrangements with banks that will require comprehensive fishing business plans supported by competent, professional fishermen with demonstrable fishing experience. This competence and professionalism are a learned experience with the culmination of entrants into the fishery starting at deck hand level working their way up through proof of competence. There are several avenues for fishermen to receive training to ensure they have appropriate standards of competence. AMSEA provides marine safety training for commercial fishermen[117], subsistence & recreational boaters, and youth & women boaters throughout Alaska and across the United States. AMSEA's Fishing Vessel Drill Conductor Trainings are accepted by the U.S. Coast Guard and meet the training requirements for fishermen onboard commercial fishing vessels. The State of Alaska, Department of Labor and Workforce Development (ADLWD) includes the Alaska's Institute of Technology, also called Alaska Vocational Training & Education Center (AVTEC). One of AVTEC's main divisions is the Alaska Maritime Training Center. The Alaska Maritime Training Center is a United States Coast Guard approved training facility located in Seward, Alaska, and offers USCG/STCW (STCW is the international Standards of Training, Certification, and Watchkeeping) compliant maritime training[118]. In addition to the standard courses offered, customized training is available to meet the specific needs of maritime companies. Courses are delivered through the use of world class ship simulator, state of the art computer based navigational laboratory and modern classrooms equipped with the latest instructional delivery technologies. AVTEC offers courses such as Able Seaman, Fire Fighting, Meteorology, Electronic Chart display and Information Systems, Seafood Processor Orientation and Safety Course, among many others. The Marine Advisory Program (MAP) is a university-based statewide program designed to help Alaskans with the practical use and conservation of the state's marine and freshwater resources MAP is based at the University of Alaska Fairbanks (UAF) College of Fisheries and Ocean Sciences[119]. Through classes, workshops, trainings and other resources, MAP offers Alaskans technical assistance, marine education, applied research and other expert advice on how residents can sustain healthy coastal economies, communities and ecosystems. Established in 2007 by the Alaska Sea Grant Marine Advisory Program, the Alaska Young Fishermen's Summit (AYFS) is a three-day networking and skill-building conference for new entrants in managing modern commercial fishing businesses designed to provide training, information and networking opportunities for commercial fishermen early in their careers. The event features prominent industry

[116] https://www.edf.org/sites/default/files/11391_alaska-ifq.pdf
[117] https://www.amsea.org/commercial-fishermen
[118] https://avtec.edu/department/alaska-maritime-training-center
[119] https://alaskaseagrant.org/marine-advisory/

9.	Fishing operations shall be carried out by fishers with appropriate standards of competence in accordance with international standards and guidelines and regulations.
	leaders as speakers and mentors. All regulations governing the sablefish fisheries are available on the NPFMC, NMFS[120] and ADFG[121] websites, as previously documented under fundamental clause 8. Changes to regulations are considered only after detailed processes which include open and public discussions, and the results of any changes are widely communicated. Fishermen do attend these meetings and participate in these processes where they input in and become better acquainted with fishery regulations. Data on the number and location of Alaskan of fishers, permits issued, Current Quota Share with Holders and QS Units - by species, area, vessel category, blocks, and CDQ compensation flag etc. can be found online at the NMFS website[122]. In 2022 there were 2533 IFQ quota share holdings registered in the NMFS database. Data on fishing in Alaskan state-managed fisheries can be found in the State of Alaska's CFEC website[123]
References:	
Statement of consistency to the RFM Fishery Standard	**The fishery conforms to the requirements of Fundamental Clause 9 of the RFM Fishery Standard**

7.9.5 Section E. Implementation, Monitoring and Control

7.9.5.1 Fundamental Clause 10

10.	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.
Summary of relevant changes:	10.1. Enforcement agencies and framework The legal and administrative frameworks that define how the principal management agencies are to operate and the environment in which they are to do so at the state, national and binational levels have been in place for many decades. There is clear evidence of an ongoing and effective level of cooperation between all the agencies that collectively continue to deliver positive conservation and sustainability outcomes for the sablefish resource and the marine environment on which the species depends. The Monitoring, Control and Surveillance programs operated by the federal and state enforcement agencies (NMFS, USCG; ADPS's AWT) continued to perform at a high level of compliance effectiveness in monitoring the small but diverse sablefish fishing fleet that operates within state waters (0-3 nm) and Alaska's EEZ (3-200 nm). While sablefish fishery-specific data are not reported, it is known that in 2021, USCG District 17 conducted 515 boardings on commercial, charter, and recreational vessels targeting halibut and sablefish. Personnel conducted 152 boardings of IFQ halibut or sablefish vessels, detecting 22 fisheries violations, representing 76% of the commercial violations detected. The overall compliance rate for these fisheries was 96% in 2021. The top violations included (i) logbook discrepancies, (ii) no IFQ permit and/or FFP onboard, (iii) sea-bird avoidance gear not onboard or improperly constructed, (iv) improper marked buoys, and (v) failure to retain Pacific cod.

[120] https://www.fisheries.noaa.gov/alaska/commercial-fishing/pacific-halibut-and-sablefish-individual-fishing-quota-ifq-program
[121] https://meetings.npfmc.org/CommentReview/DownloadFile?p=547e97ee-897a-4d4d-8811-71fba0d56de3.pdf&fileName=D8%20Sablefish%20Discard%20Allowance%20DiscPaper.pdf
[122] https://www.fisheries.noaa.gov/alaska/commercial-fishing/permits-and-licenses-issued-alaska#individual-fishing-quota-(ifq)-halibut/sablefish-and-cdq-halibut-ifq
[123] https://www.cfec.state.ak.us/fishery_statistics/earnings.htm

10.	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.
	The NOAA Office of General Counsel, Enforcement Section (GCES) issued seven Notices of Violation and Assessment (NOVAs) and closed seven Settlement Agreements including one in the amount of $55,270. for discarding IFQ sablefish (and IFQ halibut), failing to report discards, and failing to register an IFQ fishing trip in the ODDS (observer deployment). A default judgment in the amount of $72,000. was finalized against a crew member under the MSA for observer assault. During 2021, the Coast Guard conducted 14 flights out of Kodiak, Nome (via FOL Kotzebue), and Sitka in support of Marine Protected Resources and NOAA's Protected Resources Division (PRD). While no violations were detected on these flights, officials noted that they were instrumental in collecting and reporting marine mammal stranding data, including for the gray whale and ice seal unusual mortality events (UMEs). <u>10.2./10.3./10.4. Fishing permit requirements</u> All vessels harvesting sablefish must be authorized and permitted to fish, in accordance with federal regulations, 50 CFR 679. Data on the number and location of Alaskan fishers, permits issued, current Quota Share with holders and QS Units - by species, area, vessel category, blocks, and CDQ compensation flag etc. can be found online at the NMFS website. Similarly, vessels targeting sablefish fisheries that are state-managed must also be permitted by the Commercial Fisheries Entry Commission.
References:	1. Annual enforcement reports provided to the NPFMC for 2021 and 2022 (partial) by USCG and NOAA-OLE. 2. Federal and State enforcement program profiles and statistics - Section 7.7. 3. Site visit (virtual): July 6, 2022, with ADPS-AWT Captain A. Frenzel.
Statement of consistency to the RFM Fishery Standard	The legal and administrative frameworks that inform the federal and state MCS programs within the US EEZ and Alaska's territorial waters continued to support a robust suite of MSC operational activities that enforcement personnel require to effectively discharge their duties. The compliance level in 2021 by commercially permitted vessels with the fishery's regulations remained relatively high; sanctions were effective in deterring recidivism. The program continued to achieve a high level of effectiveness. **The fishery conforms to the requirements of Fundamental Cause 10 of the RFM Fishery Standard.**

7.9.5.2 Fundamental Clause 11

11.	There shall be a framework for sanctions for violations and illegal activities of adequate severity to support compliance and discourage violations.
Summary of relevant changes:	<u>11.1./11.2./11.3. Enforcement policies and regulations, state and federal.</u> For federally managed fisheries, law enforcement agents and prosecutors rely upon NOAA's Office of General Counsel, Enforcement Section's Penalty Policy (2019) for guidance in assessing civil administrative penalties and permit sanctions under the statutes and regulations enforced by NOAA and the USCG.

11.	**There shall be a framework for sanctions for violations and illegal activities of adequate severity to support compliance and discourage violations.**
	The purpose of this Policy is to continue to ensure that: (i) civil administrative penalties and permit sanctions are assessed in accordance with the laws that NOAA enforces in a fair and consistent manner; (ii) penalties and permit sanctions are appropriate for the gravity of the violation; (iii) penalties and permit sanctions are sufficient to deter both individual violators and the regulated community as a whole from committing violations; (iv) economic incentives for noncompliance are eliminated; and (v) compliance is expeditiously achieved and maintained to protect natural resources. In 2021, the compliance level by harvesters across all commercial sablefish (and halibut) fisheries was approximately 96% according to the USCG, suggesting that the federal sanctions and penalties framework is effective in achieving compliance and discouraging repeat offenders. Both federal law enforcement agencies remained operationally active throughout the 2021 fishing season albeit with some limitations because of COVID-19 health and safety precautions. Enforcement platform (air and sea) were deployed across the region including under the current JEA with the Alaska Wildlife Troopers. For state managed fisheries in Alaska, misdemeanour commercial fishing penalties are described in the Alaska Statutes, Title 16 (Fish and Game), Chapter 5 (Fish and Game Code), Section 723. Strict liability commercial fishing penalties are covered in Section 722. According to a senior official with the AWT, the number of commercial sablefish violations in state-managed waters was relatively low over the past 3 years. There is a longstanding practice of cooperation between Federal and state enforcement agencies in relation to planning and operations through Joint Enforcement Agreements. Federal funding is provided to the state to undertake incremental enforcement of federally managed fisheries jointly with federal agents. The funding agreement includes specific operational goals the state is required to achieve.
References:	1. Policy for the Assessment of Civil Administrative Penalties and Permit Sanctions NOAA Office of General Counsel - Enforcement Section: https://www.gc.noaa.gov/documents/Penalty-Policy-CLEAN-June242019.pdf 2. Alaska misdemeanor commercial fisheries penalties: http://www.touchngo.com/lglcntr/akstats/Statutes/Title16/Chapter05.htm 3. Alaska strict liability commercial fishing penalties: http://www.touchngo.com/lglcntr/akstats/Statutes/Title16/Chapter05/Section722.htm 4. Federal and state enforcement program profiles and outcomes - Section 7.7. 5. Site visit (virtual): July 6, 2022, with ADPS-AWT Captain A. Frenzel.
Statement of consistency to the RFM Fishery Standard	**The fishery conforms to the requirements of Fundamental Cause 11 of the RFM Fishery Standard.**

7.9.6 Section F. Serious Impacts of the Fishery on the Ecosystem

7.9.6.1 Fundamental Clause 12

12.	**Considerations of fishery interactions and effects on the ecosystem shall be based on best available science, local knowledge where it can be objectively verified and using a risk-based management approach for determining most probable adverse impacts. Adverse impacts on the fishery on the ecosystem shall be appropriately assessed and effectively addressed.**
Summary of relevant changes:	12.1. Assessment of environmental effects on target stocks and ecosystem. The impacts of environmental factors on sablefish and other fish or non-fish species associated or dependent upon them continue to be assessed appropriately by the NMFS/NPFMC and ADFG.

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	The 2021 sablefish SAFE report highlights some key information relating to environmental effects on target stocks and ecosystem. For example, Overall, environmental and ecosystem indicators suggest stable temperatures at depth, moderate to warm surface temperature conditions, a mix of average to below average indicators of foraging conditions, no apparent increases in predation pressure, and reduction in potential competition due to juvenile sablefish moving off the shelf and into adult slope habitat. Given that no major concerns are apparent for sablefish, the **environmental and ecosystem category** was rated '1 – Normal'. The NMFS' Alaska Fisheries Science Center also publishes yearly Ecosystem Status Reports that provide links between ecosystem research and fishery management. Key findings from the 2020 status reports are briefly summarized below[124]. **Eastern Bering Sea** <u>Northern Bering Sea</u> Two winters (2017/2018 and 2018/2019) of little sea ice in the NBS, and two summers (2018 and 2019) of reduced cold pool extent, resulted in ecosystem changes across the Bering Sea. NOAA bottom trawl surveys saw northward shifts in fish species. The northward movement of stocks into the NBS changed the through predation pressure. Concerns about the food web dynamics and carrying capacity of the NBS have existed since 2018. The groundfish community had shifted to the north and into shallower water since 2014, but between 2019 and 2021 the distribution shifted back to the southeast. Catch per unit effort (CPUE) of fish and invertebrates sampled during the 2021 NOAA bottom trawl survey decreased. In the NBS, CPUE decreased substantially between 2019 and 2021. In the southern portion of the survey, CPUE decreased between 2019 and 2021 to the lowest level since 2009. Coincident Collapses in the NBS: In 2021, multiple ecosystem 'red flags' occurred in the NBS: (1) crab population declines, (2) salmon run failures in the Arctic-Yukon-Kuskokwim region, and (3) seabird die-offs combined with low colony attendance and poor reproductive success. Although the collapses are coincident in 2021, they reflect cumulative dynamics over the last few years. The mechanisms are not fully understood, but a common thread in these collapses is the marine environment in the NBS, which underwent an abrupt and dramatic change starting in late 2017. 1) In 2018, more than 50% of Pacific cod biomass was found in the NBS. Pacific cod predation on snow crab is one potential contributing factor that may be behind the decline in snow crab observed in 2021. 2) Salmon run failures in 2021 in the Arctic-Yukon Kuskokwim Region included Chinook, chum, and coho salmon. The low returns in 2021 reflect a multiple age-class failure as warm ocean conditions over several years affected juvenile salmon life stages across multiple years. 3) Fish-eating seabirds (i.e., black-legged kittiwakes, common murres) had poor reproductive success or complete reproductive failure, on both St. Lawrence Island and Hall Island. Plankton

[124] https://www.fisheries.noaa.gov/alaska/ecosystems/ecosystem-status-reports-gulf-alaska-bering-sea-and-aleutian-islands#:~:text=Alaska%20Ecosystem%20Status%20Reports%20are,results%20of%20diverse%20research%20efforts.

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	eating seabirds had mixed reproductive success – least auklets did well on both Hall Island and St. Lawrence Island, but crested auklets (on St. Lawrence Island) had poor reproductive success. South-eastern Bering Sea[125] The loss of sea ice leads to increased water temperature (i.e., lack of cold pool), decreases in ice-associated algae, and increases in salinity that change water density and stratification. Community-led monitoring on St. Paul Island shows an increasing trend in salinity and water density since 2014. Water density and stratification impact the distribution of organisms in the water column. Visual predators, such as seabirds, may have had reduced foraging success due to an algal coccolithophore bloom over the southern shelf, although the timing of breeding and abundance of fish-eating seabirds (i.e., murres and puffins) appeared average at St. Paul Island. Chlorophyll-a biomass was low along the shelf-break, continuing that trend since 2014, and winds did not consistently demonstrate upwelling or downwelling conditions. Small copepod abundance was slightly reduced in spring but unlikely to impact food availability for larval fish. Observations of Calanus spp. suggest they were developing more slowly. This would increase this important prey for juvenile fish and help increase overwinter survival of the fish. Fish and invertebrate guilds can tell us about different parts of the ecosystem and food web. For example, motile epifauna (including sea stars and crabs) tell us about benthic productivity. In 2021, motile epifauna remained above average because brittle stars, sea stars, and other echinoderms off-set below-average biomass for all crabs. Benthic foragers were at their lowest level. The aggregate forage fish guild describes available prey for seabirds and larger fish (i.e., adult pollock). This guild has declined since 2014 and may have contributed to other substantial ecosystem changes in the south-eastern Bering Sea. In 2021, pelagic foragers dropped to their second lowest value. Apex predators, largely driven by adult Pacific cod, were below average in 2021. Under warm ocean conditions, groundfish experience increased thermal exposure and metabolic demands. Fish condition trended downward from 2019 to 2021 for multiple groundfish species, including benthic, pelagic, and apex predators, indicating poor feeding conditions across guilds. However, the condition of juvenile pollock (100-250mm) has trended upward since 2017, indicating good food availability. Additionally, juvenile pollock experienced less predation due to declining biomass of predators. The 2021 Bristol Bay sockeye salmon inshore run is the largest on record since 1963. These stocks experienced positive ocean conditions in the EBS in the summers of 2018 and 2019, and winters of 2018-2019 and 2019-2020. Management Uses Ecosystem and stock assessment scientists worked together to account for the influence of environmental conditions in the Bering Sea on commercially-important fish stocks. They considered ecosystem information in seven full assessments for the Bering Sea and Aleutian Islands stocks plus

[125] https://apps-afsc.fisheries.noaa.gov/refm/docs/2021/EBSecosys.pdf

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	the Alaska-wide sablefish stock in 2021. Four of these assessments classified ecosystem dynamics at risk level 2 (out of 4), noting substantially increased concerns: EBS pollock, EBS and AI Pacific cod, and yellowfin sole. The acceptable biological catch (ABC) for EBS pollock was reduced 11% from the Tier 1 to Tier 2 maximum permissible noting assessment, ecosystem, and fishery performance concerns. For yellowfin sole (YFS), the Scientific and Statistical Committee (SSC) recommended the maximum permissible ABC rather than the proposed reduction by the stock assessment author and BSAI Groundfish Plan Team. During deliberation, the SSC agreed that some concerns existed for YFS but they did not appear elevated from the previous assessment and did not warrant a reduction at this time. For the remaining six stocks, including EBS and AI Pacific cod, precautionary measures already incorporated into setting catch levels were considered sufficient to address uncertainty about current ecosystem dynamics. **Aleutian Islands**[126] Western Aleutians The western Aleutians experienced enhanced storminess during summer due to negative sea level pressure anomalies. During August and September, the highest sea surface temperatures since observations began in 2003 exceeded the threshold for a moderate heatwave. Temperatures quickly returned to near normal by October. This heatwave coincided with the start of the spawning season of Atka mackerel when they nest at depths between 32 – 144m. As a result, nests in the shallower areas may have experienced warm temperatures close to 10 – 11°C, or near the upper limit of historical spawning temperatures. Eddy kinetic energy was below average, suggesting low fluxes of nutrients, heat and salt through the passes. Satellite derived chlorophyll concentration, often a proxy for phytoplankton biomass, was near average during early spring and above average in June, particularly north of the western Aleutian Islands. It was an exceptionally successful season for fish-eating seabirds (tufted and horned puffins, and thick-billed murres). Conditions have continued to improve since 2019, when birds experienced poor reproductive success. The above-average reproductive success of fish-eating seabirds and zooplankton-eating seabirds at Buldir Island suggests that a wide variety of prey was available. Their average hatch dates fall between mid-June to late July and average chick-rearing periods last 30 to 42 days, suggesting prey were available throughout the summer. Chick diets included age-0 commercial groundfish species. Atka mackerel comprise 14% of tufted puffin and 56% of horned puffin chick diet composition in 2021. There was an increase in the proportion of gadids in chick diets relative to previous years. Rockfish have also remained present in the chick diets of both tufted (25%) and horned puffins (8%) at Buldir Island. The presence of rockfish in seabird diets suggests they are more available to seabirds as prey, potentially reflecting the increasing trend in Pacific Ocean perch and northern rockfish biomass. Central Aleutians The central Aleutians experienced the same pattern of enhanced storminess during summer and high sea surface temperatures during August and September as in the western Aleutians. Eddy kinetic

[126] https://apps-afsc.fisheries.noaa.gov/refm/docs/2021/AIecosys.pdf

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	energy was average in the region this year, meaning there was likely an average flux of nutrients and heat across the passes. Eddy kinetic energy north of the central Aleutian Islands is usually the lowest in magnitude compared to that in the western and eastern Aleutians. Events are characterized either by multiyear or continuous eddies of low intensity in this area. Phytoplankton biomass, as represented by chlorophyll-a concentration, was slightly above average offshore from the islands, but slightly below average on the south side of the islands during June. The central Aleutians had the highest number of reports of beachcast dead seabirds, particularly shearwaters in Atka (200 birds). Bycatch estimates of shearwaters seem to be low during low (even) pink salmon abundance years and higher in high (odd) pink salmon abundance years. This suggests increased competition between shearwaters and pink salmon. Weekly mussel collections for Paralytic Shellfish Toxin were taken at Adak this summer. A late-summer, single collection of a suite of other species also occurred as part of Knik Tribe's monitoring efforts. While results are not yet available, toxin levels have been within regulatory limits in past years. <u>Eastern Aleutians</u>[127] In the eastern Aleutians, sea surface temperatures were not as high as in the western and central Aleutians. Temperatures were higher in September than last year, but only a few days exceeded the moderate marine heatwave threshold. Mid-water temperatures also seem to have cooled compared to 2019 and previous years. Temperatures were similar to those recorded last year by the longline survey at depths between 100-300 m. Winds blowing from the west to the east in the eastern Aleutians caused low flows through Unimak Pass. Eddy kinetic energy, which is typically driven by intense pulse eddies in these areas, remained below average. Chlorophyll-a concentration suggested that spring phytoplankton biomass was also below average. Fish eating seabirds, such as murres and puffins, had mostly high reproductive success, although gulls had average reproductive success. These indicators suggest good availability of forage fish to rear chicks and potentially for fish-eating groundfish. No auklets, which are primarily zooplankton-eaters, were monitored for reproductive success I the region. However, the euphausiids in tufted puffin's chick meals (34% of diet composition by number) suggest zooplankton were available to predators. There were a few reports of dead seabirds (20-50 birds) in Cold Bay and Unalaska. Monitoring of harmful algal blooms indicates that peak toxin levels occurred during June. This year toxins in blue mussels were 75x above the regulatory level. This level is much lower than in the reported shellfish that caused a fatality last year (140x above the regulatory level). Public awareness efforts have increased in the area to minimize impacts on human health. Multi-year patterns observed across the Aleutians include: 1) Sustained environmental conditions since 2013, which include above-average water temperatures, weaker eddies and lower flow through the passes, and below-average abundance of large diatoms and biomass of mesozooplankton. 2) Increased abundance of Eastern Kamchatka pink salmon in odd years.

[127] https://apps-afsc.fisheries.noaa.gov/refm/docs/2021/AIecosys.pdf

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3) The groundfish pelagic foraging guild continuing to be dominated by rockfish, with the combined biomass of Pacific Ocean perch and northern rockfish being higher than Atka mackerel and walleye pollock combined.

Potential cumulative effects include lower productivity across the system with increased bioenergetic needs for fish, faster growth rates for zooplankton, increased competition for prey, and changes in prey field timing, availability, quality, and composition.

Management Uses

Ecosystem information was formally considered in seven groundfish stock assessments for the Bering Sea/Aleutian Islands region, and one state-wide stock (sablefish) in 2021. Four of these assessments classified ecosystem dynamics at risk level 2 (out of 4) noting substantially increased concerns: AI Pacific cod, yellowfin sole, EBS pollock and EBS Pacific cod. For the AI Pacific cod, the author recommended Tier 5 allowable biological catch (ABC) as a reduction from Tier 3 due to assessment and ecosystem concerns. As the Tier 5 model was retained, the Scientific and Statistical Committee (SSC) supported the BSAI Groundfish Plan Team (PT) decision that no additional reduction was needed. For yellowfin sole, the SSC agreed that some concern existed but did not warrant the reduction recommended by the author and PT. For EBS pollock the ABC was reduced 11% from Tier 1 to Tier 2 maximum permissible noting fishery performance, assessment, and ecosystem concerns. For the rest of the stocks, precautionary measures already incorporated into setting catch levels were considered sufficient to address uncertainty about current ecosystem dynamics

Gulf of Alaska[128]

The Gulf of Alaska (GOA) temperatures at the surface and depth generally hovered around longterm means, cooling from 2019. These temperatures are within the range for moderate growth and physiological conditions of commercially important groundfish species.

Surface temperatures are predicted to continue cooling into 2022. This is consistent with a second La Niña winter and potentially continued negative Pacific Decadal Oscillation. Strong, persistent eddies were located along the shelf edge off Seward and Kodiak in the winter and spring. This indicated greater movement of nutrients across the shelf.

Around Kodiak Island there was a lower abundance of large copepods. This is similar to lower productive, warmer years (e.g., 2019). Closer to the central GOA, the Seward Line survey observed average to above average spring abundance of large calanoid copepods in association with a large spring phytoplankton bloom. This productivity was not reflected in higher trophic levels as planktivorous seabirds had below average reproductive success in this region (East Amatuli fork-tailedstorm petrels). Above-average copepod abundance was observed in southeast Alaska inside waters. However, eastern GOA shelf conditions may have been less productive, given the below-average reproductive success of planktivorous seabirds in that area. So, while we saw average to cooler ocean temperatures, that didn't translate into predicted higher abundance of large copepods.

However, the community composition was supplemented by a more diverse suite of species. Herring spawning stock biomass continues to increase, which supports fish eating groundfish (e.g., sablefish), the increasing population of humpback whales in Glacier Bay, and fish-eating seabirds (e.g., murres

[128] https://apps-afsc.fisheries.noaa.gov/refm/docs/2021/GOAecosys.pdf

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	and gulls). Juvenile pollock (age-1; a common prey species) were seen in high abundance. Sand lance (a warm-water associated species) was observed in moderate amounts while (a cold-water associated species) remain at low abundance since the 2014-2016 marine heatwave. Juvenile salmon in Icy Strait were, on average, observed at lower abundance. While not considered forage fish, other prey species including Tanner crab and shrimp around Kodiak continue to increase. There remains lower predation pressure from major groundfish predators in the system (reduced populations of Pacific cod, Pacific halibut, arrowtooth flounder, and lower but increasing sablefish). This may enable other species to increase in abundance. Low abundance of predators may also reflect lower system productivity and prey availability. Salmon returns increased in 2021, driven by abundant pink salmon. There was some evidence of the large population of pink salmon impacting the food web in the western GOA. This was apparent through reduced abundance of large copepods (pink salmon prey), increased biomass of large diatoms (fewer eaten by copepod predators), and reduced reproductive success of black-legged kittiwakes (competitors of pink salmon for large copepods). Paralytic shellfish toxins in shellfish (harmful algal blooms) were observed in reduced frequency and concentrations in 2021 (from 2020 and 2019). Fewer shellfish samples exceeded the regulatory limit for human consumption. This is likely due to cooler ocean conditions. <u>Management Uses</u> Ecosystem information was formally considered in fourteen groundfish stock assessments for Gulf of Alaska stocks, and one statewide stock (sablefish) in 2021. There were no ecosystem-related reductions from the maximum acceptable biological catch (ABC) for Gulf of Alaska groundfish stocks. Precautionary measures already incorporated into setting catch levels were considered sufficient to address uncertainty. **ACLIM** The Alaska Climate Integrated Modeling project (ACLIM) is a NOAA sponsored interdisciplinary collaboration to project and evaluate climate impacts on marine fisheries in the Bering Sea, Alaska[129]. It connects research on global climate and socioeconomic projections to regional circulation, climate enhanced biological models, and socio-economic and harvest scenarios. To evaluate a range of possible future conditions, scientists are evaluating the effectiveness of existing fishery management actions under 11 different climate scenarios (spanning high and low CO2 futures expected to lead to different degrees of warming). They will also look at how human fishing fleets and communities can adapt to climate change through climate-informed management. Results of the ACLIM have been presented to the Council. In December 2018 the North Pacific Council adopted a Bering Sea Fishery Ecosystem Plan (BS FEP). Under the overarching guidance of the Council's Ecosystem Approach Statement, the BS FEP sets goals and objectives for the Bering Sea ecosystem which direct the process by which the Council should manage fisheries, monitor the ecosystem, and prioritize new research through identification of projects, called "Action

[129] https://www.fisheries.noaa.gov/alaska/ecosystems/alaska-climate-integrated-modeling-project

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	Modules"[130]. Accordingly, in June 2019, the Council sought nominations for membership for two taskforces to work on two Action Modules, or projects that implement the Council's Bering Sea FEP. One of the two is the Climate Change Action Module: tasked with evaluating short- and long-term effects of climate change on fish, fisheries, and the Bering Sea ecosystem, and develop management considerations. The Bering Sea FEP establishes a framework for the Council's continued progress towards ecosystem-based fishery management (EBFM) of the Bering Sea fisheries, and relies and builds on the Council's existing processes, advisory groups, and management practice. The FEP was prepared by the Bering Sea Fishery Ecosystem Plan Team, which is an interagency group of Council, NMFS, and other Federal, State and IPHC staff, with contributions from other Council and NMFS staff, and with extensive input from the Council's Ecosystem Committee. The module will leverage ongoing studies, such as ACLIM and an Alaska species vulnerability assessment, and consider how information from those existing studies can better filter into the Council process Aside from the NMFS ecosystem-based research, there are a number of other programs, initiatives and plans initiatives devoted to understanding the ecosystem dynamics as they relate to fisheries. The North Pacific Research Board (NPRB) has funded long-term monitoring (LTM) projects since 2002 through its annual Request for Proposals (RFPs) and as part of its Integrated Ecosystem Research Program with projects in the Bering Sea and Gulf of Alaska[131]. The NPRB Long-term Monitoring Program was launched in 2013. The board committed an initial $400,000 per year for five years to this effort (a total of $2 million). The first long-term monitoring projects were funded in 2014 and will continue for a minimum of five years. The NPRB's Bering Sea Project[132]was founded upon the implementation and science plans for the Bering Ecosystem Study (''BEST'') supported by the National Science Foundation (NSF), and the Bering Sea Integrated Ecosystem Research Program (''BSIERP'') supported by the NPRB. The overarching goal of the two programs was to increase our understanding of the processes that maintain the structure and function of the Bering Sea marine ecosystem, and to learn how natural and anthropogenic variation in sea ice and other physical forcing mechanisms may produce natural, economic, sociological and cultural impacts to the ecosystem. Major direct funding was provided by the National Science Foundation ("Bering Ecosystem Study"; ~$26M) and the North Pacific Research Board ("Bering Sea Integrated Ecosystem Research Program", BSIERP; ~$16M). Substantial in-kind support (~$15M) was provided by other agencies. The $17.6 million Gulf of Alaska ecosystem study examines the physical and biological mechanisms that determine the survival of juvenile groundfishes in the Gulf of Alaska[133]. From 2010 to 2014, oceanographers, fisheries biologists and modelers studied commercially and ecologically important groundfishes, specifically walleye pollock, Pacific cod, Pacific Ocean perch, sablefish and arrowtooth flounder, during their first year of life as these fish are transported from offshore areas where they are spawned to nearshore nursery areas. The results of this project are already being communicated to a variety of audiences. Researchers regularly share news via blogs from the field that appear on

[130] https://meetings.npfmc.org/CommentReview/DownloadFile?p=c334ad33-4139-4b5a-b205-a8b7c5028562.pdf&fileName=D6%20Final%20BS%20FEP%20Jan%202019.pdf

[131] https://www.nprb.org/long-term-monitoring-program/about-the-program/

[132] https://www.nprb.org/bering-sea-project/about-the-project/

[133] https://www.nprb.org/gulf-of-alaska-project/about-the-project/

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	the project website (http://gulfofalaska.nprb.org/). This research is also being presented at scientific meetings such as the annual Alaska Marine Science Symposium and public events such as the Sitka WhaleFest. 12.2. Research and Institutional capacity for environmental impact assessment. The NPFMC and NOAA/NMFS routinely carry out assessments and research related to fishery impacts on ecosystems and habitats and how environmental factors affect the fishery. Findings and conclusions are published in the Ecosystem section of the SAFE documents, annual Ecosystem Considerations documents (summarized under clause 12.1), and various other research reports. In terms of impact assessment, it is a requirement that every time a major change is proposed to regulations affecting fisheries management such as the revision of a fishery management plan, a federal National Environmental Policy Act (NEPA) analysis is initiated. Using the NEPA process, agencies evaluate the environmental and related social and economic effects of their proposed actions. Agencies also provide opportunities for public review and comment on those evaluations[134]. The most recent NEPA compliant Regulatory Impact Review/ Environmental Assessment was performed in regard to the proposed NPFMC action to allow halibut retention in BSAI sablefish pots, issued for public review in October 2018[135]. Impact assessments are available for all major elements affected by the sablefish fishery. Those include bycatch, ETP species, and habitat effects. The bycatch from the sablefish fishery was also assessed in 2021, full details of which were reported in the 2021 sablefish SAFE report[136] (Goethel *et al.* 2021). Giant Grenadier, a non-target species (Ecosystem Component in both the GOA and BSAI FMPs), continue to make up the bulk of the nontarget species bycatch. The species is not considered at risk of depletion or depleted. In terms of seabirds affected, a 2020 report[137] from NOAA Fisheries monitored bycatch seabirds and of ESA short- tailed albatross, where no catches were reported for the year. The 2020 estimated seabird bycatch for the combined groundfish and halibut fisheries (3,462 birds) was about half of the 2011 through 2020 annual average of 6,607 birds. The notable decline in estimated seabird bycatch in 2002 was due to the voluntary deployment of streamer lines as bird deterrents on many demersal longline vessels (Melvin *et al.* 2001). Seabird bycatch estimates in 2020 were dominated by Northern fulmar (Fulmarus glacialis; 70 percent; Estimated Northern fulmar bycatch (2,437 birds) decreased by 18 percent compared to 2019 (birds per year) and was 34 percent lower than the 2010 through 2019 average (3,677 birds per year). Fulmar bycatch has ranged from an estimated 33 percent to 70 percent of the total seabird bycatch from 2011 through 2020. Average annual mortality for Northern fulmar since 2011 has been 3,573 birds (2011 through 2020). When compared to the estimated total population size of Northern fulmar in Alaska of 1.4 million birds (Denlinger 2006), observed fisheries account for an annual mortality of 0.25 percent. While this mortality is low, local population depletions could occur if the

[134] https://www.epa.gov/nepa/what-national-environmental-policy-act
[135] https://meetings.npfmc.org/CommentReview/DownloadFile?p=2dcf0126-26d7-478a-a2c6-c8f1dc234d58.pdf&fileName=C4%20Halibut%20Retention%20in%20BSAI%20Pots%20Public%20Review%20-%20pdf%20version.pdf
[136] https://apps-afsc.fisheries.noaa.gov/refm/docs/2021/sablefish.pdf
[137] https://repository.library.noaa.gov/view/noaa/32076

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	mortality is colony-specific (Hatch *et al.* 2010). In 2020, shearwaters (Family Procellariidae) were the second most frequently occurring birds in the bycatch (10 percent; Table 2; Figure 4). Estimated shearwater bycatch in 2020 (333 birds) was more than 4 times lower than the 2011 through 2020 average (1,465 birds per year) and was 94 percent less compared to 2019 (5,272 birds); although 2019 represents the year with the highest estimated bycatch of shearwaters ever reported in the Federal fisheries off Alaska. The unusually high amount of shearwater bycatch in 2019 corresponds to the shearwater mortality event observed throughout Alaska that year. It is believed that changing ocean conditions have resulted in depleted food resources for shearwaters causing them to more aggressively target fishing vessels and fishing bait (USFWS 2019). Shearwater bycatch increased by an estimated 700 percent from 2018 to 2019. Shearwater bycatch has ranged from 3 percent to 58 percent of the total estimated seabird bycatch from 2011 through 2020. Average annual mortality for shearwaters from 2011 through 2020 has been 1,352 birds. The total worldwide population of shorttailed shearwaters (*Ardenna tenuirostris*) and sooty shearwaters (*Ardenna grisea*) is estimated to be 43 million birds (Denlinger 2006; Eich *et al.* 2016). In 2020[138], gulls (Family Laridae) were the third most frequently occurring birds in the bycatch (5 percent of total seabird bycatch;). Gull bycatch in 2020 (180 birds) was 18 percent lower than in 2019 (219 birds) and was 81 percent lower when compared to the 2011 through 2020 average (933 birds per year). Estimated gull bycatch has ranged from 2 percent to 30 percent of the total estimated seabird bycatch from 2011 through 2020. Looking at overall gull bycatch (all gear types, all areas combined) for the last 10 years (2011 through 2020), bycatch levels in 2020 are the lowest during this timeframe of the various gull species, the estimated total number of breeders in Alaska is roughly 366,100 birds. Marine mammal interactions are summarized by NOAA Fisheries annually, in their marine mammal stock assessment reports in U.S. waters[139]. The sablefish fisheries are known to interact with Steller sea lions and sperm whales, and further information has been summarized in the clauses below. The EFH Environmental Impact Statement (EFH EIS) (NMFS 2005) concluded that the effects of commercial fishing on the habitat of sablefish is minimal or temporary in the current fishery management regime primarily based on the criterion that sablefish are currently above Minimum Stock Size Threshold (MSST)[140]. The stock continues to be above its MSST level in 2018. The 2015 Essential Fish Habitats (EFH) 5-year review that concluded in June 2017 evaluated new information on EFH, concluded that no change to the conclusions of the evaluation of fishing effects on EFH was warranted based on new information. In June 2018 a final environmental assessment was released relating to EFH as Omnibus amendments applying to: Amendment 115 to the FMP for the Groundfish Fishery of the BSAI Area, Amendment 105 to the FMP for Groundfish of the GOA, among other FMPs[141].

[138] https://repository.library.noaa.gov/view/noaa/32076
[139] https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports-species-stock#pinnipeds---otariids%C2%A0(eared-seals-or-fur-seals-and-sea-lions)
[140] https://repository.library.noaa.gov/view/noaa/17392
[141] https://repository.library.noaa.gov/view/noaa/18204

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	In terms of habitat impacts, bottom trawl impacts, which are the most significant have been addressed in Alaska by requires raised bobbins in demersal trawl targeting flatfish and cod in the BSAI and the Central GOA. Research has demonstrated that this gear modification reduces unobserved mortality of red king crab, Tanner crab, and snow crab, reducing contact with the ocean floor by as much as 90%[142]. In addition to this there are extensive habitat closures in Alaska[143]. 12.3./12.4/12.5/12.6. Fishery Interaction with the ecosystem, non-target catches, discards, associated, dependent or endangered species. The 2021 SAFE[144]reported extensively on the sablefish fishery effects on the ecosystem, including non-target catches, discards, and associated, dependent or endangered species. We provide a direct summary of this information here below. **Sablefish Discards** Sablefish discards in groundfish target fisheries are highest in the hook and line along with trawl gear types, but the predominant source varies over times and across regions (Table 3.4). In both the BSAI and GOA in recent years, trawl gears have constituted the primary source of discards (Table 3.4). Generally, discards of sablefish in pot gear in non-sablefish fisheries has been low (pot includes halibut and Pacific cod targeting; Table 3.4). In 2020, sablefish removals in the midwater trawl walleye pollock fishery were at a high of 2,867 t and in 2021 it decreased to 956 t (as of 10/10/21); a moderate portion of the catch is discarded (trawl catch in the BS is discussed in more detail in appendix 3D). Catch was also substantial in the arrowtooth flounder fishery from 2020 - 2021 and the Kamchatka founder fishery from 2019 - 2021. In the GOA, the rockfish trawl fishery had high catches of sablefish from 2018 - 2021 (641 - 801 t). Sablefish catch in the arrowtooth flounder fishery was high from 2017 - 2020 (490 - 1,190 t); however, in 2021, it dropped to 267 t. Bycatch of targeted groundfish in the sablefish fishery has consistently been dominated by GOA shortspine thornyhead, rockfish, and sharks (Table 3.5). On average 75% of the shortspine thornyhead are retained and none of the shark. There is also substantial bycatch of GOA shortraker rockfish and arrowtooth flounder (Table 3.5). The next most abundant species are GOA other skates, longnose skate, and GOA rougheye rockfish. Habitat areas of particular concern (HAPC) biota and non-target species are also caught in the sablefish fishery as bycatch. Every year the highest bycatch group are grenadiers (Table 3.6). The amount of grenadier has decreased each year since 2016 (Table 3.6). In 2016, 8,667 t of grenadier were removed, while this total decreased to 902 t in 2021. During the same period, the sablefish fishery has been increasingly adopting pot gear, which has less grenadier bycatch. The predominant prohibited species catch (PSC) in the BSAI sablefish fisheries is golden king crab, of which nearly all are caught in pot gear (15,502 individuals / year on average for all gears in the BSAI; Table 3.7). Other crab species catches are highly variable. There was an anomalous high catch of golden king crab of 38,905 individuals in 2018, due to catch in the BSAI pot fishery, but it decreased the next year and was 13,535 in 2021 (Table 3.7, see “other” gear). Pacific halibut PSC is mostly in the GOA hook and line fishery. In 2021, the halibut bycatch estimate in the GOA is 46 t, but the mean from 2014 - 2021 was 308 t.

[142] https://www.fisheries.noaa.gov/resource/document/ea-rir-frfa-amendment-94-bsai-groundfish-fmp-require-trawl-sweep-modification-bs
[143] https://www.npfmc.org/habitat-protections/gear-modifications/
[144] https://apps-afsc.fisheries.noaa.gov/refm/docs/2021/sablefish.pdf

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	Discards of Small Sablefish in the Directed Fishery Under current regulations, release of any sablefish by the sablefish IFQ fishery is prohibited so long as there is remaining IFQ for persons onboard the fishing vessel. Unusually large year classes of sablefish since 2014 have led to increased fishery catches of small sablefish with much lower economic value than more desirable (i.e., larger) market categories. The North Pacific Fishery Management Council (NPFMC) initiated action to consider allowing sablefish to be released by the IFQ fishery, prior to filling their quota, in December 2019. Two alternatives for analysis were developed by the Council: Alternative 1--no action; and Alternative 2--allow voluntary careful release of sablefish in the IFQ fishery. The NPFMC conducted an initial review of the sablefish release allowance during its February 2021 meeting. While the intent of this action was to allow fishermen to release small sablefish, the elements/options did not include a size limit for sablefish or a mechanism for release mortalities to be deducted from IFQ accounts in-season. Few direct studies were available to narrow the range of potential sablefish discard mortality rates (DMRs), and any study specific to sablefish in Alaska would take years to provide useful results. Finally, the analysis highlighted substantial concerns related to fishery monitoring, catch accounting, and increased uncertainty in the sablefish stock assessment and estimation of biological reference points. At the February 2021 NPFMC meeting, the Council suspended further action on this issue and requested that the IFQ Committee provide recommendations on the action's relative priority. The IFQ Committee's report to the Council in April 2021 indicated that the sablefish release allowance continued to be a high priority for the majority of the IFQ fleet. Given these recommendations, the Council made a motion at their October 2021 meeting to prepare and schedule for Council consideration of a small sablefish release Initial Review document when time and resources allowed **Bycatch in the sablefish fishery (observer data)** The largest bycatch group in the sablefish fishery[145] is GOA thornyhead rockfish with an bycatch average of 505 t/year and, 129 t discarded for years 2013-2021. Sharks and skates are also taken in substantial numbers and are mostly discarded. Giant grenadiers, a non-target species that is an Ecosystem Component in both the GOA and BSAI FMPs, make up the bulk of the nontarget species bycatch, with 2013 the highest in recent years at 13,638 t but has decreased by more than half in in the last few years. Other non-target taxa that have catches over one ton per year are corals, snails, sponges, sea stars, and miscellaneous fishes and crabs. PSCs in the targeted sablefish fisheries are dominated by halibut (11 t/year on average, mostly BSAI) and golden king crab (15,401 individuals/year on average, mostly BSAI). Crab catches are highly variable, probably as a result of relatively low observer sampling effort in sablefish fisheries. **Bycatch of other species in the target sablefish fleet from EM data** One of the key updates of the 2018 North Pacific Observer Program Report was that[146]2018 was the first year that EM was integrated into the Observer Program under regulations. In 2020[147], EM data were collected from 106 vessels from 258 trips (195 longline trips and 63 pot trips). By target species, there were 122 halibut trips, 23 Pacific cod trips, and 113 sablefish trips. The data spanned 682 halibut sea days, 86 Pacific cod sea days, and 674 sablefish sea days for a total of 1,442 sea days with trips averaging 5.6 days across all fisheries. Of the 11,491 hauls on reviewed trips, the catch level

[145] https://apps-afsc.fisheries.noaa.gov/refm/docs/2021/sablefish.pdf
[146] https://www.fisheries.noaa.gov/resource/document/north-pacific-observer-program-2018-annual-report
[147]https://meetings.npfmc.org/CommentReview/DownloadFile?p=9e77fc11-b9c8-44b5-a153-69bdbf5d75b8.pdf&fileName=C1%20Observer%20Program%202020%20Annual%20Report.pdf

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	data was recorded for 3,814 hauls. All catch data presented is from this subset of hauls. Since total catch accounting is the goal for EM in the Southeast Alaska fixed gear sectors, all species of retained or discarded marine organisms were reported and summarized to the target fishery level. Video reviewers identified a high proportion of retained and discarded catch to species. Exceptions were primarily those species that reviewers have been instructed to identify to a group level because they are too similar to reliably differentiate (e.g., shortraker rockfishes, and arrowtooth/kamchatka flounders). There were also a small proportion of rockfish that were recorded as "Rockfish – unidentified" or "Rockfish – Small Red unidentified Some of the most common bycatch (retained and/or discarded) in the sablefish fleet component using EM included thornyhead, shortspine thornyhead, shortraker/rougheye rockfish, grenadier, spiny dogfish and soft snout skate. **Seabird bycatch** Demersal Longline Gear[148] Based on standard observer sampling protocols, demersal longline gear in Alaska groundfish fisheries accounted for 75 percent of the estimated seabird mortality in 2020 (2,612 birds), which is comparatively lower than the average estimated seabird mortality from 2011 through 2019 (86 percent; range 76 to 96 percent). From 2011 through 2020, most of the estimated seabird bycatch from demersal longline gear occurred in the BS (95 percent) when compared to the AI (< 1 percent) and GOA (4 percent). In fact, most (72 percent) of the total (all gear types) seabird bycatch off Alaska occurred in the BS from fisheries using demersal longline gear (range 55 percent to 86 percent from 2011 through 2020)[149]. Consistent with results for all gear types combined, most 2020 estimated seabird bycatch by demersal longline gear was Northern fulmar (61 percent; 1,599 birds); shearwaters (13 percent; 331 birds); and gulls (7 percent; 180 birds; Table 3; Figure 6). Estimated bycatch of all three species in 2020 was comparatively lower when compared to the 2011 through 2019 times series average. Estimates of seabird bycatch were also analyzed to compare C/Ps and CVs. In the BSAI, 95 percent of the total estimated seabird bycatch for vessels using demersal longline gear occurred on C/Ps in 2020 (2,469 birds). This is higher than the 2011 through 2019 time series average (81 percent; 6,013 birds; range of 2,097 to 9,491 birds). Northern fulmar, shearwaters, and gulls accounted for 96 percent of total estimated bycatch for C/Ps in 2020 (1,585; 325; 178 birds, respectively). On CVs, Northern fulmar (14 birds), shearwaters (7 birds) and gulls (2 birds) comprised 23 of the 25 total estimated seabirds caught as bycatch in the BSAI in 2020 (Table 7). In the GOA[150], 94 percent of total estimated seabird bycatch for vessels using longline gear occurred on CVs in 2020 (110 birds). This proportion is slightly more than the 2011 through 2019 average (776 birds; 89 percent). Black-footed albatross and Laysan albatross were the two most prevalent seabird bycatch species for CVs in 2020 (82 and 17 birds, respectively; Table 7). The difference in proportion of seabird bycatch attributed to CVs and C/Ps in the BSAI and GOA is most likely a reflection of the differences in fleet characteristics between the two regions. In the BSAI, most of the longline effort is by C/Ps targeting Pacific cod, while in the GOA, most of the longline effort is by CVs targeting halibut, sablefish, and Pacific cod.

[148] https://repository.library.noaa.gov/view/noaa/32076
[149] https://repository.library.noaa.gov/view/noaa/32076
[150] https://repository.library.noaa.gov/view/noaa/32076

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	Of the demersal longline fisheries that have seabird bycatch, the bulk of recent fishery effort in the BS 12 occurs in the Pacific cod demersal longline fleet (Eich *et al.* 2016)[151]. While this fishery accounts for the greatest amount of seabird bycatch (2011 through 2020 average of 67 percent), it captures an average of 10 percent of the total albatross bycatch. However, nearly all of the estimated short-tailed albatross takes that have occurred since 2003 have been in the Pacific cod demersal longline fleet (26 of the total 33 birds), while the remainder were taken in the Greenland turbot demersal longline fishery. As noted earlier, two endangered short-tailed albatross takes were reported by vessel using demersal longline gear in 2020 in the Federal fisheries off Alaska. Examining the three fisheries responsible for the majority of seabird bycatch[152]—Pacific cod, sablefish, and halibut demersal longline—the average annual seabird bycatch for 2011 through 2019 was 5,037, 715, and 241 birds per year, respectively. In 2020, the Pacific cod, sablefish, and halibut demersal longline estimated seabird bycatch was quite reduced when compared to the 2011 through 2019 averages (2,924, 125, and 22 birds, respectively; Table 13). Focusing solely on the bycatch of albatross (unidentified, short-tailed, Laysan, and black-footed), the Pacific cod, sablefish, and halibut fisheries using demersal longline gear average 31, 342, and 103 albatross per year, respectively, for 2011 through 2020 (average for halibut fisheries calculated for 2013 through 2020). Seabird bycatch levels and rates are highly variable among years; however, sablefish has higher estimated albatross bycatch relative to other fisheries. Therefore, future conservation efforts for mitigating albatross bycatch should focus on the sablefish fleet for maximum benefit. For endangered species bycatch, the focus should remain on the Pacific cod fleet; however, the average estimated mortality (2011 through 2020) is about 2 short-tailed albatross per year. Takes of short-tailed albatross have not been observed in the sablefish fishery since the mid-1990s. The only other fishery with a shorttailed albatross take is the BSAI Greenland turbot fishery in which 2 short-tailed albatrosses were recorded taken in 2014 (only 1 bird was in the observer sample). When expanded by the CAS, the average estimated mortality (2011 through 2020) across the Greenland turbot fishery is less than 1 short-tailed albatross per year. **Marine Mammals** The 2021 List of Fisheries Summary Tables list U.S. commercial fisheries by categories according to the level of interactions that result in incidental mortality or serious injury of marine mammals. The sablefish fisheries in the GOA are listed as Category II (occasional interactions with North Pacific sperm whale and Steller sea lion, Western US) while the BSAI and state fisheries are classified as Category III[153] (remote likelihood of/no known interactions with no marine mammal species mentioned). **Sperm Whales** Sperm whales have been observed depredating both halibut and sablefish longline fisheries in the Gulf of Alaska and this is also widespread in sablefish longline fisheries in the central and eastern Gulf of Alaska; this depredation can lead to mortality or serious injury if hooking or entanglement occurs. Potential threats most likely to result in direct human-caused mortality or serious injury of this stock

[151] https://repository.library.noaa.gov/view/noaa/32076
[152] https://repository.library.noaa.gov/view/noaa/32076
[153] https://www.fisheries.noaa.gov/national/marine-mammal-protection/list-fisheries-summary-tables#table-1-category-iii

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	include entanglement in fishing gear and ship strikes due to increased vessel traffic (from increased shipping in higher latitudes). Between 2013 and 2017, three serious injuries of sperm whales were observed in the Gulf of Alaska sablefish longline fishery (two in 2013 and one in 2016) and one in the Bering Sea/Aleutian Islands halibut longline fishery (in 2015). Each of these injuries was prorated at a value of 0.75 and extrapolated to fishery-wide estimates when possible, resulting in a minimum estimated mean annual mortality and serious injury rate of 4.7 sperm whales in U.S. commercial fisheries between 2013 and 2017[154]). The Potential Biological Removal (PBR) for sperm whales is 0.5, however, this is likely an underestimate given that it was calculated based on a limited geographical subset of the whole population. On the basis of total abundance, current distribution, and regulatory measures that are in place, it is unlikely that this stock is in danger of extinction (Braham 1992). **Steller Sea Lions** Mean estimated annual mortality of Western DPS Steller sea lion was 1.1 in the GOA sablefish fishery. The minimum estimated mean annual U.S. commercial fishery-related mortality and serious injury rate (36 sea lions) is more than 10% of the PBR (10% of PBR = 32) and, therefore, cannot be considered insignificant and approaching a zero mortality and serious injury rate. Based on available data, the minimum estimated mean annual level of human-caused mortality and serious injury (247 sea lions) is below the PBR level (322) for this stock[155]. The Western U.S. stock of Steller sea lions is currently listed as endangered under the ESA and, therefore, designated as depleted under the MMPA. As a result, the stock is classified as a strategic stock. The population previously declined for unknown reasons that are not explained by the documented level of direct human-caused mortality and serious injury. **Bait fisheries** Most longline bait is purchased frozen and thawed before using. Salmon, herring, cod, and octopus or squid are typically purchased for bait. These bait species are well managed by either the State of Alaska or the NMFS, and none are classified as depleted, endangered or threatened. 12.7 Role of the "stock under consideration" in the ecosystem. Sablefish are not typically categorized as a key prey species for any single marine predator. Predation on sablefish, especially by marine mammals, is apparently low, except in cases where the fish were attached to fishing gear. Larval sablefish sampled by neuston net in the eastern Bering Sea fed primarily on copepod nauplii and adult copepods (Grover and Olla 1990)[156]. Gao *et al.* (2004) studied stable isotopes in otoliths of juvenile sablefish from Oregon and Washington and found that as the fish increased in size, they shifted from midwater prey to more benthic prey. In nearshore southeast Alaska, juvenile sablefish (20-45 cm) diets included fish such as Pacific herring and smelts and invertebrates such as krill,

[154] https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports-species-stock#pinnipeds---otariids%C2%A0(eared-seals-or-fur-seals-and-sea-lions)
[155] https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports-species-stock#pinnipeds---otariids%C2%A0(eared-seals-or-fur-seals-and-sea-lions)
[156] https://apps-afsc.fisheries.noaa.gov/refm/docs/2021/sablefish.pdf

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	amphipods and polychaete worms (Coutré *et al.* 2015). In late summer, juvenile sablefish also consumed post-spawning pacific salmon carcass remnants in high volume, revealing opportunistic scavenging (Coutré *et al.* 2015)[157]. The main juvenile sablefish predators are adult coho and chinook salmon, which prey on young-of-the-year sablefish during their pelagic stage. Although juvenile sablefish may not be a prominent prey item because of their relatively low and sporadic abundance compared to other prey items, they share residence on the continental shelf with potential predators such as arrowtooth flounder, halibut, Pacific cod, bigmouth sculpin, big skate, and Bering skate, which are the main piscivorous groundfishes in the GOA. Sperm whales are likely a major predator of adult sablefish. Juvenile sablefish (< 60cm FL) prey items overlap with the diet of small arrowtooth flounder, and possibly also sleepersharks[158]. Alaska sablefish trophic level is considered to be between 3.84 and 4.12[159], and they are not considered a key prey species; as such there does not appear to be a need for management objectives and measures in place to avoid severe adverse impacts on dependent predators. <u>12.8 Pollution – MARPOL</u> MARPOL 73/78 (the "International Convention for the Prevention of Pollution From Ships") is one of the most important treaties regulating pollution from ships. Six Annexes of the Convention cover the various sources of pollution from ships and provide an overarching framework for international objectives. In the U.S., the Convention is implemented through the Act to Prevent Pollution from Ships (APPS). The requirements apply to vessels operating in U.S. waters as well as ships operating within 200 nautical miles of the coast of North America, also known as the North American Emission Control Area (ECA). On June 27, 2011, the EPA and USCG entered into a Memorandum of Understanding (MOU) to enforce Annex VI MARPOL. The Annex VI MOU[160] provides that EPA and USCG will jointly and cooperatively enforce the provisions of Annex VI and APPS. Efforts to be conducted by USCG and EPA include inspections, investigations and enforcement actions if a violation is detected. The efforts to ensure compliance with Annex VI and APPS include oversight of marine fueling facilities, on board compliance inspections, and record reviews. On January 16, 2015, EPA released a penalty policy for violations of the sulfur in fuel standard and related provisions for ships. <u>12.9 Knowledge of the essential habitats for the “stock under consideration” and potential fishery impacts on them.</u> The 2015 Essential Fish Habitats (EFH) 5-year review that concluded in June 2017 evaluated new information on EFH, assessed information gaps and research needs, and identified whether any revisions to EFH are needed. Based on the 5-year review, the Council determined that new habitat and life history information is available to revise many of the EFH descriptions and maps in the

[157] https://apps-afsc.fisheries.noaa.gov/refm/docs/2021/sablefish.pdf
[158] https://www.afsc.noaa.gov/REFM/Stocks/plan_team/2016sablefishCIE/Papers_for_website/SB_CIE_HISTORY_16.pdf
[159] https://www.fishbase.in/Ecology/FishEcologySummary.php?StockCode=528&GenusName=Anoplopoma&SpeciesName=fimbria
[160] https://www.epa.gov/enforcement/act-prevent-pollution-ships-apps-enforcement-case-resolutions

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	FMPs. These amendments to the EFH provisions in the Council's FMPs would not substantively change the impacts of EFH as analyzed in the 2005 EFH environmental impact statement. The 2015 EFH 5-year review concluded that no change to the conclusions of the evaluation of fishing effects on EFH was warranted based on new information. In June 2018, a final environmental assessment was released relating to EFH as Omnibus amendments applying to: Amendment 115 to the FMP for the Groundfish Fishery of the BSAI Area, Amendment 105 to the FMP for Groundfish of the GOA, among other FMPs[161]. The following changes were proposed for the BSAI and GOA FMPs (as well as the crab FMP): Update EFH descriptions and replace existing maps in the FMPs with maps that represent the 95th percentile by season for each species and life stage, as available **Sablefish EFH description in the BSAI (update in October 2018):** • Eggs and larvae: No EFH description determined. Insufficient information is available. • Early Juveniles: No EFH description determined. Information is insufficient. Early juveniles have generally been observed in inshore water, bays, and passes, and on shallow shelf pelagic and demersal habitat. • Late Juveniles: EFH for late juvenile sablefish is the general distribution area for this life stage, located in the lower portion of the water column, varied habitats, generally softer substrates, and deep shelf gulleys along the slope (200 to 1,000 m) throughout the BSAI. • Adults: EFH for adult sablefish is the general distribution area for this life stage, located in the lower portion of the water column, varied habitats, generally softer substrates, and deep shelf gulleys along the slope (200 to 1,000 m) throughout the BSAI. **Sablefish EFH description in the GOA (update in October 2018)** • Eggs: No EFH description determined. Information is insufficient. • Larvae: EFH for larval sablefish is the general distribution area for this life stage. Larvae are located in epipelagic waters along the middle shelf (50 to 100 m), outer shelf (100 to 200 m), and slope (200 to 3,000 m) throughout the GOA. • Early Juveniles: EFH for early juvenile sablefish is the general distribution area for this life stage. Early juveniles have been observed in inshore water, bays, and passes, and on shallow shelf pelagic and demersal habitat. • Late Juveniles: EFH for late juvenile sablefish is the habitat-related density area for this life stage, located in the lower portion of the water column, varied habitats, generally softer substrates, and deep shelf gulleys along the slope (200 to 1,000 m) throughout the GOA. • Adults: EFH for adult sablefish is the habitat-related density area for this life stage, located in deep shelf gulleys along the slope (400 to 800 m) throughout the GOA. **Habitat impact** The Essential Fish Habitat Environmental Impact Statement (EFH EIS) (NMFS, 2005) concluded that benthic longline and fish pot fisheries have minimal or temporary impacts on sablefish habitat while trawl fisheries have substantial long-term effects. However, in recent years, even the impacts from trawl fisheries in the BSAI and the Central GOA resulting from gear modifications (raising the bobbins from the seafloor) have decreased[162]. Raised bobbins have been shown to decrease habitat contact

[161] https://repository.library.noaa.gov/view/noaa/18204

[162] https://www.afsc.noaa.gov/REFM/Docs/2018/GOA/ecosysGOA.pdf

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	by 90%. Extensive trawl closures have been implemented to protect benthic habitat or reduce bycatch of prohibited species (i.e., salmon, crab, herring, and halibut) in the BSAI and GOA. Some of the trawl closures are in effect year- round while others are seasonal. In general, year-round trawl closures have been implemented to protect vulnerable benthic habitat. Seasonal closures are used to reduce bycatch by closing areas where and when bycatch rates had historically been high[163]. Over 95% of the AI management area is closed to bottom trawling (277,100 nm^2). With the Arctic FMP closure included (an area roughly 150,000 sq nm^2), almost 65% of the U.S. EEZ of Alaska is closed to bottom trawling. Further information on these is available at https://www.npfmc.org/habitat-protections/. **Essential Fish Habitat 5 year review Update 2022** 2022 Updates At the February 2022 meeting, the SSC reviewed the models and output being used for the updated Essential Fish Habitat (EFH) 5-year review summary report, which is under preparation for Council review later this year, and the Council supported the SSC's recommendations for improvements. The SSC received reports on progress with assessing EFH component 1, descriptions and maps of EFH by species, and EFH component 2, the effects of fishing on EFH. Under component 1, staff reported on results from the revised species distribution model (SDM)-based EFH maps, which have also undergone review by all stock assessment authors. The SSC found that overall, the information provided exhibits substantial improvement and refinement of EFH descriptions from the previous 5-year review (2017). There are, however, a subset of stocks for which stock assessment authors noted concerns with the SDM-based maps, particularly for species that are not well represented in surveys. The SSC had several recommendations for improvement to the component 1 assessment, as detailed in SSC report. For example, the SSC requests that the final report include a summary table that evaluates survey reliability, seasonal representativeness, and spatial representativeness of the data used in the SDM models, for species where concerns were raised in the stock author review. The SSC also reviewed the methodology for the fishing effects (FE) model, which is largely the same as that used in 2017, although with new data and some updates. The SSC supports using this version to evaluate fishing impacts for the 2022 5-year EFH review cycle, after addressing the recommendations in the SSC report. The SSC recommended, and the Council concurred, that for species where concerns have been raised about SDM-based EFH descriptions, the analysis should bring in other sources of information to address any question of possible mitigation. The SSC is currently scheduled to review output from the fishing effects model in June 2022, and the Council is tentatively scheduled to receive the 2022 EFH 5-year review summary report in October 2022. The Council noted that this schedule may be adjusted if needed, to ensure staff have sufficient time to address SSC recommendations. 12.10 Research shall be promoted on the environmental and social impacts of fishing gear and, in particular, on the impact of such gear on biodiversity and coastal fishing communities. In regard to the IFQ halibut and sablefish fisheries, one of the most important pieces of recent research was the December 2016 Twenty-Year Review of the Pacific Halibut and Sablefish IFQ Management Program. Primarily, the IFQ Program was examined with respect to how well it met its

[163] https://www.afsc.noaa.gov/REFM/Docs/2018/BSAI/ecosysEBS.pdf

12.	**Considerations of fishery interactions and effects on the ecosystem shall be based on best available science, local knowledge where it can be objectively verified and using a risk-based management approach for determining most probable adverse impacts. Adverse impacts on the fishery on the ecosystem shall be appropriately assessed and effectively addressed.**
	10 original policy objectives and how it was providing entry opportunities for new participants, an objective that the Council has sought to provide through numerous revisions since the IFQ Program was implemented. The 10 objectives of this review spanned from access to the fishery to quota shares, community reliance to IFQ and benefits from the program, among others[164]. Socio-economic data collection and economic analyses are often included under the Regulatory Flexibility Act (RFA), the MSA, the NEPA, the Endangered Species Act, and other applicable laws. One of the newest developments in management measures is the allowance of pot gear for catching sablefish in the GOA, partly due to sperm whale predation. Since January 2017, Amendment 101[165] to the Fishery Management Plan for Groundfish of the Gulf of Alaska authorizes the use of longline pot gear in the GOA sablefish IFQ fishery. This FMP Amendment was preceded by a Regulatory Impact Review/ Environmental Assessment[166]. The most recent NEPA compliant Regulatory Impact Review/ Environmental Assessment of some relevance to the sablefish fishery was performed in regard to the proposed NPFMC action to allow halibut retention in BSAI sablefish pots, issued for public review in October 2018[167]. The measure under consideration would allow (and require) retention of legal-size halibut in pot gear in the BSAI, provided the operator holds sufficient halibut IFQ or CDQ for the corresponding International Pacific Halibut Commission (IPHC) regulatory area. In 2018 the total number of vessel offloads containing only halibut IFQ was 3,285, the total number of vessel offloads containing only sablefish IFQ was 1,943, and total number of vessel offloads containing both IFQ species was 1,047[168]. Hence, improving the issue of halibut retention will decrease discards and benefit fishermen with dual sablefish/halibut IFQ shares. AFSC's Economic and Social Sciences Research Program produces an annual Economic Status Report of the Groundfish Fisheries off Alaska is published yearly. This report contains extensive socio-economic fisheries for all fisheries in Alaska, pursued with all allowed gear types. 12.12 Outcome indicator(s) and management objectives for non-target stocks. The main outcome indicators influencing sustainable management of bycatch are those elements expected to keep bycatch species at levels that are highly likely to be within biological limits and minimize impacts to habitat. Management of non-target species (largely FMP groundfish species) of relevance to the sablefish/halibut IFQ program consists of: 1. A catch accounting system for all species caught (FMP, non-target, PSC, seabirds, marine mammals), 2. Observer program to estimate catches of non-target species (observers + EM data), 3. Fishery independent surveys, 4. Statistical stock assessments for most target and non-target species, 5. A tiered system of assessments that provides for more precautionary annual catch limits when assessments use less precise methods and clear procedures for restricting catch limits if

[164] https://www.npfmc.org/wp-content/PDFdocuments/halibut/IFQProgramReview_417.pdf
[165] https://www.fisheries.noaa.gov/action/amendment-101-fmp-groundfish-gulf-alaska-management-area
[166] https://repository.library.noaa.gov/view/noaa/19199
[167] https://meetings.npfmc.org/CommentReview/DownloadFile?p=2dcf0126-26d7-478a-a2c6-c8f1dc234d58.pdf&fileName=C4%20Halibut%20Retention%20in%20BSAI%20Pots%20Public%20Review%20-%20pdf%20version.pdf
[168] https://www.fisheries.noaa.gov/sites/default/files/akro/18ifqland.htm

12.	**Considerations of fishery interactions and effects on the ecosystem shall be based on best available science, local knowledge where it can be objectively verified and using a risk-based management approach for determining most probable adverse impacts. Adverse impacts on the fishery on the ecosystem shall be appropriately assessed and effectively addressed.**
	stock rebuilding is necessary, and 6. Mandatory use of seabird avoidance devices on all vessels larger than 55', and 7. A spatial management strategy that prohibits or restricts vessels from fishing in sensitive habits. As summarized in earlier clauses, none of the species considered common bycatch in the sablefish fishery (retained and/or discarded) from 2020 Observer and EM data and that include GOA thornyhead rockfish, sharks and skates, giant grenadiers, Shortspine thornyhead, shortraker/rougheye rockfish can be considered depleted, as most of them are exploited using conservative fishing measures (please refer to the clause 12.3-12.6 for status). The key outcome indicators for groundfish species is the ABCs and OFLs set for these which dictate the management and conduct of fisheries in terms of total possible harvest. These are informed by regular (annual or bi-annual) stock assessments in the GOA and BSAI, and in-season catch accounting. 12.13 Outcome indicator(s) and management objectives for endangered species. The outcome indicators and main management objectives for the sablefish fleet in regard to endangered species refer to regulations aimed at protecting the endangered short-tailed albatrosses (as well as other albatross species and seabirds) from longline fishery interactions, as well as MMPA protected marine mammals. In Alaska, seabird avoidance measures are required[169] (i.e. streamer lines) to be used by operators of all vessels greater than 26 ft LOA using hook-and-line gear while fishing for 1) IFQ halibut, Community Development Quota halibut, or IFQ sablefish in the EEZ off Alaska or State of Alaska (State) waters (0 to 200 nm combined); or 2) groundfish in the EEZ off Alaska (3 to 200 nm). No changes occurred in 2018 to these regulations, which are still seen to be effective at reducing bycatch. No endangered short-tailed albatrosses were caught as bycatch in 2018 in either the halibut or sablefish IFQ fishery. Endangered marine mammal species are managed under the Marine Mammal Protection Act (MMPA) and the Endangered Species Act (ESA) in close coordination with the State of Alaska and other partners. Conservation programs are developed by the NOAA Alaska Regional Office Protected Resources Division for marine mammals including whales, ice seals, harbor seals, northern fur seals, and Steller sea lions; who also develops and implements recovery programs for threatened and endangered species including Cook Inlet beluga whales, bowhead whales, North Pacific right whales Steller sea lions, and Arctic ringed seals; coordinates the Alaska Marine Mammal Stranding Network to respond to stranded or entangled marine mammals; and consults with federal agencies to minimize the effects of proposed actions on threatened and endangered marine mammals and their critical habitat, among other tasks. All marine mammal encounters in these fisheries are required to be released without harm. The 2021 List of Fisheries Summary Tables list U.S. commercial fisheries by categories according to the level of interactions that result in incidental mortality or serious injury of marine mammals. The sablefish fisheries in the GOA are listed as Category II (occasional interactions with North Pacific sperm whale and Steller sea lion, Western US) while the BSAI and state fisheries are classified as

[169] https://www.fisheries.noaa.gov/alaska/bycatch/seabird-avoidance-gear-and-methods

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	Category III[170](remote likelihood of/ no known interactions with no marine mammal species mentioned). On the basis of total abundance, current distribution, and regulatory measures that are in place, it is unlikely that North Pacific Sperm whales are in danger of extinction[171]. In 2018, a new aerial survey of Steller sea lions was carried out in Alaska. The results showed that the overall Steller sea lions non-pups count trend has been steadily increasing from 2002 to 2018 and is currently (in 2018) at its highest (see figure 2 of that survey report)[172]. 12.14 Outcome indicator(s) and management objectives for avoiding, minimizing or mitigating the impacts of the unit of certification on essential habitats for the "stock under consideration" and on habitats that are highly vulnerable to damage by the fishing gear of the unit of certification. The EFH Environmental Impact Statement (EFH EIS) (NMFS 2005) concluded that the effects of commercial fishing on the habitat of sablefish is minimal or temporary in the current fishery management regime primarily based on the criterion that sablefish are currently above Minimum Stock Size Threshold (MSST)[173]. The stock continues to be above its MSST level in 2021. The sablefish fishery is primarily prosecuted using demersal longline gear which has minimal and temporary effect[174] on sensitive and essential fish habitats. The fishery is also prosecuted using pot gear and demersal trawl gear. Although standard demersal trawling can be considered the highest risk gear when it comes to habitat impacts, the trawl flatfish fisheries in the Bering Sea (since 2010) and the central Gulf of Alaska (since 2013) carry trawl sweep gear modifications. Elevating devices (e.g., discs or bobbins) are required to be used on the trawl sweeps, to raise the sweeps off the seabed and limit adverse impacts of trawling on the seafloor. Research has demonstrated that this gear modification reduces unobserved mortality of red king crab, Tanner crab, and snow crab, reducing contact with the ocean floor by as much as 90%[175]. In addition to this there are extensive habitat closures in Alaska. A figure depicting the current closures and marine protection areas can be found under clause 12.9. No new closures have been implemented in 2018. Further information on these is provided at https://www.npfmc.org/habitat-protections/. 12.15 Outcome indicator(s) and management objectives for dependent predators. Alaska sablefish trophic level is considered to be between 3.84 and 4.12[176] and they are not considered a key prey species for any single marine predator (for additional information see clause 12.7, and the information on prey and predators from Hanselman *et al.*, 2017). As such, this clause

[170] https://www.fisheries.noaa.gov/national/marine-mammal-protection/list-fisheries-summary-tables#table-1-category-iii
[171] https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports-species-stock#pinnipeds---otariids-(eared-seals-or-fur-seals-and-sea-lions)
[172] SSL_Aerial_Survey_2018_final.pdf
[173] https://repository.library.noaa.gov/view/noaa/17392
[174] http://www.fao.org/3/y3427e/y3427e04.htm#bm04.3.2
[175] https://www.fisheries.noaa.gov/resource/document/ea-rir-frfa-amendment-94-bsai-groundfish-fmp-require-trawl-sweep-modification-bs
[176] https://www.fishbase.in/Ecology/FishEcologySummary.php?StockCode=528&GenusName=Anoplopoma&SpeciesName=fimbria

12.	**Considerations of fishery interactions and effects on the ecosystem shall be based on best available science, local knowledge where it can be objectively verified and using a risk-based management approach for determining most probable adverse impacts. Adverse impacts on the fishery on the ecosystem shall be appropriately assessed and effectively addressed.**
	is not applicable. 12.16 Outcome indicator(s) and management objectives that seek to minimize adverse impacts of the unit of certification, including any enhancement activities, on the structure, processes and function of aquatic ecosystems that are likely to be irreversible or very slowly reversible. The GOA and BSAI groundfish fishery management plans[177]have specific objectives and indicators used to implement the NPFMC approach to groundfish fisheries and include ecosystem-based management principles that protect managed species from overfishing, and where appropriate and practicable, increase habitat protection and bycatch constraints. This includes the setting of outcome indicators related to preserving the food web, managing incidental catch, avoiding impacts on seabirds and marine mammals, and reduce and avoid habitat effects though gear modifications, area closures, etc. The eastern Bering Sea indicators were selected in 2010 and updated as part of the Fishery Ecosystem Plan currently being developed. The Aleutian Islands indicators were selected in 2011. The Gulf of Alaska indicators were selected in 2015. In December 2018, the North Pacific Council adopted a Bering Sea Fishery Ecosystem Plan (BS FEP). Under the overarching guidance of the Council's Ecosystem Approach Statement, the BS FEP sets goals and objectives for the Bering Sea ecosystem which direct the process by which the Council should manage fisheries, monitor the ecosystem, and prioritize new research through identification of projects, called "Action Modules" [178] To date, the Council has initiated two Action Modules under the framework of the Bering Sea, and task forces have been created to accomplish their tasks over the course of 2-3 years. Evaluating Climate Change Action Module Taskforce The goal of this climate project is to evaluate the vulnerability of key species and fisheries to climate change, and to strengthen resilience in regional fisheries management. Local Knowledge/Traditional Knowledge/Subsistence Action Module Taskforce The goal of the Local Knowledge (LK), Traditional Knowledge (TK) and Subsistence Action Module is to develop protocols for using LK and TK in management, and to understand the impacts of Council decisions on subsistence resources, users, and practices.

[177] https://www.npfmc.org/bering-seaaleutian-islands-groundfish/

[178]https://meetings.npfmc.org/CommentReview/DownloadFile?p=c334ad33-4139-4b5a-b205-a8b7c5028562.pdf&fileName=D6%20Final%20BS%20FEP%20Jan%202019.pdf

8 Update on compliance and progress with non-conformances and agreed action plans

This section details compliance and progress with non-conformances and agreed action plans including:

a) A review of the performance of the Client specific to agreed corrective action plans to address non-conformances raised in the most recent assessment or re-assessment or at subsequent surveillance audits including a summary of progress toward resolution.
b) A list of pre-existing non-conformances that remain unresolved, new nonconformances raised during this surveillance, and non-conformances that have been closed during this surveillance.
c) Details of any new or revised corrective action plans including the Client's signed acceptance of those plans.
d) An update of proposed future surveillance activities.

8.1.1 Closed non-conformances

There are no closed non-conformances for this surveillance.

8.1.2 Progress against open non-conformances

There are no open non-conformances for this surveillance.

8.1.3 New non-conformances

There are no new non-conformances found during this surveillance.

8.1.4 New or revised corrective action plans

There are no new corrective action plans or pre-existing plans at the moment

8.1.5 Proposed surveillance activities

There are no proposed future surveillance activities as this is the 5th surveillance audit

9 Recommendations for continued certification

9.1 Certification Recommendation

Following this surveillance audit, the Assessment Team determines that the fishery Alaska Sablefish Commercial fishery meets the requirements of the RFM Certification Program Fisheries Standard Version 1.3. Therefore, the withdrawal shall be terminated, and the certificate reinstated.

10 References

ADFG News Release: 2021 Northern Southeast Inside (NSEI) Subdistrict Sablefish Fishery Annual Harvest Objective Correction: https://www.adfg.alaska.gov/static/applications/dcfnewsrelease/1297213194.pdf

ADFG News Release: 2021 Southern Southeast Inside Subdistrict Sablefish Fishery: https://www.adfg.alaska.gov/static/applications/dcfnewsrelease/1261281340.pdf

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Zolotov, A. O. 2022. The Long-Term Dynamics of Sablefish (*Anoplopoma fimbria*) Stocks in the Western Bering Sea and Prospects for their Commercial Exploitation. Russian Journal of Marine Biology 2021 47:7, 47(7), 563–582.

11 Appendices

11.1 Appendix 1 – Assessment Team Bios

11.1.1 Assessment Team Bios

Based on the technical expertise required to carry out this assessment, an Assessment Team was selected as follows.

Dr. Ivan Mateo, Lead Assessor

Dr. Ivan Mateo has over 25 years' experience working with natural resources population dynamic modeling. His specialization is in fish and crustacean population dynamics, stock assessment, evaluation of management strategies for exploited populations, bioenergetics, ecosystem-based assessment, and ecological statistical analysis. Dr. Mateo received a Ph.D. in Environmental Sciences with Fisheries specialization from the University of Rhode Island. He has studied population dynamics of economically important species as well as candidate species for endangered species listing from many different regions of the world such as the Caribbean, the Northeast US Coast, Gulf of California and Alaska. He has done research with NMFS Northeast Fisheries Science Center Ecosystem Based Fishery Management on bio-energetic modeling for Atlantic cod. He also has been working as environmental consultant in the Caribbean doing field work and looking at the effects of industrialization on essential fish habitats and for the Environmental Defense Fund developing population dynamics models for data poor stocks in the Gulf of California. Recently Dr. Mateo worked as National Research Council postdoc research associate at the NOAA National Marine Fisheries Services Ted Stevens Marine Research Institute on population dynamic modeling of Alaska sablefish.

Dr. Robert Leaf, Assessor 1

Dr. Robert Leaf has 20 years of experience working in the field of natural resource management of fin and shellfish. He specializes in the evaluation of management strategies of harvested species and the identification of environmental drivers that impact their population dynamics. Dr. Leaf received his Master's Degree in Marine Science at Moss Landing Marine Laboratories and his PhD in Fisheries and Wildlife Sciences from Virginia Polytechnic and State Institute. His last professional post was as a post-doc under Dr. Kevin Friedland at the Northeast Fishery Science Center's Narragansett Laboratory. There, he worked on understanding the impact of environmental conditions on fish stock productivity and recruitment. He has worked in the Gulf of Mexico for the last three years working on fish stock assessment of commercially and recreationally important species in that area. Dr. Leaf is a member of the Gulf of Mexico Fishery Management Council's Red Drum working group and NOAA's Marine Fisheries and Climate Taskforce. He currently supervises four masters level students working on various state and federally managed fish stocks.

Mr. Robert Allain, Assessor 2

Mr. Allain is a graduate of Saint Mary's University in Halifax, Nova Scotia with undergraduate degrees in Commerce (Business Administration) and Science (Chemistry). In 1977, he joined the then Federal Department of Fisheries and Environment as a Fishery Officer (International Surveillance) and carried out inspections of foreign and domestic fishing vessels within and beyond Canada's EEZ. During his 32-year career with the now Department of Fisheries and Oceans (DFO), Mr. Allain served in a variety of fisheries management, strategic planning and policy positions in Nova Scotia, New Brunswick, Prince Edward Island, Newfoundland and Labrador, and at Departmental Headquarters in Ottawa. He served as a senior executive from 1991 to 2008.

Currently, he is the president of the consulting firm OceanIQ Management Services in Dieppe, New Brunswick. He is a Marine Stewardship Council-certified P3 assessor who has participated in approximately 25 assessments and surveillance audits in Canada and the U.S. in respect of demersal, pelagic, invertebrate and crustacean fisheries.

He is also fully conversant with the Alaska Responsible Fisheries Management (AK RFM) model through his participation as a technical expert to the Fisheries Standard Committee that developed the certification scheme.