



WHEN TRUST MATTERS

SURVEILLANCE NO. 3

**CERTIFIED SEAFOOD INTERNATIONAL RFM FISHERIES STANDARD
V2.2**

Alaska cod

**Certification Body
Assessment team**

**Fishery client
Date**

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TABLE OF CONTENTS

ABBREVIATIONS AND ACRONYMS	3
1 EXECUTIVE SUMMARY	4
1.1 Audit conclusion	4
2 ASSESSMENT TEAM DETAILS	5
3 BACKGROUND ON THE FISHERY	6
3.1 Fishery description	6
3.2 Previous assessments and surveillance audits	6
4 THE ASSESSMENT PROCESS	7
4.1 Surveillance audit meetings	7
4.2 Stakeholder input	7
5 UPDATES TO AND CHANGES WITHIN THE FISHERY	9
5.1 Target species biology	9
5.2 Scientific stock assessment	10
5.2.1 EBS Pacific cod	10
5.2.2 AI Pacific cod	15
5.2.3 GOA Pacific cod	18
5.3 Management practices of the competent management authority	23
5.3.1 Pacific Cod Trawl Cooperative (PCTC) Program	23
5.3.2 BSAI Pacific cod pot gear cooperative program	24
5.3.3 Programmatic Evaluation Process	24
5.3.4 Gear trials to reduce risk of orca mortalities	25
5.3.5 Funding and changes in federal priorities	25
5.4 Impacts of fishery on ecosystem	26
5.4.1 Associated and endangered, threatened, and protected (ETP) species	26
5.4.2 Habitats and ecosystem	33
5.5 External factors (such as environmental issues) that may affect the fishery and its management	33
6 ASSESSMENT OUTCOME SUMMARY / FUNDAMENTAL CLAUSES SUMMARIES	34
6.1 Update on consistency with Fundamental Clauses	38
6.1.1 Key Component A: The Fisheries Management System	38
6.1.2 Key Component B: Science and Stock Assessment Activities, and the Precautionary Approach	43
6.1.3 Key Component C: Management Measures, Implementation, Monitoring, and Control	52
6.1.4 Key Component D: Serious Impacts of the Fishery on the Ecosystem	57
7 NON-CONFORMANCES	64
8 REFERENCES	65
9 APPENDICES	67
Appendix 1: Stakeholder submissions	67

ABBREVIATIONS AND ACRONYMS

ABC	Allowable Biological Catch
ADFG	Alaska Department of Fish and Game
AFSC	Alaska Fisheries Science Center
BOF	Board of Fisheries
BSAI	Bering Sea and Aleutian Islands
CCRF	Code of Conduct for Responsible Fisheries
CPUE	Catch per Unit Effort
CSI	Certified Seafood International
EEZ	Exclusive Economic Zone
EFH	Essential Fish Habitat
ESA	Endangered Species Act
FAO	Food and Agriculture Organization of the United Nations
FMP	Fishery Management Plan
GOA	Gulf of Alaska
IFQ	Individual Fishing Quota
IUU	Illegal, Unreported, and Unregulated (fishing)
MMPA	Marine Mammal Protection Act
MSY	Maximum Sustainable Yield
mt	Metric tons
nm	Nautical miles
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPFMC	North Pacific Fishery Management Council
OFL	Overfishing Level
PSC	Prohibited Species Catch
RACE	Resource Assessment and Conservation Engineering
RFM	Responsible Fisheries Management
SAFE	Stock Assessment and Fishery Evaluation (Report)
SSC	Scientific and Statistical Committee
TAC	Total Allowable Catch
USCG	U.S. Coast Guard

1 EXECUTIVE SUMMARY

Table 1. General information and the fishery

Fishery name	Alaska Cod Fishery		
Fishery being assessed	Applicant Group: Alaska Cod Fishery Client Group Product Common Name (Species): Pacific cod (<i>Gadus macrocephalus</i>) Geographic Location: Gulf of Alaska (GOA) and Bering Sea and Aleutian Islands (BSAI) within Alaska jurisdiction (200 nautical mile [nm] exclusive economic zone [EEZ]) Gear Types: Bottom trawl, longline, pot, and jig gears Principal Management Authority: Federal (National Marine Fisheries Service [NMFS] and the North Pacific Fishery Management Council [NPFMC]) and state (Alaska Department of Fish and Game [ADFG] and Board of Fisheries [BOF])		
Date certified	December 6, 2011; recertified December 6, 2017; second recertification February 6, 2023	Date of certificate expiry	February 5, 2028
Surveillance type	Off-site surveillance		
Date of surveillance audit	April 22, 2026		
Surveillance stage	1st Surveillance		
	2nd Surveillance		
	3rd Surveillance	X	
	4th Surveillance		
	Other (expedited, etc.)		
Surveillance team	Lead assessor: Jodi Bostrom Assessors: Giuseppe Scarcella, Paul Knapman		

The Certified Seafood International (CSI) certification program, a voluntary program, provides an independent, third-party certification that can be used to verify that these fisheries are responsibly managed according to the CSI Responsible Fisheries Management (RFM) Fisheries Standard.

The CSI certification program uses the fundamental clauses of the CSI RFM Fisheries Standard v2.2 and is in accordance with ISO 17065 accredited certification procedures. This assessment is based on the fundamental clauses specified in the CSI RFM Fisheries Standard v2.2 and is based on four key components of responsible management derived from the FAO Code of Conduct for Responsible Fisheries (1995) and Guidelines for the Eco-labeling of products from marine capture fisheries (2009).

- A The Fisheries Management System
- B Science, Stock Assessment Activities, and the Precautionary Approach
- C Management Measures, Implementation, Monitoring, and Control
- D Serious Impacts of the Fishery on the Ecosystem

The purpose of this annual surveillance report is to:

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

1.1 Audit conclusion

Fishery	Status of certification	Comment
The Pacific cod commercial fishing vessels within the Alaska Cod Fishery Client Group employing bottom trawl, longline, pot, and jig gears the GOA and BSAI within Alaska jurisdiction (200 nm U.S. EEZ) and subjected to federal (NMFS and NPFMC) and state (ADFG and BOF) management.	Certified	Following the third surveillance audit conducted on April 22, 2026, the team recommends the continued certification of this fishery according to the CSI RFM Fisheries Standard v2.2.

2 ASSESSMENT TEAM DETAILS

Jodi Bostrom

DNV Lead Assessor and main area of responsibility
Fundamental clause D (Serious Impacts of the Fishery on the Ecosystem)

Jodi Bostrom is a senior assessor and team leader for Marine Stewardship Council (MSC) Fisheries and RFM Fisheries at DNV Business Assurance. She earned an M.Sc. in Environmental Science from American University and a B.Sc. in Zoology from the University of Wisconsin. She has over five years of experience in MSC fisheries assessment services. Prior to that, she worked for five years at the MSC as a Senior Fisheries Assessment Manager. Among other things, she developed the MSC's benthic habitats policy and the Consequence Spatial Analysis (a risk-based framework for assessing habitat impacts in data-deficient situations) as part of the MSC Standard revision. Prior to the MSC, Jodi spent 11 years with the US National Academy of Sciences' Ocean Studies Board where she worked on various projects from fisheries management and policy to bycatch and dredging impacts to eutrophication and sea level rise.

Paul Knapman

Main areas of responsibility
Fundamental clause A (Fisheries Management System) and C (Science, Stock Assessment Activities, and the Precautionary Approach)

Paul is an independent consultant based in Halifax, Nova Scotia, Canada. Paul began his career in fisheries more than 30 years ago as a fisheries officer in the UK, responsible for the enforcement of UK and EU fisheries regulations. He then joined the UK government's nature conservation advisors, establishing and managing their marine fisheries program. He developed an extensive program of work with fisheries managers, scientists, the fishing industry and NGOs to integrate national and European fisheries and nature conservation requirements. He also helped lead a national four-year project contributing to the 2002 review of the Common Fisheries Policy. He then became Head of the largest inshore fisheries management organization in England, with responsibility for managing an extensive area of inshore fisheries on the North Sea coast. The organization's responsibilities and roles included: stock assessments; habitat monitoring; setting and ensuring compliance with total allowable catches and quotas; establishing and applying regional fisheries regulations; the development and implementation of fishery management plans; the lead authority for the largest marine protected area in England. In 2004, Paul moved to Canada and established his own consultancy providing analysis, advisory and developmental work on fisheries management policy in Canada and Europe. He drafted the first management plan for one of Canada's marine protected areas, undertook an extensive review on illegal, unreported, and unregulated fishing in the Baltic Sea and was appointed as rapporteur to the European Commission's Baltic Sea Regional Advisory Council. In 2008, Paul joined Moody Marine as their Americas Regional Manager, responsible for managing and developing their regional MSC business. He became General Manager of the business in 2012. Paul returned to consultancy in 2015.

Giuseppe Scarcella

Main area of responsibility
Fundamental clause B (Science, Stock Assessment Activities, and the Precautionary Approach)

Giuseppe Scarcella is an experienced fishery scientist and population analyst and modeler, with wide knowledge and experience in the assessment of demersal stocks. He holds a first degree in Marine Biology and Oceanography (110/110) from the Università Politecnica delle Marche, and a Ph.D. in marine Ecology and Biology from the same university, based on a thesis "Age and growth of two rockfish in the Adriatic Sea". After his degree he was offered a job as project scientist in several research programs about the structure and composition of fish assemblage in artificial reefs, off-shore platform and other artificial habitats in the Italian Research Council – Institute of Marine Science of Ancona now Institute for Biological Resources and Marine Biotechnologies. During the years of employment, he has gained experience in benthic ecology, statistical analyses of fish assemblages evolution in artificial habitats, fisheries ecology and impacts of fishing activities, stock assessment, otolith analysis, population dynamic and fisheries management. During the same years he attended courses of uni-multivariate statistics and stock assessment. He is also actively participating in the scientific advice process of FAO GFCM in the Mediterranean Sea and Scientific, Technical and Economic Committee for Fisheries for the European Commission. He is author and co-author of more than 50 scientific paper peer reviewed journals and more than 200 national and international technical reports, most of them focused on the evolution of fish assemblages in artificial habitats and stock assessment and fishery management.

3 BACKGROUND ON THE FISHERY

3.1 Fishery description

During the fourth surveillance audit of the last certification cycle, a non-conformance was placed on Fundamental Clause 3. This non-conformance was closed at the first surveillance audit of this new certification cycle. All information on this fishery can be obtained from the original full assessment report, subsequent surveillance reports, and recertification reports available for download at <https://csicertified.org/certified-fishery-species/alaska-cod/>. Recent catch is similar to previous years, and recent data are presented in Table 2.

Table 2. Total allowable catch (TAC) and catch data for 2025 (until November 8, 2025)

Species	Latin name	2025 TAC (metric ton; mt)	2025 Total Catch (mt)
Pacific cod in Eastern Bering Sea (EBS)	<i>Gadus macrocephalus</i>	133,602	111,227
Pacific cod in Aleutian Islands (AI)	<i>Gadus macrocephalus</i>	8,694	4,608
Pacific cod in GOA	<i>Gadus macrocephalus</i>	23,670	19,716

3.2 Previous assessments and surveillance audits

The Alaska cod fisheries were first certified under the requirements of the Alaska RFM standard v1.2 on December 6, 2011. The initial certification and four annual surveillance audits were carried out by the certification body Global Trust. On April 15, 2017, the certificate for this fishery was transferred from Global Trust to DNV GL (now DNV). The certificate transfer and the fourth surveillance audit were carried out by DNV. During June-December 2017, the fishery went through the full reassessment against a newer version of the standard, v1.3. This reassessment did not result in any changes in the compliance of the fishery with the RFM standard, and no non-conformances were raised. The new certificate was, therefore, issued with the validity date until December 5, 2022.

In January 2021, the fourth surveillance of the recertification took place via an off-site surveillance audit, which was done in conjunction with the reassessment site visit, and the surveillance report was issued on May 27, 2022. Following the results of the second reassessment, the fishery was recertified against the RFM Fisheries Standard v2.1 with one non-conformance. The certificate was issued with the validity date until February 5, 2028.

The first surveillance audit of this new certification cycle took place via an off-site surveillance audit on March 27, 2024. During the surveillance audit, the non-conformance was closed. The second surveillance audit took place via an on-site surveillance audit on April 28-29, 2025. No substantive changes were identified.

4 THE ASSESSMENT PROCESS

The CSI assessment/reassessment evaluates the fishery against the conformance criteria outlined in the CSI RFM Fisheries Standard v2.2, which contains clauses that are categorized into four sections:

- Section A – The Fishery Management System
- Section B – Science and Stock Assessment Activities and the Precautionary Approach
- Section C – Management Measures, Implementation, Monitoring, and Control
- Section D – Serious Impacts of the Fishery on the Ecosystem

Scoring of each clause is based on a series of Evaluation Parameters: Process, Current Status/Appropriateness/Effectiveness, and Evidence Basis. The scoring guidelines, which are used for all clauses, are as follows:

- If all Evaluation Parameters are satisfied, the clause is scored in full conformance.
- If any single Evaluation Parameter is not satisfied, the clause is scored in minor non-conformance.
- If any two Evaluation Parameters are not satisfied, the clause is scored in major non-conformance.
- If any three or more Evaluation Parameters are not satisfied, the clause is scored in critical non-conformance.

During the assessment/reassessment, the fishery is assigned a confidence rating for each clause, which signifies the confidence of the assessment team that the fishery is demonstrated to be in conformity to the requirements of that clause. Clauses are scored according to the following confidence ratings:

- Low confidence rating (critical non-conformance level) – Information and/or evidence is completely absent or contradictory to whether an element of the fishery complies with the given requirements of a supporting clause. In these cases, a low confidence rating, equivalent to a critical non-conformance, is assigned.
- Medium confidence rating (major non-conformance) – Information and/or evidence is limited. In these cases, major improvement is needed to achieve full conformance, and a medium confidence rating with a major non-conformance is assigned.
- Medium confidence rating (minor non-conformance) – Information and/or evidence is broadly available; however, there are some information gaps. In these cases, minor improvement is needed to achieve full conformance, and a medium confidence rating with a minor non-conformance is assigned.
- High confidence rating (full conformance) – Sufficient information and/or evidence is available to demonstrate full conformance. In these cases, a high confidence rating is assigned.

Annual surveillance audits are undertaken to review any changes in the fishery since the last assessment, reassessment, or surveillance audit. Progress toward closing any non-conformances is also evaluated.

4.1 Surveillance audit meetings

The surveillance announcement was announced publicly on CSC's website (<https://csicertified.org/certified-fishery-species/alaska-cod/>) on March 18, 2026. The audit took place off site via Microsoft Teams on March 22, 2026.

4.2 Stakeholder input

Table 3 provides the agenda and list of participants. DNV received no written stakeholder input before the audit and no requests to meet with the team. The team did receive an update on the fishery, including the latest catch data, from the client prior to the audit.

Table 3. Surveillance agenda and participants

Time	Activity	Participants
9:00-9:15 am PDT	Opening meeting with Alaska cod client • Introductions, surveillance audit goals, etc.	Assessment team: Jodi Bostrom Giuseppe Scarcella Paul Knapman

9:15-9:45 am PDT	Fundamental Clause B (Science, Stock Assessment Activities, and the Precautionary Approach) discussion with client • Review of stock status for each of the stocks • Review of harvest strategy and harvest controls rules • Other potential changes	Client: Kristy Clement Sydney Almgren
9:45-10:15 am PDT	Fundamental Clause D (Serious Impacts of the Fishery on the Ecosystem) discussion with client • Updated catch and observer data • Updated non-target species' impacts • Updated habitat and ecosystem impacts	
10:15-10:45 am PDT	Fundamental Clauses A (Fisheries Management System) and C (Science, Stock Assessment Activities, and the Precautionary Approach) discussion with client • Update on management framework, personnel, etc. • Update on enforcement and compliance	
10:45-11:00 am PDT	Wrap up with client • Remaining questions • Next steps and timing	
End of Surveillance Audit		

5 UPDATES TO AND CHANGES WITHIN THE FISHERY

5.1 Target species biology

Pacific cod (*Gadus macrocephalus*) is a widely distributed transoceanic species inhabiting coastal waters from Santa Monica Bay, California, northward to Norton Sound in the Bering Sea and extending along the Asian coast to the northern Yellow Sea. It occupies a depth range from the shoreline to 500 meters, with its distribution spanning latitudes between approximately 34°N and 65°N (Ketchen 1961, Bakkala et al. 1984, Lauth 2011).

The biology of Pacific cod across GOA, AI, and EBS exhibits regional variations driven by environmental conditions, genetic structure, and migration patterns. Pacific cod exhibit depth and temperature-dependent distributions, particularly in the AI and EBS, where bottom temperatures influence habitat suitability and movement. Recent studies have identified temperature-driven growth variability, with warmer conditions leading to reduced recruitment success and increased metabolic stress, particularly in the AI (Spies et al., 2024). The decline in biomass observed in the AI and parts of the EBS may be partially attributed to these climate-induced changes. Overall, the biology of Pacific cod in these regions reflects a complex interplay of environmental factors, genetic differentiation, and seasonal migration. While stock assessments maintain distinct management units for the GOA, AI, and EBS, continued research is needed to refine the understanding of connectivity, recruitment dynamics, and climate-driven changes in Pacific cod populations.

The stock configuration and connectivity of Pacific cod in the GOA, AI, and EBS present a complex system influenced by genetic structure, environmental conditions, and seasonal migrations. Recent genetic studies confirm an isolation-by-distance pattern where geographically proximate populations exhibit greater genetic similarity. However, significant genetic breaks have been identified between key regions, such as the western and eastern GOA, reinforcing the idea of distinct subpopulations within the broader Pacific cod stock (Spies et al. 2022, 2024). Genetic analysis of Pacific cod using low-coverage whole-genome sequencing has confirmed an isolation-by-distance pattern, in which genetic similarity is higher among geographically proximate populations (Figure 1).

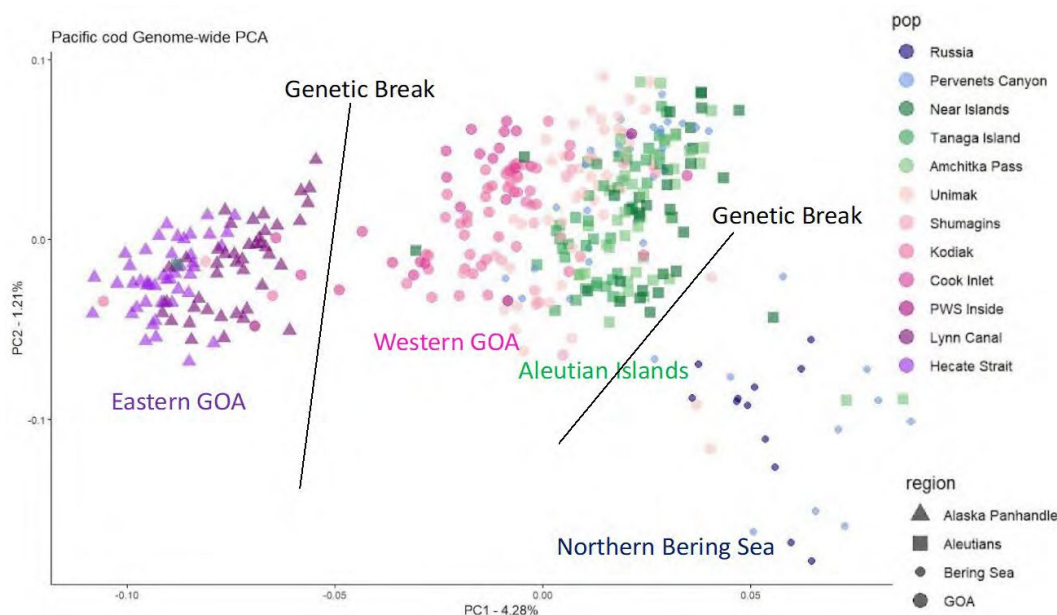


Figure 1. Principal components analysis of 1,922,927 polymorphic single nucleotide polymorphisms from the low-coverage whole-genome sequencing dataset. Source: Barbeaux et al. 2024

Satellite tagging data indicate strong seasonal movements between the western GOA and the Bering Sea, with approximately 50% of tagged Pacific cod migrating northward to summer foraging grounds in the EBS before returning to the western GOA for winter spawning. However, movement between the central GOA and the Bering Sea appears limited, suggesting that while some connectivity exists, distinct stock units may be appropriate for management (Nielsen et al. 2023). In AI, Pacific cod is largely self-sustaining, with limited movement into or out of the region during non-spawning seasons. Genetic data suggest strong adaptive divergence in AI populations, further supporting their classification as a distinct management unit separate from the EBS stock (Spies et al. 2022). Nonetheless, tagging studies indicate that some Pacific cod in the western AI move into the EBS and Russian waters, introducing potential inter-stock dynamics that may influence recruitment and stock health (Schaal et al. 2024).

Environmental factors, particularly warming ocean temperatures, have impacted Pacific cod recruitment and distribution, particularly in AI and GOA. Increased temperatures have been linked to reduced condition factors, higher mortality rates, and altered spawning success, suggesting that climate change could further influence stock structure and connectivity in the coming years (Laurel et al. 2023). Overall, while Pacific cod stocks in the GOA, AI, and EBS exhibit some degree of connectivity, genetic and movement data suggest distinct management units with varying levels of interaction. Further research into migration patterns, recruitment success, and climate-related stressors will be necessary to refine stock assessments and ensure sustainable management across these regions.

5.2 Scientific stock assessment

Due to the lapse in federal appropriations between 1 October and 12 November 2025, Alaska Fisheries Science Center (AFSC) stock assessment scientists were unable to complete the groundfish operational assessments scheduled for the 2025 cycle, and the Groundfish Plan Teams did not convene to compile the 2025 SAFE reports. As a result, no full 2025 SAFE reports were available for this surveillance audit. Accordingly, the 2024 SAFE reports are presented again in this section as the most recent fully reviewed stock assessment documents available for EBS, AI, and GOA Pacific cod. These reports remained the basis for the scientific advice used in the 2026 harvest specifications process, including the determination of the overfishing level (OFL) and allowable biological catch (ABC) values, while TACs for 2026 were set through the corresponding Council and NMFS harvest specification process using the best scientific information available at that time (NPFMC, 2025; SSC, 2025a). For GOA Pacific cod, an out-of-cycle operational update was subsequently reviewed by the Scientific and Statistical Committee (SSC) in February 2026 to incorporate the 2025 survey data (SSC, 2026).

Along with the 2024 SAFE reports, reported in the following sections, the available 2025 survey data are also presented as supplementary evidence of current stock condition. While these survey results were not incorporated into the completed 2025 SAFE reports and should therefore be interpreted with caution, they provide useful contextual information on whether there is evidence of a material deterioration in stock status (SSC, 2025a, b). For GOA Pacific cod, the 2025 survey information was mixed but generally positive: the bottom trawl survey estimated biomass at approximately 310,000 t, an increase of 39.2% relative to 2023, while the longline survey index declined by 5% from 2023; the SSC interpreted these contrasting signals as evidence that the stock is slowly recovering from the severe contraction associated with the 2014–2016 marine heat wave (AFSC, 2025a; b; SSC, 2025a; SSC, 2026). For EBS Pacific cod, the 2025 AFSC bottom trawl survey showed a 10% decline, and the NBS survey was also lower, but catches in both 2024 and 2025 remained below ABC, the preliminary ESR/ESP information showed no particularly concerning trends, and the SSC did not identify risk factors warranting a reduction from the preliminary 2026 OFL and ABC (Markowitz et al., 2025; SSC, 2025a, b). For AI Pacific cod, there was no new odd-year survey in 2025; the most recent AI bottom trawl survey had shown only a 2% decrease from 2022 to 2024, while 2025 catches remained well below ABC, and the SSC likewise did not identify additional risk factors requiring a change from the preliminary 2026 OFL and ABC (SSC, 2025a). Overall, the available 2025 information does not indicate stock collapse or a clear new declining trend inconsistent with continued precautionary management, although the AI stock remains at a relatively low biomass level and GOA ecosystem conditions continue to warrant caution (Barbeaux et al., 2024; Spies et al., 2024; Hulson et al., 2024; SSC, 2025a; SSC, 2026).

5.2.1 EBS Pacific cod

The assessment incorporates the latest data on catch biomass, fishery-dependent and independent surveys, and environmental influences on the stock. Various modeling approaches, including the Stock Synthesis model and the VAST model for spatial distribution, are employed to estimate population trends and inform management decisions.

Catch estimates indicate fluctuations in Pacific cod abundance over time, influenced by recruitment variability and environmental conditions. Notably, the abundance of Pacific cod has declined significantly since a peak in 2014, with the 2024 estimate showing the lowest numbers since 2008. These declines correlate with environmental changes, particularly warming ocean temperatures and shrinking cold pool extent, which have led to a shift in cod distribution from the northern Bering Sea back towards the southern EBS shelf. Despite a slight increase in recruitment from the 2018-year class, recent year classes appear weaker, raising concerns about future stock sustainability.

The assessment highlights the role of the directed fishery and bycatch in determining Pacific cod removals. Data from multiple gear types, including longline, trawl, and pot fisheries, indicate a shift in fishing distribution, with the longline sector exhibiting the most pronounced movement trends. Catch per unit effort CPUE indices show declines in 2023, followed by a partial rebound in 2024, particularly in the pot fishery. However, CPUE trends vary by gear type, with longline and trawl sectors exhibiting declines while pot gear has shown a recovery.

The model presented and accepted for use in 2023 was re-run with the updated data as parameterized in last year's assessment, removal of ages from otoliths read from 1994–1999, inclusion of length composition data from 1994–1999, annually varying growth

limited to 2000 through 2024, updated aging error and aging bias matrix, and retuned for sigmas and variance adjustment factors. In addition, four alternative models were developed. The following additional model configurations were considered:

- Model 24.0
 - Model 23.1.0.d with 5 cm length bins
- Model 24.1
 - Model 24.0 with splined aging error, and growth with a random walk on K, instead of the Richard's p parameter
- Model 24.2
 - Model 24.1 with non-time varying survey selectivity
- Model 24.3
 - Model 24.2 with all annually varying sigma values and variance adjustment factors retuned.

Model 24.1 and Model 24.3 have very similar diagnostics, with little discernible differences in overall fits. There are trade-offs between Model 24.1 and 24.3 in model performance that makes it difficult to choose one over the other. Both models fit the survey index well, Model 24.3 has a marginally better fit to that data component when considering likelihood, and both models fit the age and length composition data well, however Model 24.1 fits the survey length composition data better. Both models performed equally well with the fishery lengths and survey age composition data. Although the point estimate management advice (i.e., ABCs and OFLs) for the two models differ, the uncertainty around these estimates in both models show the confidence bounds overlapping making them statistically indistinguishable.

In consideration of overall model performance and consistency in management advice with last year's, Model 24.1 was recommended for setting management advice for 2025. The principal results from alternative Model 24.1 are listed in the table below (biomass and catch figures are in units of t) and compared with the corresponding quantities as specified last year by the Council's SSC.

Modeling results suggest continued declines in total biomass and female spawning stock biomass (SSB). The assessment compares various stock projections, with some scenarios indicating a potential for stabilization if recruitment improves. However, projections also highlight increased uncertainty in stock dynamics, reinforcing the need for adaptive management strategies. The implementation of guideline harvest levels in state waters since 2014 and adjustments in catch allocation strategies reflect ongoing efforts to balance conservation with sustainable fisheries.

The values of 2025 female spawning biomass, relative spawning biomass, maximum fishing mortality for acceptable biological catch (FABC), and maximum ABC do not differ markedly from last year's projections of those same quantities from last year's Model 23.1.0.d and this year's Model 24.1 (Figure 2). Model 24.3, however, recommends a substantial change in maximum ABC and maximum FABC. The change in maximum ABC from last year's Model 23.1.0.d to Model 24.3 is primarily due to a 14.6% reduction in estimated 2025 SSB and reduction of the status of the stock from B37% to B34%. This resulted in a reduction of maximum F from 0.35 to 0.30, a 13.7% reduction in F, causing a 22.6% reduction in maximum ABC from 151 kt to 117 kt as the status of the stock drops on the steep slope of the control rule.

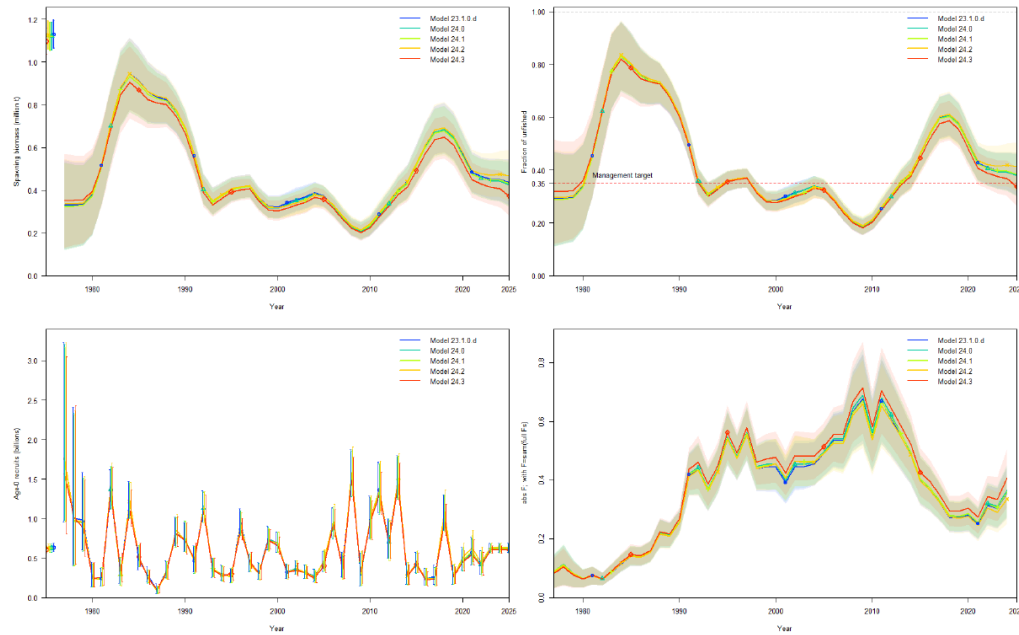
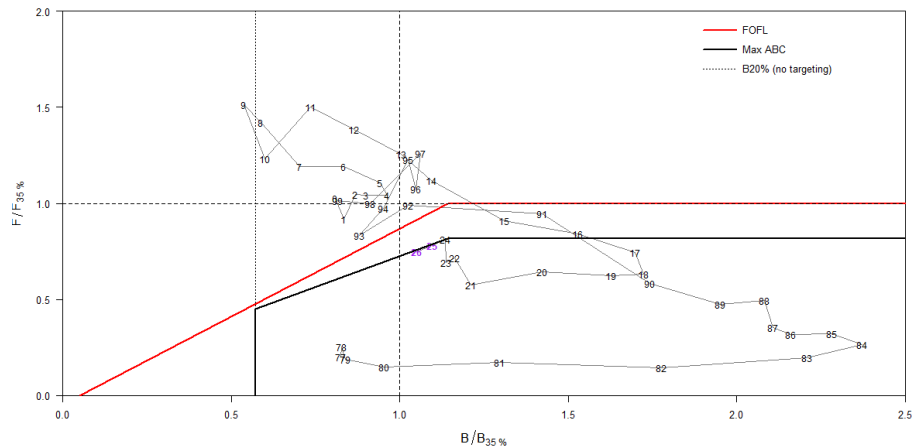


Figure 2. (Top left) Total spawning biomass (t), (top right) spawning biomass/unfished biomass, (bottom left) Age-0 recruits, and (bottom right) F (sum of the apical fishing mortality) for the (yellow, dashed) 2022 ensemble and (blue solid) Model 23.1.0.d. Source: Barbeaux et al. 2024

Figure 3 plots the estimated/projected trajectory of relative fishing mortality ($F/F_{35\%}$) and relative female spawning biomass ($B/B_{35\%}$) from 1977 through 2026 based on apical fishing mortality, overlaid with the current harvest control rules (HCRs) (Table 4). Models prior to 2016 featured dome-shaped survey selectivity, while models since 2016 have forced survey selectivity to be asymptotic, which changed the appearance of the trajectory considerably, so that, in hindsight, the stock was being subjected to fishing mortality rates in excess of the retroactively calculated fishing mortality for overfishing limit (FOFL) values (but not the official FOFL values that were calculated at the time) in all years from the early 1990s through 2017.



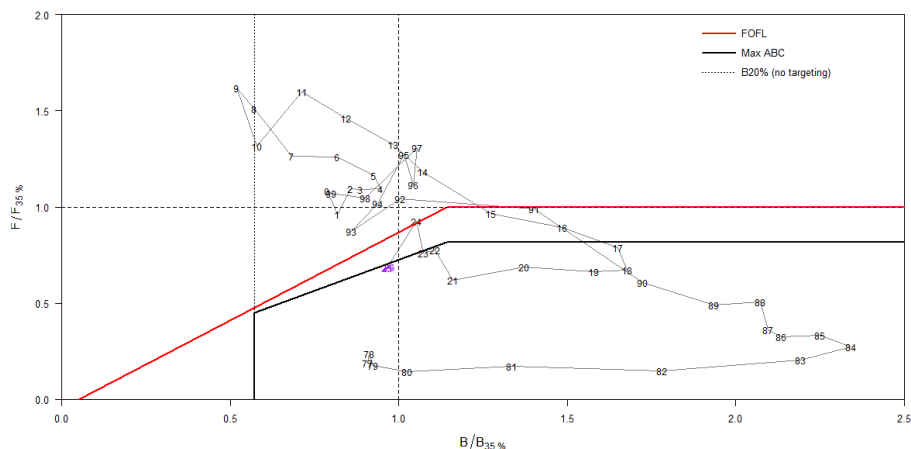


Figure 3. Phase plane plot for Model 24.1 (upper panel) and 24.3 (lower panel). Source: Barbeaux et al. 2024

Table 4. Model outputs. Source: Barbeaux et al. 2024

Quantity	As estimated or <i>specified last year for:</i>		As estimated or <i>recommended this year for:</i>	
	2024	2025	2025*	2026*
M (natural mortality rate)	0.386	0.386	0.386	0.386
Tier	3b	3b	3b	3b
Projected total (age 0+) biomass (t)	808,203	787,837	769,813	762,206
Projected female spawning biomass	223,107	211,131	215,747	206,498
$B_{100\%}$	567,465		561,915	
$B_{40\%}$	226,986		224,767	
$B_{35\%}$	198,612		196,671	
F_{OFL}	0.46	0.43	0.43	0.41
$maxF_{ABC}$	0.37	0.35	0.35	0.33
F_{ABC}	0.37	0.35	0.35	0.33
OFL (t)	200,995	180,798	183,509	169,243
maxABC (t)	167,952	150,876	153,617	141,520
ABC (t)	167,952	150,876	153,617	141,520
Status	As determined <i>last year for:</i>		As determined <i>this year for:</i>	
	2022	2023	2023	2024
Overfishing	No	n/a	No	n/a
Overfished	n/a	No	n/a	No
Approaching overfished	n/a	No	n/a	No

*Projections are based on assumed catches of 165,659 t, and 153,617 t in 2024 and 2025, respectively.

Management measures have evolved to account for changing stock conditions. Regulatory amendments have influenced the allocation of Pacific cod among gear types, with the most recent updates refining the proportion of allowable catch across sectors. The role of discards in total removals remains a focus, with discard rates declining significantly since the implementation of Amendment 49 in 1998, though some fluctuations have occurred in recent years.

The analysis incorporates extensive survey data, including bottom trawl surveys conducted by AFSC. The 2024 survey results show a continued decline in overall Pacific cod abundance, with a notable reduction in biomass in the northern Bering Sea, offset slightly by stable or increasing numbers in the southern regions. The data also indicate a shift in cod size distribution, with recent surveys capturing an increasing proportion of smaller fish, indicative of recruitment variability.

The assessment underscores the complex interplay of environmental changes, fishing pressure, and regulatory measures in shaping the current status of Pacific cod in EBS. The continued decline in abundance, coupled with uncertainties in recruitment and environmental variability, necessitates ongoing monitoring and potential adjustments in harvest strategies.

The current assessment for Pacific cod in the EBS follows a Tier 3b management approach under NPFMC's system. Under this framework, the spawning biomass reference points are derived from an age-structured population model. The Tier 3 designation is applied when there are reliable estimates of the spawning biomass per recruit and natural mortality (M). The stock assessment estimates indicate that the projected female spawning biomass for 2025 is 215,747 mt, which is above the B35% threshold (196,671 mt), classifying the stock under the Tier 3b category. The HCR associated with Tier 3b adjusts the fishing mortality rate according to the stock's status relative to the reference biomass thresholds. When the biomass (B) is above B40%, FOFL is set at F35%, and FABC is lower than F40%. When the spawning biomass falls below B40% but remains above 5% of B40%, the FOFL and FABC are scaled down proportionally to avoid overfishing. If the biomass declines below 5% of B40%, both FOFL and FABC are set to zero to prevent further depletion of the stock. For the 2025 assessment, the recommended ABC is 153,617 mt, while the OFL is 183,509 mt, indicating a precautionary approach to harvest management. These figures are based on the application of the model-generated fishing mortality rates, with FABC set at 0.35 and FOFL at 0.43 for 2025. The HCR ensures that catch levels remain sustainable, aiming to maintain SSB above the B35% threshold while allowing for responsible exploitation of the Pacific cod resource.

For EBS Pacific cod, Figure 4 shows that the 2025 bottom trawl survey biomass estimate was approximately 570,000 t, about 10% lower than in 2024 and below the long-term mean of roughly 700,000 t. However, this decline should be interpreted in the context of the full survey time series, which shows pronounced interannual variability, with biomass fluctuating from well below 0.6 million t in some years to above 1.0 million t in others. In that context, the 2025 value remains within the historical range of observed variation and does not indicate an abrupt or exceptional collapse of the stock. The figure also shows that Pacific cod remained widely distributed across the eastern Bering Sea survey area in 2025 and that multiple size classes were still present in the population, which is more consistent with a fluctuating but persistent stock than with a collapse. This interpretation is consistent with the most recent stock assessment, which classified EBS Pacific cod as a Tier 3b stock, with projected 2025 female spawning biomass of 215,747 t, above the B35% threshold (196,671 t), and with recommended 2025 catch limits set at ABC 153,617 t and OFL 183,509 t under precautionary harvest control rules (Barbeaux et al., 2024). It is also consistent with recent management information indicating that catches remained below the relevant harvest limits. Overall, the 2025 reduction shown in the figure is best understood as part of the stock's normal variability, not as evidence of stock collapse.

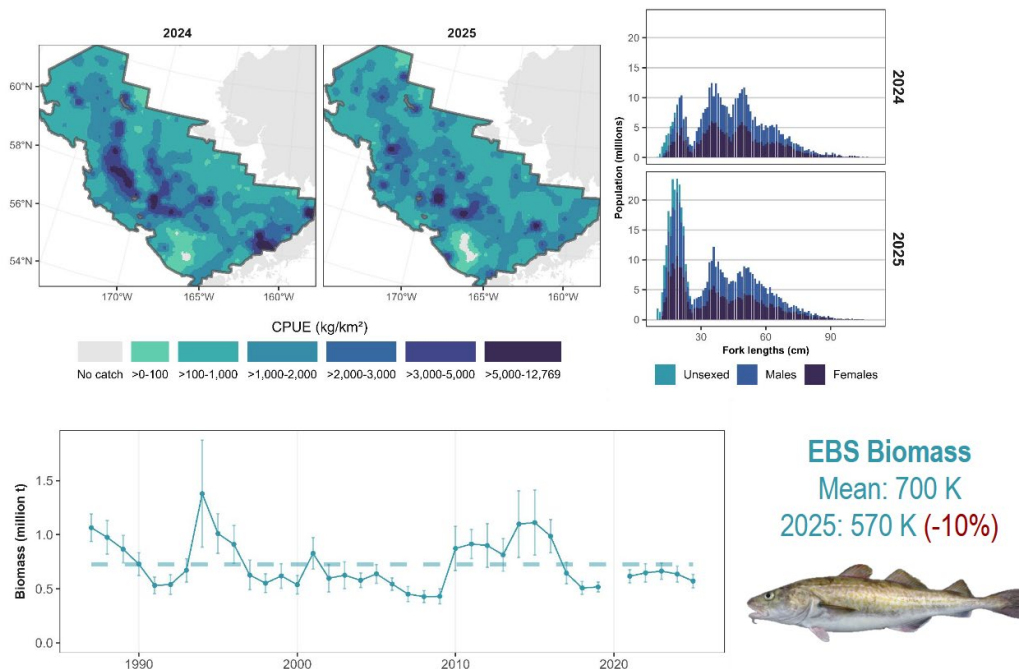


Figure 4. Inverse-distance weighted design-based weight CPUE, estimated design-based length composition, estimated design-based biomass time series with 95% confidence intervals and comparison to 2024 of EBS cod from the 2025 Eastern and Northern Bering Sea Bottom Trawl Survey. Source: Markowitz et al., 2025

5.2.2 AI Pacific cod

The 2024 Stock Assessment and Fishery Evaluation (SAFE) report (Spies et al., 2024) outlines different modeling approaches, including age-structured and Tier 5 models, to estimate biomass, recruitment, and mortality rates. The preferred model, 24.1, incorporates a time block for natural mortality from 2016 to 2024, correlating with observed environmental changes. This model improves the fit to survey data compared to alternative models that do not include this adjustment. Data sources include fishery catch records, survey length compositions, and age structures. The survey estimates show a long-term decline in biomass, with the 2022 and 2024 estimates being the lowest recorded. The decline is attributed to a combination of environmental stressors and fishery impacts. Fishery catch has also declined significantly since 2020. The assessment includes projections for stock sustainability under various harvesting scenarios, with recommendations for adopting Model 24.1 for determining ABC and OFLs. The risk table highlights concerns about stock trends, with increased risks associated with environmental and ecosystem factors.

It is important to stress that AI and EBS Pacific cod stocks were first managed separately in 2014. Since 2014, age-structured models have been explored in assessments but harvest specifications for AI Pacific cod have been managed under Tier 5. However, the last assessment presents three age structured models for the AI Pacific cod stock, as well as two Tier 5 harvest specification models.

Age structured models:

- Model 24.1: This model includes a timeblock on natural mortality from 2016-2024. The breakpoint between 2015 and 2016 corresponds to a shift to warmer temperatures in AI during the past decade (Xiao and Ren 2022). This is the preferred model.
- Model 24.0: This is a sensitivity model, which is similar to Model 24.1 but does not contain the natural mortality timeblock from 2016-2024.
- Model 24.1a: This model shows sensitivity to the Richards vs. von Bertalanffy growth curves. It differs from Model 24.1 in its growth curve, using the von Bertalanffy rather than the Richards growth curve.

Tier 5 random effects model:

- Model 13.4: There has been no change to the input data for the Tier 5 models; they use existing biomass estimates from 1991-2024 implemented using the REMA package. The natural mortality estimate ($M = 0.34$) used in past models is retained for 2024.
- Model 24.2: This is the same Tier 5 model as 13.4, except it assumes natural mortality, $M = 0.417$.

This is the preferred Tier 5 model because it assumes a new externally estimated natural mortality. The following substantive changes have been made to the AI Pacific cod age structured assessment relative to the November 2023 assessment.

Changes in the input data (Tier 3 models):

- Realized catches for 2023, as well as a preliminary catch estimate through September 22, 2024. The current year's catch was projected to the end of the year based on the proportion caught over the past five years after this period prior to September 22.
- Commercial fishery size compositions for 2023, as well as preliminary size composition from the 2024 commercial fisheries through September 22.
- The 2024 survey biomass index and error estimates are incorporated, as well as the 2024 length compositions and estimate of survey input sample size.
- The maturity curve was updated through September 2024 with observer records of maturity at length.
- The fishery length composition sample sizes were updated with the number of hauls per year, weighted such that the mean is equivalent to the mean survey input sample size.

Changes in the input data (Tier 5 model):

- The Tier 5 model uses survey biomass estimates from 1991-2024.
- Model 24.2 incorporates a new fixed M , 0.417.

Changes in the assessment methodology:

- Initial F was estimated based on the average catch from 1981-1990.
- Natural mortality was estimated externally and fixed at 0.417, except in Model 24.1 after 2015 (which incorporated a time block on natural mortality).
- The timeblock on natural mortality from 2016-2024 (Model 24.1) was estimated.
- A Richards growth curve was estimated within the models, except Model 24.1a which used the von Bertalanffy growth curve.
- Maximum age was changed from 10+ to 13+.
- Fishery length composition did not incorporate a plus group (max = 143 cm) whereas previous models used a plus group of 117+ cm.

- The time of settlement was changed to indicate that larvae settle as juveniles in the same year as spawning, rather than in the following year, for biological accuracy and consistency with other cod models.

The 2024 catch of Pacific cod in AI as of September 22, 2024 was 3,570 t. Over the past 5 years (2019-2023), 76.3% of the catch has taken place by this date. Therefore, the full year's estimate of catch in 2024 was extrapolated to be 4,676 t. This is lower than the average catch over the past five years of 13,435 t.

Model 24.1 improved the fit to the data over Model 24.0. Model 24.1 estimated a total biomass of 73,679 t, a spawning biomass of 25,078 t, and an exploitable biomass of 58,208 t for 2025. Model 24.1 ABCs were 13,376 t and 12,973 t for 2025 and 2026. Model 24.1 OFLs were 16,782 t and 16,273 t for 2025 and 2026.

The random effects model which estimated biomass used in Tier 5 models 13.4 and 24.2 estimated an exploitable biomass of 51,504 t. This is comparable with the exploitable survey biomass estimated by Model 24.1 (58,208 t). The Model 13.4 Tier 5 ABCs and OFLs for 2025 and 2026 are 13,133 t and 17,511 t. Note the Tier 5 ABCs and OFLs are the same for 2025 and 2026. Tier 5 Model 24.2 estimated higher OFLs (21,477 t) and ABCs (16,107 t) for 2025 and 2026 due to the higher natural mortality parameter.

Model 24.1 (and 24.1a) accounted for changing environmental conditions due to the shift in temperature through the 2016-2024 timeblock on natural mortality. The year 2016 was selected because it is two years after the beginning of the documented thermal shift (Xiao and Ren 2022). While this thermal shift has not been documented as an ecological regime shift, it is significant and should be considered as a potential factor for changes in abundance or distribution. The time block did not start earlier because it incorporated a ~two-year lag for effects of higher temperatures to be observed, the effect of cumulative stress that increased temperatures can incur (e.g., Laurel and Rogers 2020). Pacific cod is known to respond poorly to temperatures that exceed their preferred thermal range; therefore, increased natural mortality due to the thermal shift may be the optimal model configuration. The lag also corresponded to the time required for cod to grow to a size/age at first survey selectivity. The assumption that increased natural mortality due to higher temperatures is supported by evidence in the laboratory and in situ and includes all life stages. Accordingly, the time block on natural mortality in Model 24.1 indicated higher natural mortality which was freely estimated and not on a bound (0.57). As of August 2024, heatwave conditions in AI appear to be less extreme than in past years during all months with the exception of August in the western AI, but periods of moderate heatwave conditions have occurred. The time block on natural mortality in Models 24.1 and 24.0A improves the fit to survey index of abundance, particularly later years in the survey. The survey index declined from 2018-2022; therefore, the spawning stock size relative to unfished is lowest for the models that include the natural mortality timeblock (Figure 5).

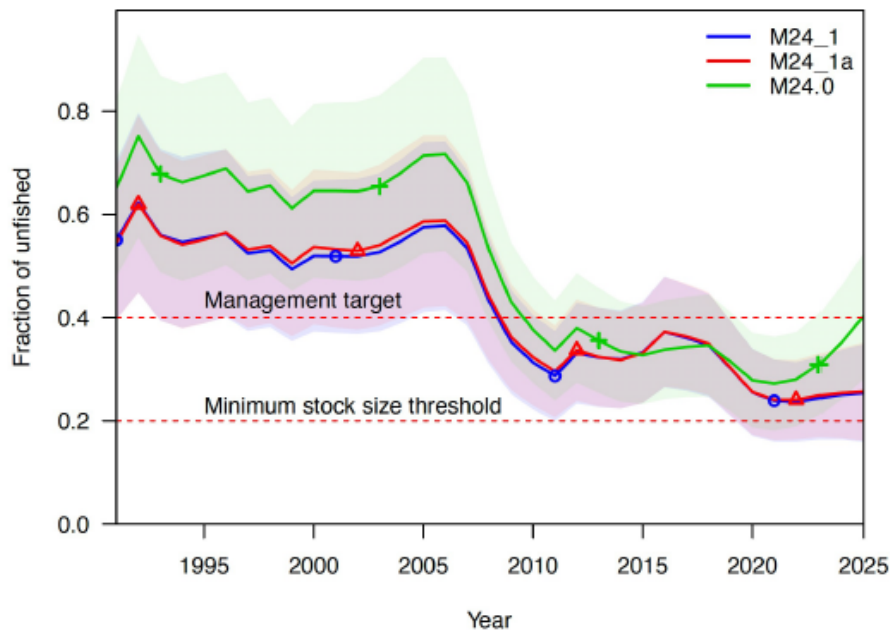


Figure 5. SSB of Pacific cod in AI relative to unfished for all Models 24.1, 24.1a, and 24.0. Source: Spies et al. 2024

The Tier 3 model 24.1 has been adopted for ABC/OFL and status determination advice under the fishery management plan (FMP). This model makes use of more information (fishery and survey lengths, survey ages, maturity curve) and allows the Council to have clear advice on the status of this important stock (Table 5).

Table 5. Model outputs for Pacific cod in AI. Source: Spies et al. 2024

Quantity	As estimated or <i>specified</i> last year for:		As estimated or <i>recommended</i> this year for:	
	2024	2025	2025	2026
M (natural mortality rate)	0.34	0.34	0.42, 0.57*	0.42, 0.57*
Tier	5	5	3b	3b
Projected total (age 1+) biomass (t)	54,165	54,165	73,679	77,731
Projected female spawning biomass (t)	-	-	25,078	24,729
$B_{100\%}$	-	-	102,361	102,361
$B_{40\%}$	-	-	40,944	40,944
$B_{35\%}$	-	-	35,826	35,826
F_{OFL}	0.34	0.34	0.655	0.645
$maxF_{ABC}$	0.255	0.255	0.502	0.494
F_{ABC}	0.255	0.255	0.502	0.494
OFL	18,416	18,416	16,782	16,273
$maxABC$	12,431	12,431	13,376	12,973
ABC	12,431	12,431	13,376	12,973
Status	2022	2023	2023	2024
Overfishing	No	n/a	No	n/a
Overfished	n/a	No	n/a	No
Approaching overfished	n/a	No	n/a	No

Finally, the stock appears to have declined to close to B20%, despite relatively light fishing (Figure 6). Models 24.0 and 24.1 both indicate a period of high recruitment during the 1990s, followed by lower recruitment from 2001-2010. This lower recruitment during 2001-2010 may have resulted in declining stock sizes. For Model 24.1, the mean age-0 recruitment during 2001-2010 was 42,836 (x1,000) and the mean used for forecasting, was 61,854 (x1,000). Model 24.0 used a somewhat lower estimate for forecasting, 59,243 (x1,000). A second reason for the low stock sizes despite low fishing mortality is climate-related mortality. While Model 24.1 provides a link between the modeled population dynamics and climate, future research may develop a more complex understanding of the relationship between climate stress and stock size.

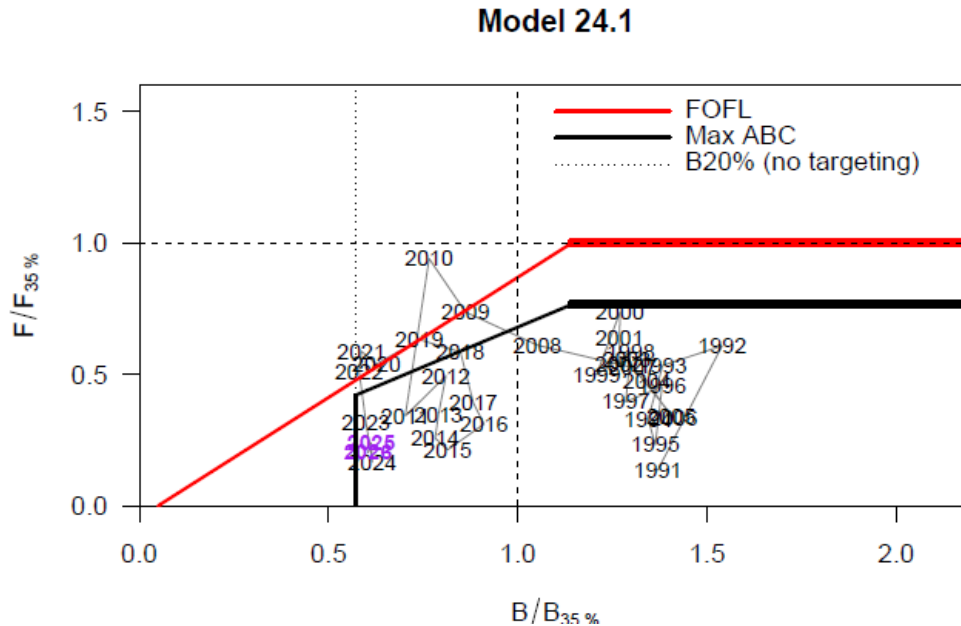


Figure 6. Phase plane plot for Model 24.1 (upper panel) and 24.3 (lower panel) for AI Pacific cod. Source: Spies et al. 2024

5.2.3 GOA Pacific cod

The 2024 SAFE report (Hulson et al. 2024) provides an in-depth analysis of GOA Pacific cod stock, focusing on historical fishery performance, stock assessment methodologies, and key environmental factors influencing population dynamics. It discusses the history of management measures, including TAC, ABC, and OFLs, with an emphasis on recent changes and their impact on stock sustainability. The analysis includes figures and tables, such as those showing catch distribution by gear type and regulatory area. Recent fishery performance is outlined, detailing data collection methods, including on-board observers and electronic monitoring. It highlights the varying performance of different fishing gears—trawl, longline, and pot fisheries—along with their spatial distributions. Notable trends include the decline in catch between 2015 and 2019, the closure of the federal fishery in 2020 due to low spawning biomass, and the reopening in 2021 as stock conditions improved. By 2024, the TAC was set at 23,766 tons, with state fisheries harvesting 6,311 tons and federal fisheries taking 16,860 tons. Environmental factors, such as temperature fluctuations and their impact on cod distribution, are also discussed. Studies show that Pacific cod exhibit depth-dependent responses to warming temperatures, shifting to deeper waters in warmer years.

Survey data from the AFSC bottom trawl and longline surveys provide further insights into stock trends. The surveys reveal fluctuations in biomass and abundance estimates, with recent years showing an increase following a period of decline. Age and length compositions are examined, noting shifts in the size structure of the population over time. The data show that longline surveys encounter fewer small fish compared to bottom trawl surveys, with mean fish size varying depending on environmental conditions.

The SAFE report also explores incidental catch in Pacific cod fisheries, including bycatch species such as skate, walleye pollock, and arrowtooth flounder. Bycatch regulations and their impact on cod fishing operations are analyzed. The importance of monitoring indices, such as CPUE in non-directed fisheries, is emphasized as a means of assessing population health. Methodological improvements in stock assessment models are discussed, including refinements in age composition analysis and the integration of federal and state fishery data. The report recommends using Model 24.0 due to its enhanced ability to estimate population trends efficiently while addressing previous limitations in data processing.

The biomass estimates presented in the assessment report are defined in two ways: 1) total biomass was defined as age 0+ biomass, consisting of the biomass of all fish aged 0 years or greater in a given year; and 2) spawning biomass was defined as the biomass of all spawning females in a given year. The recruitment estimates presented are defined as numbers of age-0 fish in a given year; actual recruitment to fishery and survey depends on selectivity curves as estimated (noting that there are no indices involving age-0 Pacific cod). Total biomass estimates show a long decline from their peak in 1988 (Figure 7) to a low in 2006 and then an increase to another peak in 2014, after which there was a sharp decline through 2018 followed by a slight increase through 2024 and is forecasted to

increase through 2029. Spawning biomass (Figure 7) shows a similar trend of decline since the late 1980s with a peak in 1989 to a low in 2008. There was then a short increase in spawning biomass coincident with the maturation of the 2005-2008 year classes through 2014, after which the decline continued to lowest level in 2019 and 2020. The spawning biomass then slightly increased in 2021 and 2022 and is projected to slightly decrease through 2026 and then increase through 2029.

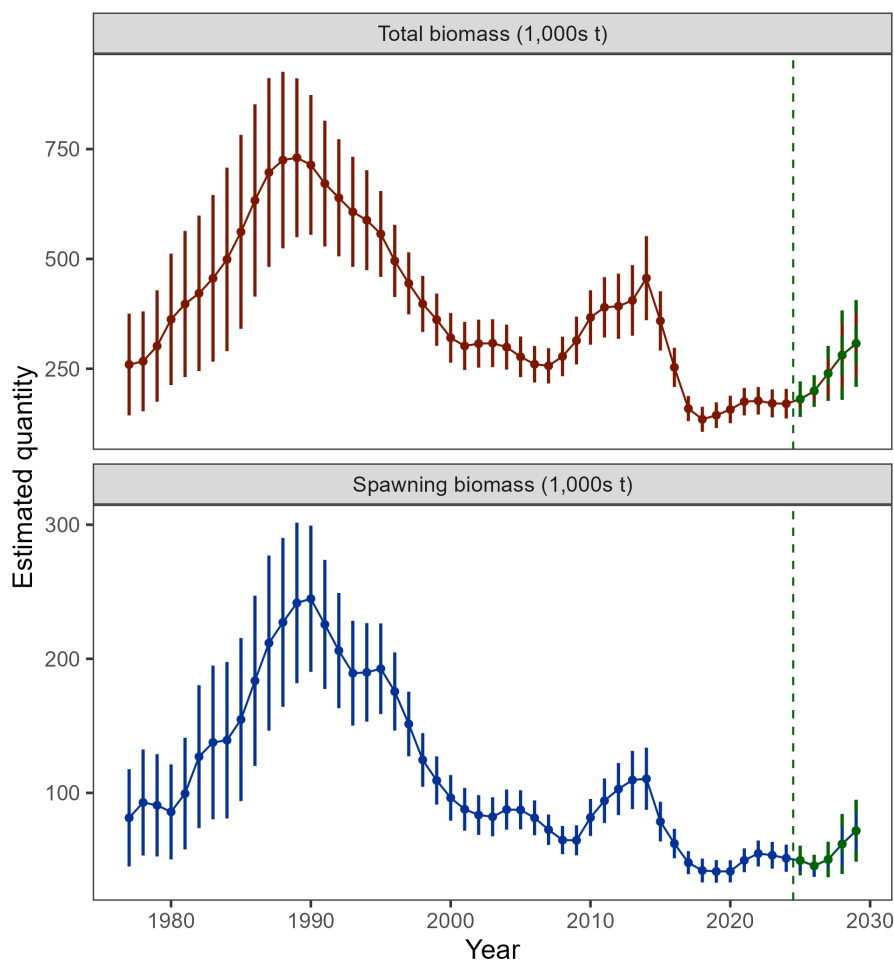


Figure 7. Estimated total biomass (top panel) and spawning biomass (bottom panel) of GOA Pacific cod from the author's recommended model with 95% confidence intervals. The five-year forecasted biomass values are denoted in green shading and with the vertical dashed line in each plot. Source: Hulson et al. 2024

Fishing mortality appears to have increased steadily with the decline in abundance from 1990 through a peak in 2008 with continued high fishing mortality through 2017. 2017 had the highest total exploitation rate of the time series. The period between 1990 and 2008 saw both a decline in recruitment paired with increases in catch. The period of increasing fishing mortality was mainly attributed to the rise in the pot fishery, which also shows the largest increase in continuous F . In 2018 through 2020 there was a sharp decrease in fishing mortality coincident with the drastic cuts in ABC and closure of the federal directed fishery in 2020. In 2021 with the reopening of the federal fishery mortality once again increased but remained lower than observed in the previous decade prior to 2017. In retrospect the phase plane plots (Figure 8) show that F was estimated to have been above the ABC control rule advised levels from 2015 to 2017 and biomass has been below B35% since 2017 and projected to continue to be below through 2026. It should be noted that this plot shows what the current model predicts, not what the past assessments had estimated.

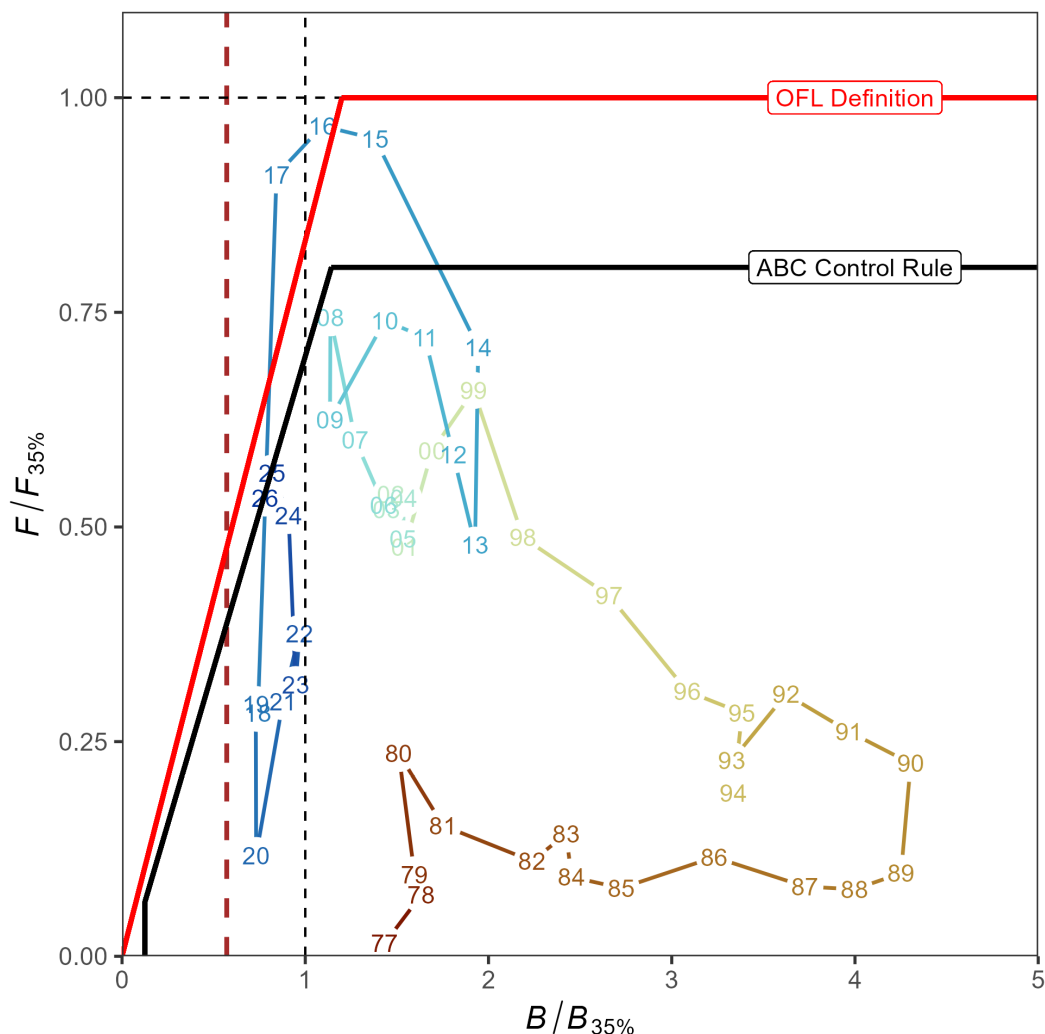


Figure 8. Ratio of historical $F/F_{35\%}$ versus female spawning biomass relative to $B_{35\%}$ for GOA Pacific cod, 1977-2026 from the author's recommended model. The F_s presented are the sum of the full F_s across fleets. Dashed vertical red line is at $B_{20\%}$, Steller sea lion closure rule for GOA Pacific cod. Source: Hulson et al. 2024

Model 24.0 indicates that the stock remains at low levels but is above $B_{20\%}$; for 2025 the stock is estimated to be at $B_{28.7\%}$, less than $B_{40\%}$, placing it in sub-tier "b" of Tier 3. For the 2025 fishery, stock assessors recommend the maximum allowable ABC of 32,141 t. This ABC is less than 1% different from the 2024 ABC of 32,272 t. The 2025 ABC is 14% larger than the 2025 ABC projected in last year's assessment. The corresponding reference values are summarized in the following table, with the recommended ABC and OFL values in bold (Table 6).

Table 6. Model outputs for GOA Pacific cod. Source: Hulson et al. 2024

Quantity	As estimated or specified last year for:		As estimated or specified this year for:	
	2024	2025	2025	2026
<i>M</i> (natural mortality rate)	0.46*	0.46*	0.49*	0.49*
Tier	3b	3b	3b	3b
Projected total (age 0+) biomass (t)	184,242	202,618	177,497	200,521
Female spawning biomass (t)				
Projected	51,959	47,698	46,920	44,674
<i>B</i> _{100%}	175,187	175,187	163,585	163,585
<i>B</i> _{40%}	70,075	70,075	65,434	65,434
<i>B</i> _{35%}	61,315	61,315	57,255	57,255
<i>F</i> _{OFL}	0.52	0.48	0.57	0.51
<i>maxF</i> _{ABC}	0.42	0.38	0.46	0.43
<i>F</i> _{ABC}	0.42	0.38	0.46	0.43
OFL (t)	38,712	33,970	38,688	36,459
maxABC (t)	32,272	28,184	32,141	30,193
ABC (t)	32,272	28,184	32,141	30,193
Status	As determined last year for:		As determined this year for:	
	2022	2023	2023	2024
Overfishing	No	n/a	No	n/a
Overfished	n/a	No	n/a	No
Approaching overfished	n/a	No	n/a	No

*Base natural mortality *M* varies between 0.49 and 0.82

**Assumed 2024 catch to be the 2024 ABC. For 2026 projections the 2025 catch was assumed to be at the projected ABC.

As evidenced above, the stock is classified as a Tier 3 stock under Amendment 56 of the GOA Groundfish FMP. The stock falls into sub-tier “b” of Tier 3, as its estimated spawning biomass for 2025 (49,605 t) is below the B40% reference point (65,434 t). Tier 3 stocks use spawning biomass-based reference points and fishing mortality rates to determine OFL and ABC. The HCRs are defined as follows:

1. If $B/B40\% > 1$:
 - $FOFL = F35\%$
 - $FABC < F40\%$
2. If $0.05 < B/B40\% < 1$:
 - $FOFL = F35\% \times (B/B40\% - 0.05) \times (1/0.95)$
 - $FABC < F40\% \times (B/B40\% - 0.05) \times (1/0.95)$
3. If $B/B40\% < 0.05$:
 - $FOFL = 0$
 - $FABC = 0$

For the 2025 fishery, the model estimates an OFL of 38,688 t and a maximum permissible ABC of 32,141 t. The corresponding fishing mortality rates are 0.57 for OFL and 0.46 for ABC. The projections also include multiple harvest scenarios to evaluate stock sustainability, including fishing at maximum permissible ABC, maintaining recent fishing mortality rates, reducing fishing effort, or ceasing fishing entirely.

The 2025 Gulf of Alaska bottom trawl survey provides a generally positive signal for GOA Pacific cod. As shown in Figure 9, survey biomass in 2025 was estimated at approximately 310,000 mt, representing an increase of 39.2% relative to 2023 (AFSC, 2025a). Although the 2025 estimate remains below the highest values observed earlier in the time series, it is clearly above the very low levels recorded in the late 2010s and early 2020s, indicating an improvement rather than a further decline. The spatial distribution shown in the figure also suggests that Pacific cod remained broadly distributed across the Gulf of Alaska shelf, while the size-composition plots indicate the continued presence of multiple size classes in the surveyed population (AFSC, 2025a). Overall, this figure supports the interpretation that GOA Pacific cod showed a partial recovery in survey biomass in 2025, and it does not indicate a collapse of the stock; rather, it suggests that the stock remained at a relatively low but improving level under continued precautionary management (AFSC, 2025a).

- Biomass estimate in 2025: ~310000 mt
- +39.2% from 2023 ↑

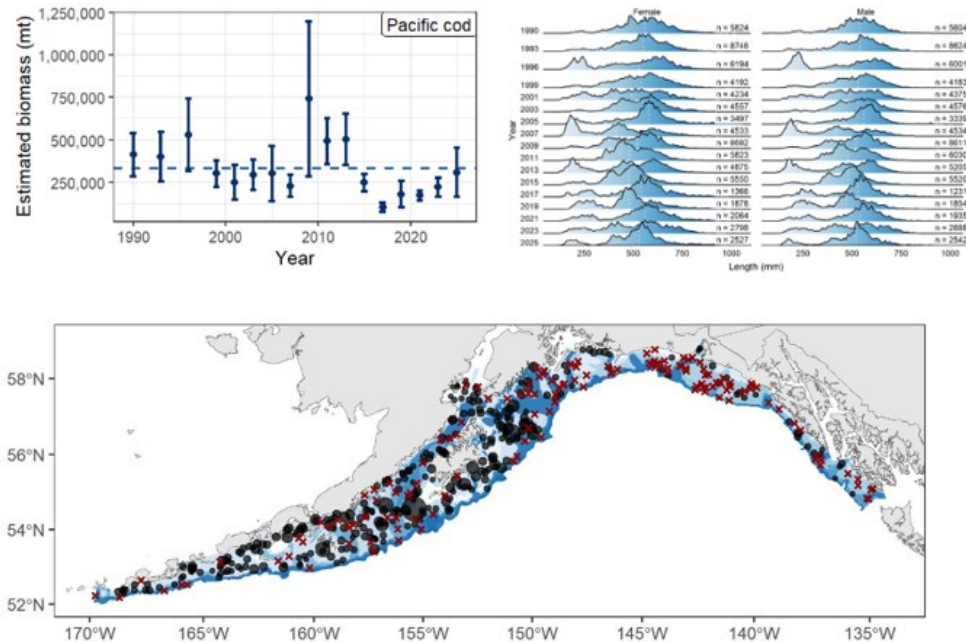


Figure 9. Estimated design-based biomass time series with 95% confidence ranges, estimated design-based length compositions and maps of positive hauls of GOA P. cod the from the 2025 Gulf of Alaska Biennial Bottom Trawl Survey Biomass trends. Source: AFSC, 2025a

According to the 2025 Ecosystem Surveys conducted in Bering Sea & Gulf of Alaska, the mean gadid larval abundance in the 2025 rapid larval assessment was very low relative to much of the historical series and remained below the long-term mean, continuing the pattern of low odd-year observations since 2019. Figure 10 explicitly notes that gadid larval abundance was extremely low in 2025 and cod larvae were in low abundance throughout the WGOA survey region (AFSC, 2025b). This suggests that early larval production or survival conditions for Pacific cod were poor in 2025, which may indicate a weaker incoming cohort. However, this figure should be interpreted as an early-life-stage indicator, not as direct evidence of adult stock collapse. As a matter of fact, the beach seine index for age-0 Pacific cod indicates that 2025 juvenile abundance was broadly similar to 2023 and 2024 and approximately average relative to the available time series. As shown in Figure 11, the series is characterized by marked interannual variability, with some years showing much stronger catches than others, but the 2025 result does not appear unusually low in that context. The 2025 Ecosystem Surveys outcomes note that CPUE in this index has historically been positively correlated with Pacific cod year-class strength, so the 2025 observation suggests neither an exceptionally strong nor an exceptionally weak incoming cohort (AFSC, 2025b). Accordingly, this figure supports the interpretation that nearshore age-0 Pacific cod abundance in 2025 was moderate, providing no indication from this index alone of an abrupt deterioration in stock status.

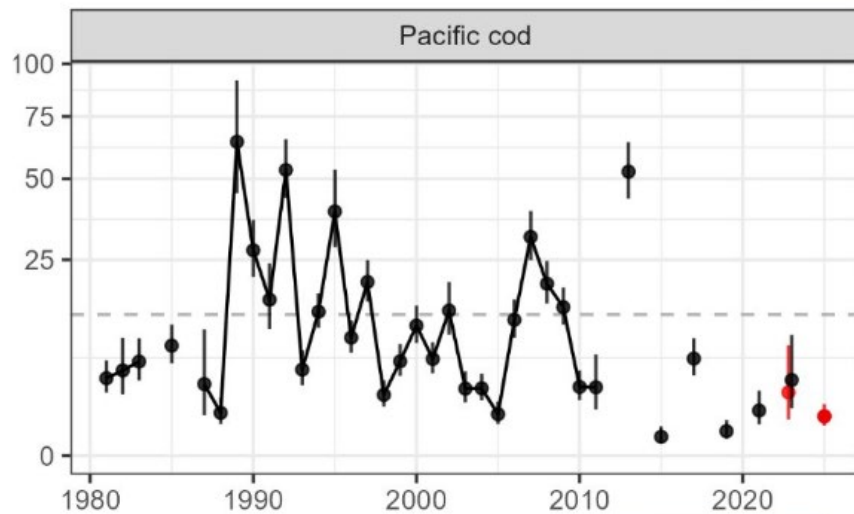


Figure 10. Mean larval abundance of Pacific cod (number per 10 m²) in the Gulf of Alaska rapid larval assessment time series. Source: AFSC, 2025b

Beach seine: Age-0 Pacific cod

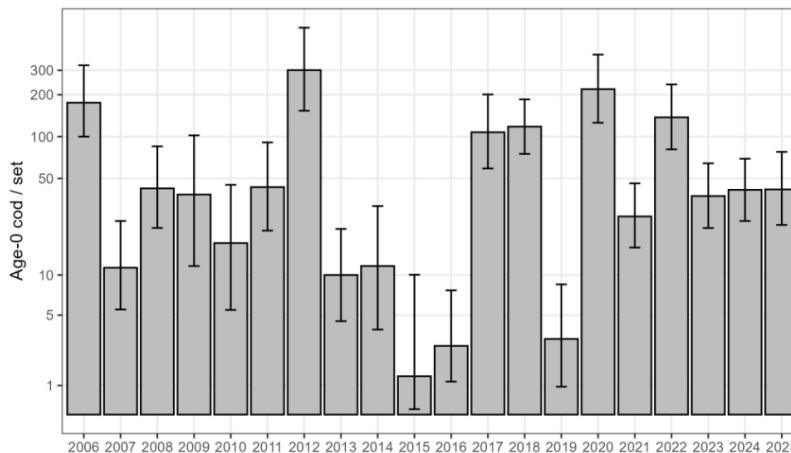


Figure 11. Beach seine catches of age-0 P. cod in the Gulf of Alaska, 2006–2025. Source: AFSC 2025b

5.3 Management practices of the competent management authority

5.3.1 Pacific Cod Trawl Cooperative (PCTC) Program

As reported at last year's audit, the [PCTC Program](#) began in 2024 with the intent of improving the prosecution of the fishery, stabilising the harvesting and processing sectors, maximising the value of the fishery and helping to minimise bycatch in Pacific cod A and B seasons (January 20th – April 1st and April 1st – June 10th, respectively) – the C season remains a limited access fishery. Cooperatives must annually apply for cooperative quota (CQ), which is derived from the quota share that belongs to their members (harvester and associated processor derived quotas). Prohibited Species Catch (PSC) allocations (which includes Pacific halibut, king crab, Tanner

crab, snow crab) are also provided to the cooperatives and are proportional to their cod CQ. PSC species are allocated to the coops on an annual basis and PSC usage must be managed by the coop throughout both A and B seasons. The PCTC Program recommended that cooperatives voluntarily provide annual reports with the purpose of detailing information on membership of the various cooperatives, management details and activities, and performance for the BSAI Pacific cod trawl seasons.

On review of four of five Pacific Cod Trawl Cooperatives presented [Cooperative Reports](#) to NPFMC in 2025 ([Akutan Cod Association \(ACA\)](#); [Golden Alaska Catcher Vessels Association Cooperative](#); [Unified Cod Cooperative](#); [United States Seafoods Cod Cooperative](#)), none of the cooperatives' reports indicate an overshoot of their CQ allocations and all were well under their PSQ allocations. The ACA report highlights ongoing collaborative work Trident Seafoods are involved with, evaluating halibut bycatch mitigation approaches in the cod fishery using funds from a NOAA Bycatch Reduction Engineering Program award. This included testing the ability to reduce halibut bycatch using artificial illumination at the trawl mouth and developing a performance indicator to assess the efficacy of bycatch reduction device designs.

5.3.2 BSAI Pacific cod pot gear cooperative program

The possible development of a cooperative-based Limited Access Privilege Program (LAPP) for BSAI Pacific cod pot fisheries for catcher processors (CP) and catcher vessels ≥ 60 feet in length was highlighted at last year's audit. The Council was particularly concerned with multiple issues that were simultaneously negatively impacting the sustained viability and rational prosecution of the fishery for all its participants. These factors include decreasing Pacific cod total allowable catch (TACs), an increase in the number of License Limitation Program licenses participating in the CV sector, the potential for additional new participants in both the CV and the CP sectors, a race among existing participants (often in unsafe conditions), resulting in an inability to control bycatch of crab, and increasingly shortened seasons in recent years.

The LAPP was discussed at the [October 2025 Council meeting](#). The Council had previously requested an updated [discussion paper](#), and there was also an accompanying [presentation](#). A number of public [comments](#) were submitted at the October meeting, as well as at the previous [June meeting](#) where discussion on the LAPP was tabled due to time constraints. There were differences of opinion within the cod pot sector, however approximately 70% of the [written comments](#) were in favor of development of a LAPP program.

The Council were given options for the next steps:

- Move forward with developing a LAPP;
 - Provide a purpose and need statement;
 - Draft Magnusson Stevens Act (MSA) provisions as components and options, e.g., LAPP cooperative structure, allocation decisions, processor and community considerations, ownership and use caps, sideboard limit, vessel crew considerations, bycatch/PSC management and monitoring requirements;
- Request for information to be brought back at a future Council meeting.
- Take no further action.

The Council [motioned](#) to take no further action on developing the LAPP at this time.

5.3.3 Programmatic Evaluation Process

As reported at the last two audits, NPFMC had initiated a Programmatic Evaluation in June 2023 (i.e., a review of its management policies, goals, and objectives for all federally managed fisheries in the BSAI and GOA with the intent of ensuring the Council's management framework is adequate to address current and future challenges, including climate change, and to improve the council's ecosystem-based management approach). At the [April 2025 Council](#), it was confirmed that the process would be paused, given the uncertainty regarding forthcoming changes to NMFS' priorities, funding, and other resources.

At the [October 2025 Council](#) meeting it was confirmed that the Council had received from NMFS the full \$2.5 million in Inflation Reduction Act (IRA) funding it applied for to support climate readiness planning, whether through continuing the Programmatic Evaluation or through other processes. In a presentation (Latanich, 2025) two possible pathways for the Council's consideration were set out: resuming staff work on the Programmatic Evaluation or taking no further action at this time. The latter would require the Council to reinstitute the triennial process of reviewing Groundfish FMP Objectives.

The Council [recommended](#) taking no further action on the Programmatic Evaluation and expressed support for reinstituting the triennial comprehensive review of Groundfish FMP Objectives as a means for adaptive management. This process, like the Programmatic Evaluation, will provide an opportunity for the Council to consider making changes to FMP policy guidance, but will focus on the Groundfish FMPs.

At the [December 2025 Council](#) meeting, in response to the Council's decision at the October 2025 meeting to take no further action on the Programmatic Evaluation (initially envisioned as one analytical vehicle for supporting the Council's grant objectives) an [update](#) on the IRA funding for climate resilience and workplan adaptations was provided. This included implementation of the Climate Resilience Workplan, reconstituting the Council's Ecosystem Committee, and plans to develop plain-language communication and outreach materials.

5.3.4 Gear trials to reduce risk of orca mortalities

The client provided an update on the development of trawl gear modifications to mitigate the risk of orca entanglement in cod and flatfish fisheries. Dr. Hannah Meyers at the University of Alaska Fairbanks is testing net modifications to deter orcas in the deep-water flatfish fishery. The primary objective of this project was to develop a gear modification for use in the Bering Sea deep-water flatfish fishery to reduce the risk of orca bycatch, informed by an understanding of orca behavior near the vessels and nets. The most recent project report (Myers *et al*, 2025) cites 164 days of field work during which acoustic, photo-identification, and orca behavioral data were collected. The fleet's use of a mesh or chain fence in the entrance to the trawl net was associated with a decline to orca mortalities over two years. Acoustic data demonstrated that multiple orca continued to forage in close proximity to the net, suggesting that the fence deterred them from entering the net. A [press release](#) on the project was also released in October 2025.

5.3.5 Funding and changes in federal priorities

The audit team asked for an update on any changes that there may have been with respect to the management system as a result of the US [government shutdown](#) and/or changes in [federal budgets](#) and priorities. The client reported that, prior to the shutdown, the [SSC's report in April 2025](#) recognized that loss of federal funding for surveys and personnel will, "have substantive impacts on the information and data produced from the AFSC surveys" (page 3). The SSC supports AFSC identifying highest survey priorities, and priorities for vulnerable or species of concern. In the [Executive Director's report](#) for the December 2025 meeting, there is a short paragraph about how the government shutdown impacted groundfish specifically, as well as a general list of planned activities that were cancelled or postponed because of the shutdown:

"The lapse in Federal appropriations from October 1 - November 12, 2025, has impacted the Council's December meeting in several ways, primarily relating to the groundfish harvest specifications agenda item. Federal stock assessment authors did not have the time to complete new groundfish assessments as planned, and as a result, the Council's Groundfish Plan Teams did not convene in November to review stock assessments and provide their recommendations on harvest specifications. Additionally, the preparation of other contextual information typically presented in support of groundfish specifications has been delayed, including the year-end in-season management reports, ecosystem status reports, and economic and community indicator reports. In response, Council staff have worked with NMFS, SSC, and Council leadership to identify what information is available this year, and to explain the process for how to apply available information for final 2026-2027 groundfish specification decisions in a manner that remains consistent with the typical Council process, the Magnuson-Stevens Fishery Conservation and Management Act (MSA), including National Standard 2, as well as the Administrative Procedure Act (APA) and other federal requirements." (NPFMC, 2025)

NMFS provided a similar paragraph in their December management [report](#):

"Most Alaska Region personnel were furloughed from October 1 through November 12, but a number of our personnel worked either daily or intermittently to handle certain excepted functions and some activities that can be carried out using non-appropriated funds. Critical services we provided during that time include monitoring and managing fisheries to avoid exceeding catch limits, issuing quota so the Bering Sea crab fisheries could open, processing IFQ transfers and related transactions, monitoring the security of our IT systems, and completing ESA section 7 consultations on projects that are top administration priorities as well as emergency consultations on the typhoon Halong response in western Alaska. We appreciate stakeholders' understanding that we could only provide limited services during the lapse in appropriations.

While NMFS was unable to hold a Tribal engagement session prior to the December 2025 Council meeting due to the shutdown, we will hold a Tribal engagement session and invite Tribal consultation ahead of the February 2026 Council meeting. NMFS is in the process of scheduling the Tribal engagement session on the upcoming Council actions on chum salmon bycatch and 2026 Cook Inlet salmon harvest specifications and will reach out to our Tribal partners on details to participate." (US Department of Commerce, 2025)

The client representative reported that while the shutdown was unfortunate and delayed some regular activities, they had not heard or read about NOAA being concerned that these setbacks would have any long-term impacts.

5.4 Impacts of fishery on ecosystem

5.4.1 Associated and endangered, threatened, and protected (ETP) species

"The 'Main' and 'Minor' bycatch classification together makes up 95% of the associated species bycatch profile of a given target fishery. The top 95% is assessed, while the bottom 5% is not assessed. Of the 95% assessed, the top 80% is classified as Main Associated Species Catch, while the bottom 15% is classified as Minor Associated Species Catch" (RFM Guidance to Performance Evaluation v2.0). Additionally, "ETP species must be acknowledged as such when recognized by national legislation adopted at the state and federal level in Alaska, or when recognized through a binding international agreement. Alternatively, species listed under Appendix 1 of the Convention on International Trade in Endangered Species or under the International Union for the Conservation of Nature Red List and impacted negatively¹ by the fishery (i.e., direct or indirect mortality) shall be assessed as ETP unless it can be proven that their status in Alaska waters is above the point where recruitment is impaired or where other similar proxies indicate that the species is not biologically depleted" (RFM Guidance to Performance Evaluation v2.0).

It is known that certain gear types have more impact on certain species (e.g., longline are more likely to catch seabirds than demersal trawl). While gear-specific bycatch data are not available (except for seabirds and marine mammals), the observer program does document the specific species.

Table 7 and Table 8 show catch data for the BSAI cod and GOA cod fisheries, respectively. None of the species are listed in Convention on International Trade in Endangered Species Appendix 1 or the International Union for the Conservation of Nature Red List; however, the ones labelled as PSC (ETP) are protected by federal management measures limiting bycatch of these species. Overall, these catches and interactions are similar to previous years.

¹ "For ETP species, interactions with the stock under consideration shall not cause departure from agreed management measures, such as those designed to allow for species restoration across a given geographical area. In other words, any interaction with or bycatch of ETP species shall be minimal and not considered significant, and/or disruptive in terms of ensuring the effectiveness of agreed management measures set up in order to achieve the management and conservation objectives for the ETP species in question." (RFM's Guidance to Performance Evaluation v2.0)

Table 7. Catch data of target, non-target, PSC/ETP, and habitat species for 2020-2024 by the BSAI cod fishery. Blue = target species, green = main associated species, orange = minor associated species, yellow = PSC/ETP species, purple = habitats. Source: observer data

Species	Target, Main Associated, Minor Associated, Other Bycatch, PSC/ETP, or Habitat	Catch (in mt)						Percent of Total Average	Percent of Total Average Bycatch
		2020	2021	2022	2023	2024	Five-Year Average		
Pacific cod	Target	118,683.25	92,130.34	139,099.98	130,288.57	126,669.26	121,374.28	79.48%	NA
Alaska plaice	Other bycatch	34.56	6.22	9.81	9.11	14.55	14.85	0.01%	0.05%
Alaska skate	Main associated	1,511.14	1,281.07	20,480.13	17,370.59	19,835.35	12,095.66	7.92%	38.60%
Aleutian skate	Main associated	82.69	40.35	1,185.73	2,014.23	1,075.16	879.63	0.58%	2.81%
Arrowtooth flounder	Minor associated	308.21	268.05	432.57	602.22	1,144.06	551.02	0.36%	1.76%
Atka mackerel	Other bycatch	43.47	115.40	84.87	7.36	95.56	69.33	0.05%	0.22%
Auklets*	Other bycatch	0.00	0.00	0.00	0.00	20.44	4.09	NA	NA
Bairdi tanner crab*	PSC (ETP)	90,548.00	43,664.00	118,440.05	84,877.30	87,379.53	84,981.78	NA	NA
Benthic urochordata	Other bycatch	13.41	0.39	0.55	3.59	16.38	6.86	0.00%	0.02%
Big skate	Minor associated	101.30	71.91	235.11	570.75	592.00	314.21	0.21%	1.00%
Bigmouth sculpin	Other bycatch	239.80	0.00	0.00	0.00	0.00	47.96	0.03%	0.15%
Birds, unidentified*	Other bycatch	368.75	148.77	264.66	216.19	446.00	288.87	NA	NA
Black-footed albatross*	Other bycatch	0.00	0.00	7.08	0.00	0.00	1.42	NA	NA
Blue king crab*	PSC (ETP)	1,161.00	361.00	4,563.41	1,143.79	1,522.16	1,750.27	NA	NA
Butter sole	Other bycatch	45.48	23.52	45.48	149.62	126.08	78.04	0.05%	0.25%
Chinook salmon*	PSC (ETP)	235.00	147.00	269.10	1,265.53	954.12	574.15	NA	NA
Corals bryozoans, unidentified	Habitat	15.42	13.14	5.80	0.87	4.28	7.90	0.01%	0.03%
Dusky rockfish	Other bycatch	14.94	32.24	19.55	10.99	16.66	18.88	0.01%	0.06%
Eelpouts	Other bycatch	6.26	6.60	0.34	0.53	1.48	3.04	0.00%	0.01%
English sole	Other bycatch	1.59	0.83	1.28	33.34	0.08	7.43	0.00%	0.02%
Flatfish, unidentified	Minor associated	53.10	14.68	343.54	51.58	55.77	103.73	0.07%	0.33%
Flathead sole	Minor associated	590.06	324.27	539.50	556.54	667.90	535.65	0.35%	1.71%

Giant grenadier	Other bycatch	156.73	27.54	17.29	2.76	1.48	41.16	0.03%	0.13%
Golden king crab*	PSC (ETP)	3,304.00	25,977.00	3,470.26	3,422.90	121.56	7,259.14	NA	NA
Great sculpin	Minor associated	505.68	0.00	0.00	0.00	0.00	101.14	0.07%	0.32%
Greenland turbot	Other bycatch	63.23	11.81	17.94	28.41	13.05	26.89	0.02%	0.09%
Gulls*	Other bycatch	179.94	142.10	691.46	126.87	795.67	387.21	NA	NA
Halibut	PSC (ETP)	244.61	182.42	370.14	355.26	319.62	294.41	0.19%	0.94%
Herring	PSC (ETP)	0.18	0.56	0.08	0.98	0.09	0.38	0.00%	0.00%
Kamchatka flounder	Other bycatch	41.90	68.88	72.48	64.37	64.38	62.40	0.04%	0.20%
Kittiwakes*	Other bycatch	20.90	6.14	24.20	18.11	0.00	13.87	NA	NA
Laysan albatross*	Other bycatch	0.00	36.67	44.01	34.01	298.96	82.73	NA	NA
Longnose skate	Other bycatch	2.00	9.21	3.73	4.35	6.37	5.13	0.00%	0.02%
Misc. crab	Other bycatch	9.84	5.13	17.76	22.66	2.32	11.54	0.01%	0.04%
Misc. fish	Other bycatch	22.17	17.43	29.04	46.28	45.44	32.07	0.02%	0.10%
Misc. flatfish	Other bycatch	0.00	0.00	15.56	7.60	0.03	4.64	0.00%	0.01%
Murre*	Other bycatch	6.44	7.79	0.00	0.00	0.00	2.85	NA	NA
Non-Chinook salmon*	PSC (ETP)	115.00	88.00	108.73	68.76	159.77	108.05	NA	NA
Northern fulmar*	Other bycatch	2,140.68	778.85	1,679.68	1,575.43	2,586.26	1,752.18	NA	NA
Northern rockfish	Other bycatch	63.00	72.18	36.94	30.37	50.14	50.53	0.03%	0.16%
Octopus	Minor associated	672.32	154.32	222.38	110.92	231.89	278.37	0.18%	0.89%
Opilio tanner crab*	PSC (ETP)	158,964.00	87,898.57	69,927.71	57,667.57	62,095.19	87,310.61	NA	NA
Other alcids*	Other bycatch	0.00	0.00	0.00	0.00	0.00	0.00	NA	NA
Other birds*	Other bycatch	7.50	0.00	81.75	0.00	0.00	17.85	0.01%	0.06%
Pacific ocean perch	Other bycatch	14.55	6.47	3.12	3.72	116.62	28.90	0.02%	0.09%
Pacific sleeper shark	Other bycatch	18.26	16.62	19.96	12.65	11.63	15.82	0.01%	0.05%
Plain sculpin	Other bycatch	25.95	0.00	0.00	0.00	0.00	5.19	0.00%	0.02%
Pollock	Main associated	5,585.72	4,378.16	6,328.01	7,187.00	6,178.29	5,931.44	3.88%	18.93%
Red king crab*	PSC (ETP)	23,752.00	296,862.35	150,695.62	95,243.85	31,142.92	119,539.35	NA	NA
Rex sole	Other bycatch	10.87	5.33	18.89	25.89	22.53	16.70	0.01%	0.05%

Rock sole	Minor associated	411.61	360.80	670.95	1,334.99	1,461.61	847.99	0.56%	2.71%
Rockfish, unidentified	Other bycatch	108.65	143.77	33.32	15.09	23.11	64.79	0.04%	0.21%
Rougheye rockfish	Other bycatch	56.47	42.95	39.02	3.80	20.73	32.59	0.02%	0.10%
Sablefish	Minor associated	147.28	199.81	209.93	126.94	196.27	176.05	0.12%	0.56%
Sculpin	Main associated	18.34	0.00	2,812.62	2,082.15	2,478.92	1,478.41	0.97%	4.72%
Sculpin, unidentified	Minor associated	1,373.68	0.00	0.00	0.00	0.00	274.74	0.18%	0.88%
Scypho jellies	Other bycatch	29.30	67.78	99.85	99.75	122.07	83.75	0.05%	0.27%
Sea anemone, unidentified	Other bycatch	49.16	21.70	63.73	63.98	151.08	69.93	0.05%	0.22%
Sea pens, whips	Habitat	15.70	5.41	35.04	19.41	50.01	25.11	0.02%	0.08%
Sea star	Minor associated	245.91	207.76	494.44	339.68	358.65	329.29	0.22%	1.05%
Shearwaters*	Other bycatch	368.91	1,116.10	530.04	665.44	580.05	652.11	NA	NA
Shortraker rockfish	Other bycatch	8.73	31.46	3.01	2.71	2.22	9.63	0.01%	0.03%
Skate, unidentified	Main associated	11,910.94	11,486.61	1,076.56	833.29	948.36	5,251.15	3.44%	16.76%
Snails	Other bycatch	0.00	0.00	36.88	36.62	46.62	24.02	0.02%	0.08%
Spiny dogfish	Other bycatch	0.92	0.84	1.26	3.58	3.19	1.96	0.00%	0.01%
Sponge, unidentified	Habitat	14.64	6.37	10.43	0.70	5.85	7.60	0.00%	0.02%
Starry flounder	Minor associated	78.53	64.60	33.99	187.95	84.72	89.96	0.06%	0.29%
Thornyhead rockfish	Other bycatch	14.38	18.55	16.26	0.24	3.63	10.61	0.01%	0.03%
Warty sculpin	Other bycatch	11.10	0.00	0.00	0.00	0.00	2.22	0.00%	0.01%
White blotched skate	Minor associated	45.56	21.66	311.87	327.21	207.42	182.74	0.12%	0.58%
Yellow Irish lord	Other bycatch	186.98	0.00	0.00	0.00	0.00	37.40	0.02%	0.12%
Yellowfin sole	Minor associated	825.13	773.30	818.42	433.24	635.14	697.05	0.46%	2.22%
Total**	Other bycatch	144,734.87	112,738.45	176,428.17	165,486.88	164,179.25	152,713.52		

Notes:

Associated and other bycatch species with percent of total average bycatch of ≤0.00% are not shown in table.

* Number of individuals instead of mt

** Does not include species with individual numbers instead of weight

Table 8. Catch data of target, non-target, PSC/ETP, and habitat species for 2020-2024 by the GOA cod fishery. Blue = target species, green = main associated species, orange = minor associated species, yellow = PSC/ETP species, purple = habitats. Source: observer data

Species	Target, Main Associated, Minor Associated, Other Bycatch, PSC/ETP, or Habitat	Catch (in mt)						Percent of Total Average	Percent of Total Average Bycatch
		2020	2021	2022	2023	2024	Five-Year Average		
Pacific cod	Target	0.00	8,526.04	20,005.87	15,195.51	22,736.86	13,292.86	88.60%	NA
Alaska skate	Minor associated	0.00	5.31	0.79	3.47	1.22	2.16	0.01%	0.12%
Albatross, unidentified*	Other bycatch	0.00	0.00	11.16	0.00	0.00	2.23	NA	NA
Aleutian skate	Main associated	0.00	11.31	200.43	152.45	191.28	111.09	0.74%	6.42%
Arrowtooth flounder	Main associated	50.51	148.28	99.17	91.89	286.15	135.20	0.90%	7.82%
Atka mackerel	Minor associated	0.00	2.92	0.46	0.00	0.50	0.78	0.01%	0.04%
Bairdi tanner crab*	PSC (ETP)	166.01	30,379.10	24,692.96	28,090.17	11,074.90	18,880.63	NA	NA
Big skate	Main associated	4.36	202.51	360.08	363.31	251.39	236.33	1.58%	13.66%
Birds, unidentified*	Other bycatch	0.00	10.13	0.00	8.84	0.00	3.79	NA	NA
Butter sole	Minor associated	0.00	0.00	0.00	0.00	11.57	2.31	0.02%	0.13%
Chinook salmon*	PSC (ETP)	0.00	3,827.35	0.00	856.95	13.62	939.58	NA	NA
Corals bryozoans, unidentified	Habitat	1.36	0.08	0.08	0.62	0.32	0.49	0.00%	0.03%
Dover sole	Minor associated	0.10	1.00	1.95	0.96	0.59	0.92	0.01%	0.05%
Dusky rockfish	Minor associated	0.81	4.79	4.54	3.00	6.63	3.95	0.03%	0.23%
English sole	Minor associated	0.00	2.13	0.22	0.76	9.81	2.58	0.02%	0.15%
Flatfish, unidentified	Minor associated	0.06	7.34	13.91	7.01	0.72	5.81	0.04%	0.34%
Flathead sole	Minor associated	0.11	20.88	8.89	9.46	62.82	20.43	0.14%	1.18%
Giant grenadier	Minor associated	0.00	79.55	48.08	0.00	1.03	25.73	0.17%	1.49%
Golden king crab*	PSC (ETP)	22.05	26.48	16.22	84.88	265.08	82.94	NA	NA
Greenland turbot	Minor associated	0.00	0.00	0.00	5.56	0.07	1.13	0.01%	0.07%
Gulls*	Other bycatch	0.00	8.52	36.98	47.70	0.00	18.64	NA	NA
Halibut	PSC (ETP)	5.87	104.65	57.09	61.54	73.35	60.50	0.40%	3.50%
Herring	PSC (ETP)	0.01	0.00	0.00	0.00	0.01	0.00	0.00%	0.00%

Invertebrate, unidentified	Minor associated	0.86	0.01	0.78	1.96	0.02	0.73	0.00%	0.04%
Kamchatka flounder	Minor associated	0.00	0.15	0.44	0.77	0.33	0.34	0.00%	0.02%
Longnose skate	Main associated	7.49	121.72	190.52	336.68	202.93	171.87	1.15%	9.94%
Misc. crab	Minor associated	0.00	0.14	0.05	4.38	1.64	1.24	0.01%	0.07%
Misc. fish	Minor associated	0.00	34.74	36.87	21.79	132.18	45.12	0.30%	2.61%
Misc. flatfish	Minor associated	0.00	0.00	5.07	0.01	2.32	1.48	0.01%	0.09%
Non-Chinook salmon*	PSC (ETP)	1.24	0.00	0.02	0.12	8.77	2.03	NA	NA
Northern fulmar*	Other bycatch	0.00	22.47	226.73	18.81	0.00	53.60	NA	NA
Northern rockfish	Minor associated	0.00	4.42	1.24	2.82	3.50	2.40	0.02%	0.14%
Octopus	Main associated	12.04	37.75	109.72	95.75	117.90	74.63	0.50%	4.31%
Opilio tanner crab*	PSC (ETP)	9.48	0.00	0.00	0.00	0.00	1.90	NA	NA
Pacific ocean perch	Minor associated	7.77	1.72	7.06	0.00	13.17	5.94	0.04%	0.34%
Pacific sleeper shark	Minor associated	0.00	0.00	3.67	1.42	11.80	3.38	0.02%	0.20%
Pollock	Main associated	15.75	293.53	183.38	107.03	229.93	165.92	1.11%	9.59%
Quillback rockfish	Minor associated	0.34	7.24	7.80	10.09	6.18	6.33	0.04%	0.37%
Red king crab*	PSC (ETP)	0.00	22.93	0.00	0.00	0.00	4.59	NA	NA
Rex sole	Minor associated	0.00	1.65	8.75	7.75	16.22	6.88	0.05%	0.40%
Rock sole	Main associated	0.04	16.19	125.70	21.36	420.14	116.69	0.78%	6.75%
Rockfish, unidentified	Minor associated	3.31	5.54	46.45	18.61	2.27	15.24	0.10%	0.88%
Rougeye rockfish	Minor associated	0.25	3.34	1.05	1.79	3.72	2.03	0.01%	0.12%
Sablefish	Main associated	29.68	141.41	121.94	84.73	81.49	91.85	0.61%	5.31%
Sculpin	Main associated	0.20	122.24	177.93	120.06	79.07	99.90	0.67%	5.78%
Scypho jellies	Minor associated	0.15	0.19	0.03	0.09	0.93	0.28	0.00%	0.02%
Sea anemone, unidentified	Minor associated	0.00	1.15	1.16	1.78	2.59	1.34	0.01%	0.08%
Sea pens, whips	Habitat	0.00	0.05	1.54	0.26	0.66	0.50	0.00%	0.03%
Sea star	Minor associated	12.65	18.84	22.82	19.53	55.34	25.83	0.17%	1.49%
Short-tailed albatross*	ETP	0.00	0.00	0.00	2.17	0.00	0.43	NA	NA

Shortraker rockfish	Minor associated	0.07	4.92	1.99	1.98	1.27	2.05	0.01%	0.12%
Skate	Main associated	2.74	278.32	202.85	122.58	30.86	127.47	0.85%	7.37%
Snails	Minor associated	0.47	0.27	2.22	3.80	0.58	1.47	0.01%	0.08%
Spiny dogfish	Main associated	12.84	186.52	70.28	166.06	48.74	96.89	0.65%	5.60%
Sponge, unidentified	Habitat	0.00	0.05	1.18	0.72	2.17	0.82	0.01%	0.05%
Starry flounder	Minor associated	0.00	0.20	0.00	1.05	7.39	1.73	0.01%	0.10%
State-managed rockfish	Minor associated	0.00	2.34	2.55	2.03	0.47	1.48	0.01%	0.09%
Thornyhead rockfish	Minor associated	0.02	0.90	4.31	7.14	5.35	3.54	0.02%	0.20%
Yellow Irish lord	Minor associated	0.00	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Yelloweye rockfish	Minor associated	0.33	13.89	13.08	57.38	39.90	24.92	0.17%	1.44%
Yellowfin sole	Minor associated	0.00	0.52	0.90	0.29	5.30	1.40	0.01%	0.08%
Total**		170.19	10,416.76	22,154.91	17,117.22	25,160.68	15,003.95		

Notes:

Associated and other bycatch species with percent of total average bycatch of ≤0.00% are not shown in table.

* Number of individuals instead of mt

** Does not include species with individual numbers instead of weight

5.4.2 Habitats and ecosystem

There have been no changes in where the fishery operates, its relative footprint, or how it impacts the habitat and ecosystem. See Section 6.1.4 for more details.

5.5 External factors (such as environmental issues) that may affect the fishery and its management

As stated in previous reports, the effects of environmental variation on production of cod in BSAI and GOA have been studied extensively in terms of physical oceanography, ecosystem variability, and fish production. NMFS and the regional offices coordinate the production of a vast amount of new environmental and other information expected to improve groundfish fishery management in Alaska. Several ecosystem-wide oceanographic phenomena have been identified. The Pacific Decadal Oscillation (PDO), with decadal changes in 'warm' and 'cold' phases has been correlated with a number of factors, including sea level pressure, precipitation, and salmon landing in the Pacific Ocean (<https://www.fisheries.noaa.gov/feature-story/understanding-ocean-changes-and-climate-just-got-harder>).

Groundfish species show interannual variability in recruitment that may be related to El Niño Southern Oscillation driven climate variability. Years of strong onshore transport, typical of warm years in the BS, often corresponds with strong recruitment. The extent and timing of the presence of sea ice in the BS also determines the area where cold bottom water temperatures will persist throughout the following spring and summer. This EBS area of cold water, known as the cold pool, varies with the annual extent and duration of the ice pack and can influence fish distributions.

Past conditions have been an unusually warm phase. In 2014-2016, sea surface temperatures were as much as 3° C (about 5.4° F) higher than average, lasted for months, and appeared on large-scale temperature maps as a red-orange mass of warm water many hundreds of miles across (aka 'the blob'). This appeared to be different from normal patterns of ocean conditions such as the El Niño Southern Oscillation or PDO. Figure 12 shows sea surface temperature changes in the PDO for 1950-2021.

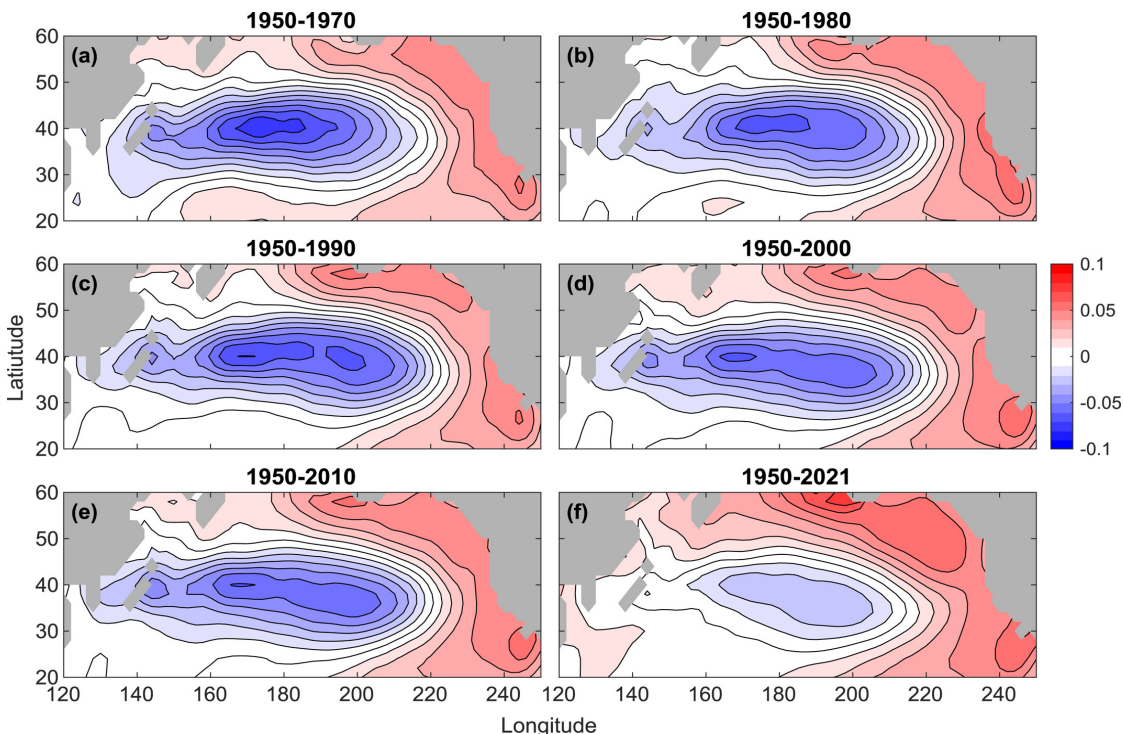


Figure 12. Sea surface temperature changes within the PDO for the period 1950-2021. Source: Werb and Rudnick 2023

6 ASSESSMENT OUTCOME SUMMARY / FUNDAMENTAL CLAUSES SUMMARIES

According to the CSI RFM Fisheries Standard v2.2, the following fisheries management issues would cause a fishery to fail assessment:

- Dynamiting, poisoning, and other comparable destructive fishing practices.
- Significant illegal, unreported, and unregulated (IUU) fishing activities in the country jurisdiction.
- Shark finning (i.e., removal and retention of shark fins while the remainder of the shark is discarded in the ocean).
- Slavery and slave labor on board fishing vessels.
- Any significant lack of compliance with the requirements of an international fisheries agreement to which the United States 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 United States has been notified of that citation of non-compliance.

As was the case during the second reassessment, there is no evidence that the fishery has undertaken such practices or has been non-compliant. At the last recertification, Supporting Clause 3.1 achieved a score of 7, owing to the lack of long-term management objectives within Alaska state-managed groundfish fisheries. This resulted in a medium confidence rating and application of a minor non-conformity. Prior to the first surveillance audit, action had been undertaken, and evidence was provided by the client that led to the rescoring at 10 of the Supporting Clause and the closing of the non-conformity. Table 9 shows the scores for each supporting clause at recertification and the scoring change. Additional information is provided in the sections below.

Table 9. Scoring table

Key Component	Fundamental Clause	Supporting Clause	Applicable?	Score	Confidence Rating	Conformance Level	NC Number
A – Fisheries Management System	1	1.1	Yes	10	High	Full	
		1.2	Yes	10	High	Full	
		1.2.1	Yes	10	High	Full	
		1.3	Yes	10	High	Full	
		1.3.1	Yes	10	High	Full	
		1.4	Yes	10	High	Full	
		1.4.1	Yes	10	High	Full	
		1.5	Yes	10	High	Full	
		1.6	Yes	10	High	Full	
		1.6.1	No	NA	NA	NA	
		1.7	Yes	10	High	Full	
		1.8	Yes	10	High	Full	
		1.9	No	NA	NA	NA	
	2	2.1	Yes	10	High	Full	
		2.1.1	Yes	10	High	Full	
		2.1.2	Yes	10	High	Full	
		2.2	Yes	10	High	Full	
		2.3	Yes	10	High	Full	
		2.4	Yes	10	High	Full	
		2.5	Yes	10	High	Full	
		2.6	Yes	10	High	Full	
	3	2.7	Yes	10	High	Full	
		3.1	Yes	10	High	Full	
		3.1.1	Yes	10	High	Full	
		3.1.2	Yes	10	High	Full	
		3.1.3	Yes	10	High	Full	
		3.2	NA	NA	NA	NA	
		3.2.1	Yes	10	High	Full	
		3.2.2	Yes	10	High	Full	
		3.2.3	Yes	10	High	Full	

Key Component	Fundamental Clause	Supporting Clause	Applicable?	Score	Confidence Rating	Conformance Level	NC Number
B – Science, Stock Assessment Activities, and the Precautionary Approach	4	3.2.4	Yes	10	High	Full	
		4.1	Yes	10	High	Full	
		4.1.1	Yes	10	High	Full	
		4.1.2	Yes	10	High	Full	
		4.2	Yes	10	High	Full	
		4.2.1	Yes	10	High	Full	
		4.3	Yes	10	High	Full	
		4.4	Yes	10	High	Full	
		4.5	Yes	10	High	Full	
		4.6	Yes	10	High	Full	
		4.7	Yes	10	High	Full	
		4.8	Yes	10	High	Full	
		4.9	No	NA	NA	NA	
		4.10	No	NA	NA	NA	
		4.11	No	NA	NA	NA	
	5	5.1	Yes	10	High	Full	
		5.1.1	Yes	10	High	Full	
		5.1.2	Yes	10	High	Full	
		5.2	Yes	10	High	Full	
		5.3	Yes	10	High	Full	
		5.4	Yes	10	High	Full	
	6	5.5	Yes	10	High	Full	
		6.1	Yes	10	High	Full	
		6.2	Yes	10	High	Full	
		6.3	Yes	10	High	Full	
		6.4	Yes	10	High	Full	
	7	6.5	Yes	10	High	Full	
		7.1	Yes	10	High	Full	
		7.1.1	Yes	10	High	Full	
		7.1.2	Yes	10	High	Full	
C – Management Measures, Implementation, Monitoring, and Control	8	7.2	No	NA	NA	NA	
		8.1	Yes	10	High	Full	
		8.1.1	Yes	10	High	Full	
		8.1.2	Yes	10	High	Full	
		8.2	Yes	10	High	Full	
		8.3	Yes	10	High	Full	
		8.4	Yes	10	High	Full	
		8.4.1	Yes	10	High	Full	
		8.5	Yes	10	High	Full	
		8.5.1	Yes	10	High	Full	
		8.6	Yes	10	High	Full	
		8.7	Yes	10	High	Full	
		8.8	Yes	10	High	Full	
		8.9	Yes	10	High	Full	
		8.10	No	NA	NA	NA	
		8.11	Yes	10	High	Full	
		8.12	Yes	10	High	Full	

Key Component	Fundamental Clause	Supporting Clause	Applicable?	Score	Confidence Rating	Conformance Level	NC Number
	9	8.13	No	NA	NA	NA	
		9.1	Yes	10	High	Full	
		9.2	Yes	10	High	Full	
		9.3	Yes	10	High	Full	
	10	10.1	Yes	10	High	Full	
		10.2	Yes	10	High	Full	
		10.3	No	NA	NA	NA	
		10.3.1	No	NA	NA	NA	
		10.4	No	NA	NA	NA	
		10.4.1	No	NA	NA	NA	
	11	11.1	Yes	10	High	Full	
		11.2	Yes	10	High	Full	
		11.3	Yes	10	High	Full	
		11.4	No	NA	NA	NA	
D – Serious Impacts of the Fishery on the Ecosystem	12	12.1	Yes	10	High	Full	
		12.2	No	NA	NA	NA	
		12.2.1	Yes	10	High	Full	
		12.2.2	Yes	10	High	Full	
		12.2.3	Yes	10	High	Full	
		12.2.4	Yes	10	High	Full	
		12.2.5	Yes	10	High	Full	
		12.2.6	Yes	10	High	Full	
		12.2.7	Yes	10	High	Full	
		12.2.8	Yes	10	High	Full	
		12.2.9	Yes	10	High	Full	
		12.2.10	Yes	10	High	Full	
		12.2.11	Yes	10	High	Full	
		12.3	Yes	10	High	Full	
		12.4	Yes	10	High	Full	
		12.5	Yes	10	High	Full	
		12.6	Yes	10	High	Full	
		12.7	Yes	10	High	Full	
	13	13.1	No	NA	NA	NA	
		13.1.1	No	NA	NA	NA	
		13.2	No	NA	NA	NA	
		13.2.1	No	NA	NA	NA	
		13.3	No	NA	NA	NA	
		13.4	No	NA	NA	NA	
		13.5	No	NA	NA	NA	
		13.6	No	NA	NA	NA	
		13.7	No	NA	NA	NA	
		13.7.1	No	NA	NA	NA	
		13.7.2	No	NA	NA	NA	
		13.7.3	No	NA	NA	NA	
		13.8	No	NA	NA	NA	
		13.9	No	NA	NA	NA	
		13.10	No	NA	NA	NA	



Key Component	Fundamental Clause	Supporting Clause	Applicable?	Score	Confidence Rating	Conformance Level	NC Number
		13.11	No	NA	NA	NA	
		13.12	No	NA	NA	NA	
		13.13	No	NA	NA	NA	

6.1 Update on consistency with Fundamental Clauses

6.1.1 Key Component A: The Fisheries Management System

Fundamental Clause 1. There shall be a structured and legally mandated management system based upon and respecting international, State, and local fishery laws, for the responsible utilization of the stock under consideration and conservation of the marine environment.	
1.1 There shall be an effective legal and administrative framework established at international, State and local levels appropriate for fishery resource conservation and management. The management system and the fishery operate in compliance with the requirements of international, State, and local laws and regulations, including the requirements of any regional and/or international fisheries management agreement. 1.2 Management measures shall consider (1) stock status (i.e., overfished, biomass) and genetic diversity (stock structure) over its entire area of distribution, and (2) other biological characteristics of the fish stock (stock) including age of maturity and reproductive potential. 1.2.1 Previously agreed management measures established and applied in the same region is region shall be taken into account by management. 1.3 Where transboundary, shared, straddling, highly migratory, or high seas stocks are exploited by two or more States (neighboring or not), the applicant and appropriate management organizations concerned shall cooperate and take part in the formal fishery commission or arrangements appointed to ensure effective conservation and management of the stock(s) in question and their environment. 1.3.1 Conservation and management measures established for the <i>stock under consideration</i> within the jurisdiction of the relevant States for transboundary, shared, straddling, highly migratory, or high seas stocks, shall be compatible in a manner consistent with the rights, competence, and interests of the States concerned. 1.4 A State's fishery management organization not member or participant of a sub-regional or regional fisheries management organization shall cooperate, in accordance with relevant international agreements and law, in the conservation and management of the relevant fisheries resources by giving effect to any relevant measures adopted by such organization or arrangement. 1.4.1 A fishery management organization seeking to take any action through a non-fishery organization which may affect the conservation and management measures taken by a competent sub-regional or regional fisheries management organization or arrangement shall consult with the latter, in advance to the extent practicable, and take its views into account. 1.5 The applicant's fishery management system, when appropriate for the <i>stock under consideration</i>, shall actively foster cooperation between States with regard to (1) information gathering and exchange, (2) fisheries research, (3) fisheries management, and (4) fisheries development. 1.6 A fishery management organization and sub-regional or regional fisheries management organizations and arrangements, as appropriate, shall agree on the means by which the activities of such organizations and arrangements will be financed, bearing in mind, <i>inter alia</i>, the relative benefits derived from the fishery and the differing capacities of States to provide financial and other contributions. Where appropriate, and when possible, such organizations and arrangements shall aim to recover the costs of fisheries conservation, management, and research. 1.6.1 Without prejudice to relevant international agreements, States or fishery management organizations shall encourage banks and financial institutions not to require, as a condition of a loan or mortgage, fishing vessels or fishing support vessels to be flagged in a jurisdiction other than that of the State of beneficial ownership where such a requirement would have the effect of increasing the likelihood of non-compliance with international conservation and management measures. 1.7 Within the fishery management system, procedures shall be in place to keep the efficacy of current conservation and management measures and their possible interactions under continuous review, and to revise or abolish them in the light of new information. 1.8 The management arrangements and decision-making processes for the fishery shall be organized in a transparent manner. 1.9 Management organizations not party to the Agreement to Promote Compliance with International Conservation and Management Measures by Vessels Fishing in the High Seas shall be encouraged to accept the Agreement and to adopt laws and regulations consistent with the provisions of the Agreement.	
Summary of relevant changes	Clause 1.6 Most NMFS staff in the Alaska region were furloughed for all of October and early November 2025. Critical services were maintained, e.g., monitoring and managing fisheries to avoid exceeding catch limits, issuing quota so the Bering Sea crab fisheries could open, processing IFQ transfers and related transactions, monitoring the security of our IT systems, and completing Endangered Species Act (ESA) consultations.

	The NPFMC has had to shift meetings to an online-only format due to reduced federal travel/operational grants and the threat of government shutdowns. The Executive Director of the Council reported at the December 2025 meeting that “Federal stock assessment authors did not have the time to complete new groundfish assessments as planned, and as a result, the Council’s Groundfish Plan Teams did not convene in November to review stock assessments and provide their recommendations on harvest specifications. Additionally, the preparation of other contextual information typically presented in support of groundfish specifications has been delayed, including the year-end in-season management reports, ecosystem status reports, and economic and community indicator reports. In response, Council staff have worked with NMFS, SSC, and Council leadership to identify what information is available this year, and to explain the process for how to apply available information for final 2026-2027 groundfish specification decisions in a manner that remains consistent with the typical Council process, the Magnuson-Stevens Fishery Conservation and Management Act (MSA), including National Standard 2, as well as the Administrative Procedure Act (APA) and other federal requirements.”. Clause 1.1, 1.2, 1.2.1, 1.7, 1.8 No relevant changes were reported. Clause 1.3.1, 1.4, 1.4.1, 1.5, 1.6.1, 1.9 Not applicable
References	NPFMC, 2025d. Executive Director’s Report, December 2025 North Pacific Fisheries Management Council Meeting https://meetings.npfmc.org/CommentReview/DownloadFile?p=1332a7a8-6f75-47aa-b13d-7ba34668811b.pdf&fileName=B1%20Executive%20Director%20Report.pdf US Department of Commerce, 2025. National Marine Fisheries Service (NMFS) Management Report https://meetings.npfmc.org/CommentReview/DownloadFile?p=33937b7c-8e8a-40a5-903e-4871b529f7ca.pdf&fileName=B2%20NMFS%20Report.pdf
Summary of consistency with CSI RFM Fisheries Standard	The fishery continues to meet the requirements of this Fundamental Clause of the RFM Fisheries Standard.

Fundamental Clause 2. Management organizations shall participate in coastal area management, decision making processes and activities related to the fishery and its users, supporting sustainable and integrated resource use, and conflict avoidance.

- 2.1 Within the fisheries management organization's jurisdiction, an appropriate policy, legal, and institutional framework shall be adopted in order to achieve sustainable and integrated use of living marine resources, (1) taking into account the fragility of coastal ecosystems and finite nature of their natural resources, (2) allowing for determination of the possible uses of coastal resources and governing access to them, and (3) recognizing the rights and needs of coastal communities and their customary practices to the extent compatible with sustainable development. In setting policies for the management of coastal areas, States shall take due account of the risks and uncertainties involved.
 - 2.1.1 States shall establish mechanisms for cooperation and coordination in planning, development, conservation, and management of coastal areas.
 - 2.1.2 The fisheries management organization shall ensure that the authority or authorities representing the fisheries sector and fishing communities in the coastal management process have the appropriate technical capacities and financial resources.
- 2.2 Representatives of the fisheries sector and fishing communities shall be consulted in the decision-making processes involving activities related to coastal area management planning and development. The public, as well as others affected, shall also be kept aware of the need for protection and management of coastal resources, and shall participate in the coastal management process.
- 2.3 Fisheries practices that avoid conflict among fishers and other users of the coastal area (e.g., fisheries enhancement facilities, tourism, energy) shall be adopted, and fishing shall be regulated in such a way as to avoid risk of conflict among fishers using different vessels, gear, and fishing methods. Procedures and mechanisms shall be established at the appropriate administrative level to settle conflicts that arise within the fisheries sector and between fisheries resource users and other coastal users.
- 2.4 States' fisheries management organizations and sub-regional or regional fisheries management organizations and arrangements shall give due publicity to conservation and management measures and ensure that laws, regulations, and other legal rules governing their implementation are effectively disseminated. The bases and purposes of such measures shall be explained to users of the resource in order to facilitate their application and thus gain increased support in the implementation of such measures.
- 2.5 The economic, social, and cultural value of coastal resources shall be assessed by the appropriate fisheries management organization in order to assist decision making on their allocation and use.
- 2.6 States shall cooperate to support and improve coastal area management, and in accordance with capacities, measures shall be taken to establish or promote (1) systems for research and monitoring of the coastal environment, and (2) multidisciplinary research of the coastal area using physical, chemical, biological, economic, social, legal, and institutional capabilities.
- 2.7 In the case of a States' activities that may have an adverse environmental effect on coastal areas of other States, States shall provide timely information and if possible, prior notification to potentially affected States, and consult with those States as early as possible.

Summary of relevant changes

Clause 2.1, 2.1.1, 2.1.2, 2.2, 2.3.

No relevant changes were reported.

Clause 2.4, 2.5, 2.6

As reported at the last two audits, NPFMC had initiated a Programmatic Evaluation June 2023 (i.e., a review of its management policies, goals, and objectives for all federally managed fisheries in the BSAI and GOA with the intent of ensuring the Council's management framework is adequate to address current and future challenges, including climate change, and to improve the council's ecosystem-based management approach). At the April 2025 Council, it was confirmed that the process would be paused, given the uncertainty regarding forthcoming changes to NMFS' priorities, funding, and other resources.

At the October 2025 Council meeting it was confirmed that the Council had received from NMFS the full \$2.5 million in Inflation Reduction Act (IRA) funding it applied for to support climate readiness planning, whether through continuing the Programmatic Evaluation or through other processes. In a presentation (Latanich, 2025) two possible pathways for the Council's consideration were provided: resuming staff work on the Programmatic Evaluation or taking no further action at this time. The latter would require the Council to reinstitute the triennial process of reviewing Groundfish FMP Objectives.

The Council recommended taking no further action on the Programmatic Evaluation and expressed support for reinstituting the triennial comprehensive review of Groundfish FMP Objectives as a means for adaptive

	management. This process, like the Programmatic Evaluation, will provide an opportunity for the Council to consider making changes to FMP policy guidance, but will focus on the Groundfish FMPs. At the <u>December 2025 Council</u> meeting, in response to the Council's decision at the October 2025 meeting to take no further action on the Programmatic Evaluation (initially envisioned as one analytical vehicle for supporting the Council's grant objectives) an <u>update</u> on the IRA funding for climate resilience and workplan adaptations was provided. This included implementation of the Climate Resilience Workplan, reconstituting the Council's Ecosystem Committee, and plans to develop plain-language communication and outreach materials. Clause 2.7 No relevant changes were reported.
References	Latanich. K., 2025, Presentation to North Pacific Fishery Management Council (October 2025). https://meetings.npfmc.org/CommentReview/DownloadFile?p=f466f67d-743d-4036-a2f9-250055a26af2.pdf&fileName=PPT%20D4%20Programmatic%20Evaluation.pdf NPFMC Newsletter, April 2025 Council, https://www.npfmc.org/april-2025-newsletter/ NPFMC Newsletter, October 2025 Council, https://www.npfmc.org/october-2025-newsletter/ NPFMC Newsletter, December 2025 Council, https://www.npfmc.org/december-2025-newsletter/
Summary of consistency with CSI RFM Fisheries Standard	The fishery continues to meet the requirements of this Fundamental Clause of the RFM Fisheries Standard.

Fundamental Clause 3. Management objectives shall be implemented through management rules and actions formulated in a plan or other framework.	
3.1 Long-term management objectives shall be translated into a plan or other management document (taking into account uncertainty and imprecision) and be subscribed to by all interested parties. 3.1.1 There shall be management objectives seeking to ensure that ETP species are protected from adverse impacts resulting from interactions with the unit of certification and any fisheries enhancement activity, including recruitment overfishing or other impacts that are likely to be irreversible or very slowly reversible. 3.1.2 There shall be management objectives seeking to avoid, minimize, or mitigate impacts of the unit of certification on the <i>stock</i> under consideration's essential habitats, and on habitats that are highly vulnerable to damage by the unit of certification's fishing gear. 3.1.3 There shall be management objectives seeking to minimize adverse impacts of the unit of certification (including any fishery enhancement) on the structure, and function of the ecosystems that are likely to be irreversible or very slowly reversible. 3.2 Management measures shall provide, <i>inter alia</i>, that: 3.2.1 Excess fishing capacity shall be avoided, and exploitation of the stocks shall remain economically viable. 3.2.2 The economic conditions under which fishing industries operate shall promote responsible fisheries. 3.2.3 The interests of fishers, including those engaged in subsistence, small-scale, and artisanal fisheries shall be taken into account. 3.2.4 Biodiversity of aquatic ecosystems shall be conserved and ETP species shall be protected. Where relevant, there shall be management objectives, and as necessary, management measures.	
Summary of relevant changes	Clause 3.1, 3.1.1, 3.1.2, 3.1.3, 3.2, 3.2.1, 3.2.2, 3.2.3, 3.2.4 No relevant changes were reported.
References	NA
Summary of consistency with CSI RFM Fisheries Standard	The fishery continues to meet the requirements of this Fundamental Clause of the RFM Fisheries Standard.

6.1.2 Key Component B: Science and Stock Assessment Activities, and the Precautionary Approach

Fundamental Clause 4. There shall be effective fishery data (dependent and independent) collection and analysis systems for stock management purposes.	
4.1 All significant fishery removals and mortality of the target species (shall be considered by management. Specifically, reliable and accurate data required for assessing the status of fishery(ies) and ecosystems—including data on retained catch, bycatch, discards, and waste—shall be collected. Data can include relevant traditional, fisher, or community knowledge, provided their validity can be objectively verified. These data shall be collected, at an appropriate time and level of aggregation, by relevant management organizations connected with the fishery, and provided to relevant States regional, and international fisheries organizations. 4.1.1 Timely, complete, and reliable statistics shall be compiled on catch and fishing effort and maintained in accordance with applicable international standards and practices, and in sufficient detail to allow sound statistical analysis for stock assessment. Such data shall be updated regularly and verified through an appropriate system. The use of research results as a basis for setting management objectives, reference points, and performance criteria, as well as for ensuring adequate linkage between applied research and fisheries management (e.g., adoption of scientific advice) shall be promoted. Results of analysis shall be distributed accordingly as a contribution to fisheries conservation, management, and development. 4.1.2 In the absence of specific information on the <i>stock under consideration</i>, generic evidence based on similar stocks can be used. However, the greater the risk of overfishing, the more specific evidence is necessary to ascertain the sustainability of intensive fisheries. 4.2 An observer scheme designed to collect accurate data for research and support compliance with applicable fishery management measures shall be established. 4.2.1 Where necessary, fisheries management organizations and regional fisheries management organizations and other such arrangements should strive to achieve a level and scope of observer programs sufficient to provide quantitative estimates of total catch, discards, and incidental takes of living aquatic resources. 4.3 A fisheries management organization, regional fisheries management organizations or arrangements shall compile data and make them available, in a manner consistent with any applicable confidentiality requirements, in a timely manner and in an agreed format to all members of these organizations and other interested parties in accordance with agreed procedures. 4.4 States shall stimulate the research required to support policies related to fish as food. 4.5 There shall be sufficient knowledge of the economic, social, marketing, and institutional aspects of fisheries collected through data gathering, analysis, and research, as well as comparable data generated for ongoing monitoring, analysis, and policy formulation. 4.6 The fisheries management organization shall investigate and document traditional fisheries knowledge and technologies—in particular those applied to small-scale fisheries—in order to assess their application to sustainable fisheries conservation, management, and development. 4.7 If a fisheries management organization is conducting scientific research activities in waters of another State, it shall ensure that their vessels comply with the laws and regulations of that State and international law. 4.8 Adoption of uniform guidelines governing fisheries research conducted on the high seas shall be promoted and, where appropriate, support the establishment of policies that include, <i>inter alia</i>, facilitating research at the international and sharing the research results with affected States. 4.9 If appropriate, the fisheries management organization and relevant international organizations shall promote and enhance the research capacities of developing countries, <i>inter alia</i>, in the areas of data collection and analysis, information, science and technology, human resource development, and provision of research facilities, in order for them to participate effectively in the conservation, management, and sustainable use of living aquatic resources. 4.10 Competent national organizations shall, where appropriate, render technical and financial support to States upon request and when engaged in research investigations aimed at evaluating stocks which have been previously unfished or very lightly fished. 4.11 Relevant technical and financial international organizations shall, upon request, support States in their research efforts, devoting special attention to developing countries—in particular the least developed among them and small developing island countries.	
Summary of relevant changes	Information for assessing the status of Alaska Pacific cod continues to come primarily from the 2024 SAFE reports for the Eastern Bering Sea (EBS), Aleutian Islands (AI), and Gulf of Alaska (GOA) (Barbeaux et al., 2024; Spies et al., 2024; Hulson et al., 2024), as well as by the survey data, which are discussed in detail in Sections 5.1 and 5.2. Although no full 2025 SAFE reports were compiled because the lapse in federal appropriations from 1 October to 12 November 2025 prevented AFSC authors from completing the

	scheduled operational assessments and prevented the Groundfish Plan Teams from convening, this does not represent a departure from the scientific or precautionary standards applied to the fishery. The 2024 SAFE reports remained the most recent fully peer-reviewed assessment documents, and they already contained the projections used for 2026 harvest advice. The November 2025 GOA and BSAI catch reports explicitly state that, in the absence of updated 2025 assessments, values generated from the previous stock assessments were rolled over for specifications. The SSC confirmed this approach in December 2025. It stated that, because the 2025 operational assessments were not completed, the starting point for 2026 harvest specifications was the preliminary 2026 OFL and ABC recommended in October 2025 and based on the most recent fully peer-reviewed SAFE reports. The SSC further explained that these values remained the best available scientific advice, and that it supplemented them with 2025 catch reports, 2025 survey information, and preliminary ESR/ESP material, while applying the established qualitative risk-table framework to account for the additional uncertainty caused by the disrupted assessment cycle (SSC, 2025a, b). In other words, the shutdown created a procedural interruption, not a failure of the underlying precautionary framework. This interpretation was subsequently reinforced in the 2026 Federal Register rule for BSAI harvest specifications. NMFS stated that, although updated 2025 stock assessments could not be completed and the November Plan Team meetings were cancelled, the 2024 SAFE report, together with catch reports, 2025 survey information, and available ESR information, constituted the best scientific information available. NMFS also noted that the 2024 SAFE report contained estimates of biomass and other biological parameters, including stock projections for 2026, and concluded that the final 2026 and 2027 harvest specifications were consistent with the Magnuson-Stevens Act, the FMP, and National Standard 2 (NMFS, 2026). This supports the conclusion that the shutdown did not undermine consistency with the standards; rather, management continued to operate using the most recent peer-reviewed assessments plus interim monitoring information. For EBS Pacific cod, the 2024 assessment remained the operative scientific basis in 2025. The 2025 BSAI catch report records that no new assessment was conducted because of the shutdown and that values from the previous stock assessment were rolled over for specifications. The same report shows that 2025 catch (111,227 t) remained below TAC (133,602 t) and ABC (153,617 t), with 2026 values of OFL 169,243 t and ABC 141,520 t carried forward from the previous assessment cycle (NPFMC, 2025b). The 2024 assessment continued to indicate that the EBS stock was above B35% and not subject to overfishing (Barbeaux et al., 2024). For AI Pacific cod, the same principle applies. The 2024 assessment explored updated age-structured models, but management remained under the precautionary Tier 5 approach. The November 2025 BSAI catch report states that no new assessment was completed in 2025 and that the previous assessment values were rolled over for specifications; it also shows that 2025 catch (4,608 t) remained below TAC (8,694 t) and ABC (13,376 t), with 2026 values of OFL 16,273 t and ABC 12,973 t based on the prior assessment cycle (NPFMC, 2025b). Thus, the absence of a 2025 SAFE report did not create a gap in advice or a deviation from the precautionary harvest-setting process. For GOA Pacific cod, the 2024 SAFE report likewise remained the relevant peer-reviewed basis through the disrupted 2025 cycle. The November 2025 GOA catch report states that no assessment was conducted in 2025 due to the shutdown and that the previous stock assessment values were rolled over for specifications; 2025 catch (19,716 t) remained below TAC (23,670 t) and ABC (32,141 t), and the rolled-over 2026 values were OFL 36,459 t and ABC 30,193 t (NPFMC, 2025a). In February 2026, however, the SSC reviewed an out-of-cycle operational update for GOA Pacific cod specifically to incorporate the 2025 survey data. The SSC concurred with continued use of Model 24.0 and with revised 2026 OFL and ABC values, while concluding that the stock was not overfished and not approaching an overfished condition in 2025 (SSC, 2026). This February 2026 action strengthens, rather than weakens, the conclusion that the fishery remained consistent with the standards despite the temporary absence of a 2025 SAFE report. Overall, stock assessment methods for Alaska Pacific cod remain consistent with acknowledged scientific standards. The 2024 SAFE reports for EBS, AI, and GOA continue to provide the peer-reviewed analytical foundation for management advice, while catch reports, survey updates, ESR/ESP information, and the February 2026 GOA out-of-cycle update ensured that the SSC and Council still had a structured basis for evaluating new information. Accordingly, the 2025 shutdown did not create a substantive inconsistency with
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	the standards; it required the system to rely on the most recent peer-reviewed SAFE reports plus interim monitoring information, which is fully aligned with the precautionary and best-science framework applied by NPFMC, SSC, and NMFS.
References	Barbeaux, S.J., I. Barnett, P. Hulson, J. Nielsen, S.K. Shotwell, E. Siddon, and I. Spies. 2024. Assessment of the Pacific cod stock in the Eastern Bering Sea. https://www.npfmc.org/wp-content/PDFdocuments/SAFE/2024/EBSpcod.pdf. Hulson, P.-J.F., S. J. Barbeaux, B. Ferriss, K. Echave, J. Nielsen, S. McDermott, B. Laurel, A. Abookire, I. Spies, and S.K. Shotwell. 2024. Assessment of the Pacific cod stock in the Gulf of Alaska. https://www.npfmc.org/wp-content/PDFdocuments/SAFE/2024/GOApcod.pdf. NMFS. 2026. Fisheries of the Exclusive Economic Zone Off Alaska; Bering Sea and Aleutian Islands; 2026 and 2027 Harvest Specifications for Groundfish. Federal Register 91(46): 11750–11753. NPFMC. 2025a. Catch Reports for the Groundfish Resources of the Gulf of Alaska. November 2025. North Pacific Fishery Management Council, Anchorage, AK. NPFMC. 2025b. Catch Reports for the Groundfish Resources of the Bering Sea/Aleutian Islands Regions. November 2025. North Pacific Fishery Management Council, Anchorage, AK. Spies, I., M. Kapur, S. Barbeaux, M. Haltuch, P. Hulson, I. Ortiz, L. Spencer, and S. Lowe. 2024. Assessment of the Pacific cod stock in the Aleutian Islands. https://www.npfmc.org/wp-content/PDFdocuments/SAFE/2024/Alpcod.pdf. SSC. 2025a. Scientific and Statistical Committee Final Report to the North Pacific Fishery Management Council, December 2–3, 2025. North Pacific Fishery Management Council, Anchorage, AK. SSC. 2025b. Scientific and Statistical Committee Final Report to the North Pacific Fishery Management Council, September 29–October 2, 2025. SSC. 2026. Scientific and Statistical Committee Final Report to the North Pacific Fishery Management Council, February 2–4, 2026. North Pacific Fishery Management Council, Anchorage, AK.
Summary of consistency with CSI RFM Fisheries Standard	The fishery continues to meet the requirements of this Fundamental Clause of the RFM Fisheries Standard.

Fundamental Clause 5. There shall be regular stock assessment activities appropriate for the fishery, its range, the species biology, and the ecosystem, undertaken in accordance with acknowledged scientific standards to support its optimum utilization.

- 5.1 An appropriate institutional framework shall be established to determine the applied research required and its proper use (i.e., assess/evaluate stock assessment model/practices) for fishery management purposes.
 - 5.1.1 Less elaborate stock assessment methods are frequently used for small-scale or low-value capture fisheries resulting in greater uncertainty about the status of the *stock under consideration*. A more precautionary approach to managing fisheries on such resources shall be required, including, where appropriate, a lower level of resource utilization. A record of good management performance may be considered as supporting evidence of the adequacy of the management system.
 - 5.1.2 The fisheries management organization shall ensure that appropriate research is conducted into all aspects of fisheries including biology, ecology, technology, environmental science, economics, and fishery enhancement. Analysis results shall be distributed in a timely and readily understandable fashion in order that the best scientific evidence available contributes to fisheries conservation, management, and development. The fisheries management organization shall also ensure the availability of research facilities and provide appropriate training, staffing, and institution building to conduct the research.
- 5.2 There shall be established research capacity necessary to assess and monitor (1) the effects of climate or other environmental change on stocks and aquatic ecosystems, (2) the status of the stock under State jurisdiction, and (3) the impacts of ecosystem changes resulting from fishing activity, pollution, or habitat alteration.
- 5.3 Management organizations shall cooperate with relevant international organizations to encourage research in order to ensure optimum utilization of fishery resources.
- 5.4 The fishery management organizations shall directly, or in conjunction with other States, develop collaborative technical and research programs to improve understanding of the biology, environment, and status of transboundary, shared, straddling, highly migratory and high seas stocks.
- 5.5 Data generated by research shall be analyzed and the results of such analyses published in a way that ensures confidentiality is respected, where appropriate.

Summary of relevant changes	Information for assessing the status of Alaska Pacific cod normally comes from the annual SAFE reports prepared through the North Pacific stock assessment process and publicly available through NOAA Fisheries and the NPFMC. The most recent full region-specific Pacific cod assessments remain those completed in 2024 for the EBS (Barbeaux et al., 2024), AI (Spies et al., 2024), and GOA (Hulson et al., 2024). No full 2025 GOA or BSAI groundfish SAFE reports were compiled because the lapse in federal appropriations from 1 October to 12 November 2025 prevented AFSC authors from completing the scheduled operational assessments and prevented the Groundfish Plan Teams from meeting to review them (SSC, 2025a; NPFMC, 2025a, 2025b, 2025c). However, this represented a procedural interruption in timing, not a breakdown in the scientific basis of management or in the transparency of assessment information. The absence of a 2025 SAFE report does not mean that the SAFE process ceased to be relevant for management. The December 2025 NPFMC process document explicitly notes that, for Tier 1–3 stocks, harvest projections prepared between operational assessments provide ABC and OFL advice for the next two years, and that the most recent fully peer-reviewed SAFE reports remain the basis for determining stock status and informing SSC recommendations. In December 2025, the SSC therefore used the 2024 SAFE reports, together with 2025 catch reports, available 2025 survey information, and preliminary ESR/ESP materials, to decide whether the preliminary 2026 specifications still represented the best scientific information available under National Standard 2. The SSC stated that the starting point for its review was the preliminary 2026 OFL and ABC recommended in October 2025 and that the key test was whether those values, derived from the most recent fully peer-reviewed SAFE reports, remained the best available scientific advice (NPFMC, 2025c; SSC, 2025a). This confirms that the 2024 SAFE reports remained fully relevant to 2026 management advice and that the shutdown did not create inconsistency with the RFM standard. This is also shown in the 2025 catch reports for Pacific cod. The GOA catch report states that the most recent full assessment was in 2024, that no assessment was conducted in 2025 because of the shutdown, and that the values generated from the previous stock assessment would be rolled over for specifications; it reports 2025 GOA Pacific cod catch of 19,716 t, below the TAC of 23,670 t and the ABC of 32,141 t, with 2026 OFL and ABC of 36,459 t and 30,193 t, respectively (NPFMC, 2025a). The BSAI catch report states the same for EBS and AI Pacific cod: no 2025 assessment was conducted, the previous stock assessment values were rolled over, and 2025 catches remained below management limits, with BS catch 111,227 t
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	against a TAC of 133,602 t and ABC of 153,617 t, and AI catch 4,608 t against a TAC of 8,694 t and ABC of 13,376 t (NPFMC, 2025b). Thus, even without 2025 SAFE reports, publicly available catch-report products continued to document stock-specific fishery performance and confirm that catches remained within precautionary limits. For GOA Pacific cod, the information base was further strengthened in February 2026, when the SSC reviewed an out-of-cycle operational update requested by the Council specifically to incorporate the 2025 survey data. The SSC reported that the update used the accepted 2024 model (Model 24.0) with new catch, fishery composition, bottom trawl survey, and longline survey data; the model converged successfully, diagnostics showed no major concerns, and the SSC concurred with its use for setting 2026/2027 harvest specifications (SSC, 2026). The SSC concluded that the stock was not subject to overfishing in 2024 and was not overfished or approaching an overfished condition in 2025, while noting that environmental conditions in 2025 were unfavorable and should continue to be monitored (SSC, 2026). This out-of-cycle update demonstrates that the management system remained adaptive and science-based despite the missed 2025 SAFE cycle. Accordingly, Clause 5 continues to be met for Alaska Pacific cod. The key point is not whether a new 2025 SAFE volume was physically compiled, but whether research and assessment information continued to be analyzed, reviewed, and made publicly available in forms sufficient to support transparent and precautionary management. In 2025–2026, that requirement was satisfied through the continued use of the 2024 peer-reviewed SAFE reports, the publication of stock-specific catch reports, SSC review of survey and ecosystem information in December 2025, and the February 2026 out-of-cycle GOA Pacific cod update. The 2025 shutdown therefore affected the timing of the assessment cycle, but it did not undermine the consistency of Pacific cod assessment and management with the applicable standards (NPFMC, 2025a, 2025b, 2025c; SSC, 2025a, b; SSC, 2026).
References	Barbeaux, S.J., I. Barnett, P. Hulson, J. Nielsen, S.K. Shotwell, E. Siddon, and I. Spies. 2024. Assessment of the Pacific cod stock in the Eastern Bering Sea. https://www.npfmc.org/wp-content/PDFdocuments/SAFE/2024/EBSpCod.pdf. Hulson, P.-J.F., S. J. Barbeaux, B. Ferriss, K. Echave, J. Nielsen, S. McDermott, B. Laurel, A. Abookire, I. Spies, and S.K. Shotwell. 2024. Assessment of the Pacific cod stock in the Gulf of Alaska. https://www.npfmc.org/wp-content/PDFdocuments/SAFE/2024/GOApCod.pdf. NMFS. 2026. Fisheries of the Exclusive Economic Zone Off Alaska; Bering Sea and Aleutian Islands; 2026 and 2027 Harvest Specifications for Groundfish. Federal Register 91(46): 11750–11753. NPFMC. 2025a. Catch Reports for the Groundfish Resources of the Gulf of Alaska. November 2025. North Pacific Fishery Management Council, Anchorage, AK. NPFMC. 2025b. Catch Reports for the Groundfish Resources of the Bering Sea/Aleutian Islands Regions. November 2025. North Pacific Fishery Management Council, Anchorage, AK. NPFMC. 2025c. Groundfish Final Harvest Specifications Process in December 2025. November 17, 2025. North Pacific Fishery Management Council, Anchorage, AK. Spies, I., M. Kapur, S. Barbeaux, M. Haltuch, P. Hulson, I. Ortiz, L. Spencer, and S. Lowe. 2024. Assessment of the Pacific cod stock in the Aleutian Islands. https://www.npfmc.org/wp-content/PDFdocuments/SAFE/2024/AIpcod.pdf. SSC. 2025a. Scientific and Statistical Committee Final Report to the North Pacific Fishery Management Council, December 2–3, 2025. North Pacific Fishery Management Council, Anchorage, AK. SSC. 2025b. Scientific and Statistical Committee Final Report to the North Pacific Fishery Management Council, September 29–October 2, 2025. SSC. 2026. Scientific and Statistical Committee Final Report to the North Pacific Fishery Management Council, February 2–4, 2026. North Pacific Fishery Management Council, Anchorage, AK.
Summary of consistency with CSI RFM Fisheries Standard	The fishery continues to meet the requirements of this Fundamental Clause of the RFM Fisheries Standard.

Fundamental Clause 6. The current state of the stock shall be defined in relation to reference points, relevant proxies, or verifiable substitutes that allow effective management objectives and targets to be set. Remedial actions shall be available and taken where reference points or other suitable proxies are approached or exceeded.

- 6.1 The fishery management organization shall establish safe target reference point(s) for management. Management targets are consistent with achieving maximum sustainable yield (MSY), a suitable proxy, or a lesser fishing mortality—if that is optimal in the circumstances of the fishery (e.g., multispecies fisheries) or is needed to avoid adverse impacts on dependent predators.
- 6.2 The fishery management organization shall establish appropriate limit reference point(s) for exploitation (i.e., consistent with avoiding recruitment overfishing or other impacts that are likely to be irreversible or very slowly reversible; CSI RFM v2.2 Guidance Appendix 1, Part 1²). When a limit reference point is approached, measures shall be taken to ensure that it will not be exceeded. For instance, if fishing mortality (or its proxy) is above the associated limit reference point, actions should be taken to decrease the fishing mortality (or its proxy) below that limit reference point.
- 6.3 Data and assessment procedures that measure the position of the fishery in relation to the reference points shall be established. Accordingly, the *stock under consideration* shall not be overfished (i.e., above limit reference point or proxy) and the level of fishing permitted shall be commensurate with the current state of the fishery resources, maintaining its future availability, and taking into account that long-term changes in productivity can occur due to natural variability and/or impacts other than fishing (CSI RFM v2.2 Guidance Appendix 1, Part 1³).
- 6.4 Accordingly, contingency plans shall be agreed in advance to allow an appropriate management response to serious threats to the resource as a result of overfishing, adverse environmental changes, or other phenomena that may have adverse impacts on the fishery resource (CSI RFM v2.2 Guidance Appendix 1, Part 2⁴). Such measures may be temporary and shall be based on best scientific evidence available.
- 6.5 Measures shall be introduced to identify and protect depleted stocks and those stocks 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 stocks, which have received adverse impacts by fishing or other human activities, are restored.

Summary of relevant changes

Information for assessing the status of Alaska Pacific cod continues to be provided by the most recent fully peer-reviewed SAFE reports for the Eastern Bering Sea (EBS), Aleutian Islands (AI), and Gulf of Alaska (GOA) (Barbeaux et al., 2024; Spies et al., 2024; Hulson et al., 2024). No compiled 2025 SAFE reports were available because the lapse in federal appropriations from 1 October to 12 November 2025 prevented completion of the planned 2025 operational assessments and the Groundfish Plan Teams did not meet to compile the annual SAFE documents. However, this represented a procedural interruption in the normal review cycle rather than a breakdown in the stock assessment system itself. The SSC made clear that the starting point for 2026 specifications remained the preliminary OFL and ABC values based on the most recent fully peer-reviewed SAFE reports, and the Council's process continued to rely on those assessments together with catch reports, survey information, risk tables, and ecosystem updates as the best scientific information available (SSC, 2025a; NPFMC, 2025a; NPFMC, 2025b).

This means that the absence of a 2025 SAFE report does not imply inconsistency with Clause 6 or with the underlying scientific standards. On the contrary, the management system continued to operate through the established North Pacific framework, under which the most recent accepted assessment remains valid until replaced, and annual or interim catch reports are used to ensure that sudden changes in fishery performance or stock condition are not missed. For Pacific cod, the 2025 catch reports for both the GOA and BSAI explicitly state that no assessment was conducted because of the shutdown and that, until data were updated, the values generated from the previous stock assessment would be rolled over for specifications, including the 2026 advice (NPFMC, 2025a; NPFMC, 2025b). The SSC also emphasized in December 2025 that this year's framework was designed so that final 2026 specifications remained based on the best available scientific advice and on the most recent fully peer-reviewed SAFE reports (SSC, 2025a).

Across the three regions, the available evidence continued to support the conclusion that Pacific cod stocks were being assessed and managed under recognized scientific standards. For EBS Pacific cod, the 2024 assessment remained the operative scientific basis, and the December 2025 SSC review concluded that 2024 and 2025 catches were below ABC, that the 2025 EBS survey decline was broadly consistent with the projected reduction in 2026 ABC, and that no additional risk factors justified changing the preliminary 2026 OFL and ABC (SSC, 2025a; NPFMC, 2025b). For AI Pacific cod, the SSC noted that the stock had moved

² Guidance to Performance Evaluation for the Certification of Wild Capture and Enhanced Fisheries v2.2)

³ Guidance to Performance Evaluation for the Certification of Wild Capture and Enhanced Fisheries v2.2)

⁴ Guidance to Performance Evaluation for the Certification of Wild Capture and Enhanced Fisheries v2.2)

	to a Tier 3 assessment framework in 2024, that the model showed adequate fits and improved retrospective performance, and that 2025 catches remained well below ABC; despite continued ecosystem concerns, the SSC again concluded that no additional risk factors warranted changing the preliminary 2026 OFL and ABC (SSC, 2025a; NPFMC, 2025b). For GOA Pacific cod, the December 2025 SSC review similarly found that catches in 2024 and 2025 were below ABC, that the 2025 bottom trawl survey increase and the longline decline together suggested a stock slowly recovering from the 2014–2016 marine heatwave, and that there were no risk factors warranting departure from the preliminary 2026 OFL and ABC values derived from the existing assessment framework (SSC, 2025a; NPFMC, 2025a). Importantly, the GOA case also demonstrates that the scientific system remained active and responsive after the shutdown: in February 2026 the SSC reviewed an out-of-cycle operational update using the accepted 2024 model with 2025 survey and fishery data, concurred with the use of Model 24.0 for 2026–2027 harvest specifications, and confirmed that the stock was not overfished and not subject to overfishing in 2024–2025 (SSC, 2026). Accordingly, the key point for Clause 6 is that the 2025 shutdown affected the timing of assessment compilation, but not the scientific validity of the assessment process or the fishery’s consistency with the standard. The 2024 SAFE reports remained the most recent fully peer-reviewed assessments, they still provided the scientific basis for 2026 advice, and they were supplemented in a transparent and precautionary way by 2025 catch reports, survey information, SSC review, and, for GOA Pacific cod, a February 2026 out-of-cycle update. Therefore, there is no evidence that the temporary absence of 2025 SAFE reports compromised the regularity, scientific rigor, or management relevance of stock assessment activities required under Clause 6 (SSC, 2025a, b; SSC, 2026; NPFMC, 2025a; NPFMC, 2025b).
References	Barbeaux, S.J., I. Barnett, P. Hulson, J. Nielsen, S.K. Shotwell, E. Siddon, and I. Spies. 2024. Assessment of the Pacific cod stock in the Eastern Bering Sea. https://www.npfmc.org/wp-content/PDFdocuments/SAFE/2024/EBSpcod.pdf. Hulson, P.-J.F., S. J. Barbeaux, B. Ferriss, K. Echave, J. Nielsen, S. McDermott, B. Laurel, A. Abookire, I. Spies, and S.K. Shotwell. 2024. Assessment of the Pacific cod stock in the Gulf of Alaska. https://www.npfmc.org/wp-content/PDFdocuments/SAFE/2024/GOApcod.pdf. NMFS. 2026. Fisheries of the Exclusive Economic Zone Off Alaska; Bering Sea and Aleutian Islands; 2026 and 2027 Harvest Specifications for Groundfish. Federal Register 91(46): 11750–11753. NPFMC. 2025a. Catch Reports for the Groundfish Resources of the Gulf of Alaska. November 2025. North Pacific Fishery Management Council, Anchorage, AK. NPFMC. 2025b. Catch Reports for the Groundfish Resources of the Bering Sea/Aleutian Islands Regions. November 2025. North Pacific Fishery Management Council, Anchorage, AK. NPFMC. 2025c. Groundfish Final Harvest Specifications Process in December 2025. November 17, 2025. North Pacific Fishery Management Council, Anchorage, AK. Spies, I., M. Kapur, S. Barbeaux, M. Haltuch, P. Hulson, I. Ortiz, L. Spencer, and S. Lowe. 2024. Assessment of the Pacific cod stock in the Aleutian Islands. https://www.npfmc.org/wp-content/PDFdocuments/SAFE/2024/AIpcod.pdf. SSC. 2025a. Scientific and Statistical Committee Final Report to the North Pacific Fishery Management Council, December 2–3, 2025. North Pacific Fishery Management Council, Anchorage, AK. SSC. 2025b. Scientific and Statistical Committee Final Report to the North Pacific Fishery Management Council, September 29–October 2, 2025. SSC. 2026. Scientific and Statistical Committee Final Report to the North Pacific Fishery Management Council, February 2–4, 2026. North Pacific Fishery Management Council, Anchorage, AK.
Summary of consistency with CSI RFM Fisheries Standard	The fishery continues to meet the requirements of this Fundamental Clause of the RFM Fisheries Standard.

Fundamental Clause 7. Management actions and measures for the conservation of stock and the ecosystem shall be based on the precautionary approach. Where information is deficient a suitable method using risk management shall be adopted to consider uncertainty.

- 7.1 The precautionary approach shall be applied widely to conservation, management, and exploitation of ecosystems to protect them and preserve the ecosystem. This should take due account of fishery enhancement procedures, where appropriate. Absence of scientific information shall not be used as a reason for postponing or failing to take conservation and management measures. Relevant uncertainties shall be taken into account through a suitable method of risk management, including those associated with the use of introduced or translocated species.⁵
- 7.1.1 In implementing the PA, the fishery management organization shall take into account, *inter alia*, uncertainties relating to the size and productivity of the stocks, reference points, stock condition in relation to such reference points, levels and distribution of fishing mortality, the impact of fishing activities (including discards) on non-target and associated or dependent predators, and environmental and socioeconomic conditions.
- 7.1.2 In the absence of adequate scientific information, appropriate research shall be initiated in a timely fashion.
- 7.2 In the case of new or exploratory fisheries, the fishery management organization shall adopt, as soon as possible, cautious conservation and management measures, including, *inter alia*, catch limits and effort limits. Such measures should remain in force until there are sufficient data to allow assessment of the impact of the fisheries on the long-term sustainability of the stocks, whereupon conservation and management measures based on that assessment should be implemented. Management measures should, if appropriate, allow for the gradual development of the fisheries.

Summary of relevant changes

No substantial changes have been identified in the key management actions and measures governing the Alaska Pacific cod fishery. The main change in 2025 was procedural rather than substantive: due to the lapse in federal appropriations from 1 October to 12 November 2025, AFSC authors were unable to complete the scheduled 2025 operational assessments and the Groundfish Plan Teams did not convene, so the 2025 GOA and BSAI SAFE reports were not compiled (SSC, 2025a, b; NPFMC, 2025c). However, this did not interrupt the application of the precautionary approach or create inconsistency with the RFM standard. The Council and SSC explicitly continued to rely on the best scientific information available, namely the most recent fully peer-reviewed 2024 SAFE reports, which already included harvest advice and projections relevant to the 2026 specifications cycle for Pacific cod and other stocks (NPFMC, 2025c; SSC, 2025a, b).

The precautionary approach therefore remained fully in place. As described by the Council's December 2025 process document, the groundfish harvest control rules are inherently precautionary, include built-in mechanisms to account for uncertainty, and continue to use risk tables and stock-specific review to determine whether reductions from maximum permissible ABC are warranted (NPFMC, 2025c). In December 2025, the SSC stated that the starting point for 2026 harvest specifications was the preliminary 2026 OFL and ABC recommended in October 2025 on the basis of the most recent fully peer-reviewed SAFE reports, and that any new survey or ecosystem information would be considered through a structured framework and risk-table approach rather than through ad hoc relaxation of conservation measures (SSC, 2025a). This is consistent with Clause 7 because the absence of a new 2025 SAFE report was not used as a reason to postpone conservation and management measures; instead, uncertainty was handled through a transparent risk-management process based on existing peer-reviewed assessments plus catch reports and survey updates (SSC, 2025a; NPFMC, 2025c).

For Pacific cod specifically, the 2025 GOA and BSAI catch reports confirm that no full 2025 assessment was conducted because of the shutdown and that, until new data were formally reviewed, values from the previous stock assessment were rolled over for specifications (NPFMC, 2025a; NPFMC, 2025b). These catch reports also show that 2025 catches remained below TACs and well below ABCs for all three Pacific cod stocks: GOA catch 19,716 t against TAC 23,670 t and ABC 32,141 t; EBS catch 111,227 t against TAC 133,602 t and ABC 153,617 t; and AI catch 4,608 t against TAC 8,694 t and ABC 13,376 t (NPFMC, 2025a; NPFMC, 2025b). This demonstrates that management controls remained operational and precautionary during the year affected by the shutdown.

The stock-specific precautionary framework also remained unchanged. The 2024 SAFE assessments continued to provide the scientific basis for management in each region: EBS Pacific cod remained managed under Tier 3 with biomass-based harvest control rules and updated treatment of ecosystem risk (Barbeaux et al., 2024); AI Pacific cod continued to be managed conservatively under Tier 5 despite exploration of age-structured models, reflecting persistent uncertainty and precaution in the face of

⁵ FAO Technical Guidelines for Responsible Fisheries No. 2 – Precautionary approach to capture fisheries and species introductions. <http://www.fao.org/docrep/003/w3592e/w3592e00.htm>

	environmental stress and limited survey information (Spies et al., 2024); and GOA Pacific cod remained under Tier 3b, with biomass below B40% but above B20%, and with management advice already projecting into 2026 under the accepted 2024 model configuration (Hulson et al., 2024). Thus, although the 2025 assessment cycle was disrupted, the underlying harvest control rules, reference points, risk-table framework, and stock-specific precautionary measures remained unchanged and continued to govern management. Importantly, the SSC's February 2026 review of an out-of-cycle GOA Pacific cod operational update reinforces rather than weakens this conclusion. The update was requested specifically to incorporate 2025 survey data after the bottom trawl survey showed an apparent biomass increase as the stock continued to recover. The SSC concurred with use of Model 24.0 for 2026 and 2027 harvest specifications, noted that the model converged satisfactorily and showed acceptable diagnostics, and concluded that the stock remained in Tier 3b, with spawning biomass slightly below B35% and projected to remain near that level in 2026 (SSC, 2026). This demonstrates that when additional information became available, it was incorporated through the same formal scientific and precautionary process, not outside it. Overall, the 2025 shutdown affected the timing of stock assessment review, but not the consistency of Pacific cod management with Clause 7. The fishery continued to be managed through established harvest control rules, peer-reviewed 2024 SAFE advice that remained applicable to 2026, catch monitoring, survey updates, and SSC risk-based review. The evidence therefore supports the conclusion that the Alaska Pacific cod fishery remained managed in accordance with the precautionary approach, and that the temporary absence of 2025 SAFE reports did not result in any weakening of conservation standards or risk-management procedures (SSC, 2025a, b; SSC, 2026; NPFMC, 2025a; NPFMC, 2025b; NPFMC, 2025c).
References	Barbeaux, S.J., I. Barnett, P. Hulson, J. Nielsen, S.K. Shotwell, E. Siddon, and I. Spies. 2024. Assessment of the Pacific cod stock in the Eastern Bering Sea. https://www.npfmc.org/wp-content/PDFdocuments/SAFE/2024/EBSpCod.pdf. Hulson, P.-J.F., S. J. Barbeaux, B. Ferriss, K. Echave, J. Nielsen, S. McDermott, B. Laurel, A. Abookire, I. Spies, and S.K. Shotwell. 2024. Assessment of the Pacific cod stock in the Gulf of Alaska. https://www.npfmc.org/wp-content/PDFdocuments/SAFE/2024/GOApcod.pdf. NMFS. 2026. Fisheries of the Exclusive Economic Zone Off Alaska; Bering Sea and Aleutian Islands; 2026 and 2027 Harvest Specifications for Groundfish. Federal Register 91(46): 11750–11753. NPFMC. 2025a. Catch Reports for the Groundfish Resources of the Gulf of Alaska. November 2025. North Pacific Fishery Management Council, Anchorage, AK. NPFMC. 2025b. Catch Reports for the Groundfish Resources of the Bering Sea/Aleutian Islands Regions. November 2025. North Pacific Fishery Management Council, Anchorage, AK. NPFMC. 2025c. Groundfish Final Harvest Specifications Process in December 2025. November 17, 2025. North Pacific Fishery Management Council, Anchorage, AK. Spies, I., M. Kapur, S. Barbeaux, M. Haltuch, P. Hulson, I. Ortiz, L. Spencer, and S. Lowe. 2024. Assessment of the Pacific cod stock in the Aleutian Islands. https://www.npfmc.org/wp-content/PDFdocuments/SAFE/2024/Alpcod.pdf. SSC. 2025a. Scientific and Statistical Committee Final Report to the North Pacific Fishery Management Council, December 2–3, 2025. North Pacific Fishery Management Council, Anchorage, AK. SSC. 2025b. Scientific and Statistical Committee Final Report to the North Pacific Fishery Management Council, September 29–October 2, 2025. SSC. 2026. Scientific and Statistical Committee Final Report to the North Pacific Fishery Management Council, February 2–4, 2026. North Pacific Fishery Management Council, Anchorage, AK.
Summary of consistency with CSI RFM Fisheries Standard	The fishery continues to meet the requirements of this Fundamental Clause of the RFM Fisheries Standard.

6.1.3 Key Component C: Management Measures, Implementation, Monitoring, and Control

Fundamental Clause 8. Management shall adopt and implement effective management measures designed to maintain stocks at levels capable of producing maximum sustainable yields, including harvest control rules and technical measures applicable to sustainable utilization of the fishery, and based upon verifiable evidence and advice from available objective scientific and traditional sources.

- 8.1 Conservation and management measures shall be designed to ensure the long-term sustainability of fishery resources at levels which promote optimum utilization and are based on verifiable and objective scientific and/or traditional, fisher, or community sources.
 - 8.1.1 When evaluating alternative conservation and management measures, the fishery management organization shall consider their cost-effectiveness and social impact.
 - 8.1.2 Responsible fisheries management organizations shall adopt and implement measures necessary to ensure the management of bycatch and reduction of discards as part of fisheries management (1) in accordance with the PA, as reflected in Article 6 of the UN Fish Stocks Agreement, and as set out in Article 6.5 and 7.5 of the Code; (2) in accordance with the responsible use of fish as set out in the Code; and (3) based on the best scientific evidence available, taking into account fishers' knowledge.
- 8.2 The fishery management organization shall prohibit dynamiting, poisoning, and other similar destructive fishing practices.
- 8.3 The fishery management organization shall seek to identify domestic parties having a legitimate interest in the use and management of the fishery. When deciding on use, conservation, and management of the resource, due recognition shall be given, where relevant, in accordance with national laws and regulations, to the traditional practices, needs, and interests of indigenous people and local fishing communities which are highly dependent on these resources for their livelihood. Arrangements shall be made to consult all the interested parties and gain their collaboration in achieving responsible fisheries.
- 8.4 Where excess capacity exists, mechanisms shall be established to reduce capacity to levels commensurate with sustainable use of the resource. Fleet capacity operating in the fishery shall be measured and monitored. The fishery management organization 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.
 - 8.4.1 Studies shall be promoted that provide an understanding of the costs, benefits, and effects of alternative management options designed to rationalize fishing, especially options relating to excess fishing capacity and excessive levels of fishing effort.
- 8.5 Technical measures regarding the *stock under consideration* shall be taken into account, where appropriate, in relation to fish size, mesh size, gear, closed seasons or areas, areas reserved for particular (e.g., artisanal fisheries), and protection of juveniles or spawners.
 - 8.5.1 Appropriate measures shall be applied to minimize catch, waste, and discards of non-target species (both fish and non-fish species), and impacts on associated, dependent, or endangered species.
- 8.6 Gear marking requirements shall take into account uniform and internationally recognizable gear marking systems.
- 8.7 The fishery management organization and relevant groups from the fishing industry shall measure performance and encourage the development, implementation, and use of selective, environmentally safe, and cost-effective gear, technologies, and techniques that are sufficiently selective as to minimize catch, waste, discards of non-target species (both fish and non-fish species) and impacts on associated or dependent predators. The use of fishing gear and practices that lead to discarding the catch shall be discouraged, and the use of fishing gear and practices that increase survival rates of escaping fish shall be promoted. Inconsistent methods, practices, and gears shall be phased out accordingly.
- 8.8 Technologies, materials, and operational methods or measures—including, to the extent practicable, the development and use of selective, environmentally safe, and cost-effective fishing gear and techniques—shall be applied to minimize the loss of fishing gear, the ghost fishing effects of lost or abandoned fishing gear, pollution, and waste.
- 8.9 The intent of fishing selectivity and fishing impacts-related regulations shall not be circumvented by technical devices. Information on new developments and requirements shall be made available to all fishers.
- 8.10 Assessment and scientific evaluation shall be carried out on the impacts of habitat disturbance on the fisheries and ecosystems prior to the commercial-scale introduction of new fishing gear, methods, and operations. Accordingly, the impacts of such introductions shall be monitored.
- 8.11 International cooperation shall be encouraged for research programs involving fishing gear selectivity, fishing methods and strategies, dissemination of the results of such research programs, and the transfer of technology.
- 8.12 The fishery management organization and relevant institutions involved in the fishery shall collaborate in developing standard methodologies for research into fishing gear selectivity, fishing methods and strategies, and on the behavior of

	target and non-target species regarding such fishing gear—as an aid for management decisions and with a view to minimizing non-utilized catches. 8.13 Where appropriate, policies shall be developed for increasing stock populations and enhancing fishing opportunities through the use of artificial structures. The fishery management organization shall ensure that, when selecting the materials to be used in the creation of artificial reefs, as well as when selecting the geographical location of such artificial reefs, the provisions of relevant international conventions concerning the environment and the safety of navigation are observed.
Summary of relevant changes	Clause 8.1, 8.1.1, 8.2, 8.3, 8.4, 8.4.1, 8.6, 8.9, 8.10, 8.11, 8.12 No relevant changes were reported. Clause 8.1.2 As reported at last year's audit, the PCTC Program began in 2024 with the intent of improving the prosecution of the fishery, stabilising the harvesting and processing sectors, maximising the value of the fishery and helping to minimise bycatch in Pacific cod A and B seasons (January 20th – April 1st and April 1st – June 10th, respectively) – the C season remains a limited access fishery. Cooperatives must annually apply for cooperative quota (CQ), which is derived from the quota share that belongs to their members (harvester and associated processor derived quotas). Prohibited Species Catch (PSC) allocations (which includes Pacific halibut, king crab, Tanner crab, snow crab) are also provided to the cooperatives and are proportional to their cod CQ. PSC species are allocated to the coops on an annual basis and PSC usage must be managed by the coop throughout both A and B seasons. The PCTC Program recommended that cooperatives voluntarily provide annual reports with the purpose of detailing information on membership of the various cooperatives, management details and activities and performance for the BSAI Pacific Cod trawl seasons. On review of four of five Pacific Cod Trawl Cooperatives presented Cooperative Reports to NPFMC in 2025 (Akutan Cod Association (ACA); Golden Alaska Catcher Vessels Association Cooperative, Unified Cod Cooperative; United States Seafoods Cod Cooperative), none of the cooperatives' reports indicate an overshoot of their CQ allocations and all were well under their PSQ allocations. The ACA report highlights on-going collaborative work Trident Seafoods are involved with, evaluating halibut bycatch mitigation approaches in the cod fishery using funds from a NOAA Bycatch Reduction Engineering Program award. This included testing the ability to reduce halibut bycatch using artificial illumination at the trawl mouth and developing a performance indicator to assess the efficacy of bycatch reduction device designs. Clause 8.5, 8.7, 8.8 The client provided an update on the development of trawl gear modifications to mitigate the risk of orca entanglement in cod and flatfish fisheries. Dr. Hannah Meyers at the University of Alaska Fairbanks is testing net modifications to deter orcas in the deep-water flatfish fishery. The primary objective of this project was to develop a gear modification for use in the Bering Sea deep-water flatfish fishery to reduce the risk of orca bycatch, informed by an understanding of orca behavior near the vessels and nets. The most recent project report (Myers <i>et al</i>, 2025) cites 164 days of field work during which acoustic, photo-identification, and orca behavioral data were collected. The fleet's use of a mesh or chain fence in the entrance to the trawl net was associated with a decline to orca mortalities over two years. Acoustic data demonstrated that multiple orca continued to forage in close proximity to the net, suggesting that the fence deterred them from entering the net. A press release on the project was also released in October 2025. Clause 8.13 Not applicable.
References	Myers, H., Gauvin, J., Concepcion, B., Webster, S., 2025. Investigating killer whale behavior and gear modifications to reduce bycatch in Bering Sea and Aleutian Islands non-pelagic trawl fisheries. Pollock Conservation Cooperative Research Center. Final Report. Pacific Cod trawl Cooperative Reports (PCTC), https://www.npfmc.org/cooperative-reporting/
Summary of consistency with CSI RFM Fisheries Standard	The fishery continues to meet the requirements of this Fundamental Clause of the RFM Fisheries Standard.

Fundamental Clause 9. Fishing operations shall be carried out by fishers with appropriate standards of competence in accordance with international standards, guidelines and regulations.	
9.1 States shall advance, through education and training programs, the education and skills of fishers and, where appropriate, their professional qualifications. Such programs shall take into account agreed international standards and guidelines. 9.2 States, with the assistance of relevant international organizations, shall endeavor to ensure, through education and training, that all those engaged in fishing operations be given information on the most important provisions of the FAO CCRF (1995), as well as provisions of relevant international conventions and applicable environmental and other standards that are essential to ensure responsible fishing operations. 9.3 The fishery management organization shall, as appropriate, maintain records of fishers which shall, whenever possible, contain information on their service and qualifications, including certificates of competency, in accordance with their State's laws.	
Summary of relevant changes	Clause 9.1, 9.2, 9.3 No relevant changes were reported.
References	NA
Summary of consistency with CSI RFM Fisheries Standard	The fishery continues to meet the requirements of this Fundamental Clause of the RFM Fisheries Standard.

Fundamental Clause 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.	
10.1 Effective mechanisms shall be established for fisheries monitoring, surveillance, control, and enforcement measures including, where appropriate, observer programs, inspection schemes, and vessel monitoring systems, to ensure compliance with the conservation and management measures for the fishery in question. This could include relevant traditional, fisher, or community approaches, provided their performance could be objectively verified. 10.2 Fishing vessels shall not be allowed to operate on the stock under consideration in question without specific authorization. 10.3 States involved in the fishery shall, in accordance with international law, and within the framework of fisheries management organizations or arrangements, cooperate to establish systems for monitoring, control, surveillance, and enforcement of applicable measures with respect to fishing operations and related activities in waters outside the States jurisdiction. 10.3.1 Fishery management organizations which are members of or participants in fisheries management organizations or arrangements, shall implement internationally agreed measures adopted in the framework of such organizations or arrangements and consistent with international law to deter the activities of vessels flying the flag of non-members or non-participants engaging in activities that undermine the effectiveness of conservation and management measures established by such organizations or arrangements. In that respect, port States shall also proceed, as necessary, to assist other States in achieving the objectives of the FAO CCRF (1995) and should make known to other States details of regulations and measures they have established for this purpose without discrimination for any vessel of any other State. 10.4 jurisdiction of other States, unless such vessels have been issued with a Certificate of Registry and have been authorized to fish by the competent authorities. Such vessels shall carry on board the Certificate of Registry and their authorization to fish. 10.4.1 Fishing vessels authorized to fish on the high seas or in waters under the jurisdiction of a State other than the flag State shall be marked in accordance with uniform and internationally recognizable vessel marking systems such as the FAO Standard Specifications and Guidelines for Marking and Identification of Fishing Vessels.	
Summary of relevant changes	Clause 10.1, 10.2 No major compliance issues in 2023 were reported. Clause 10.3, 10.3.1, 10.4, 10.4.1 Not applicable.
References	Office of Law Enforcement, Alaska Enforcement Division, June 2025 Report to the NPFMC. https://meetings.npfmc.org/CommentReview/DownloadFile?p=b88ea379-5221-46a9-8c3b-36745275c490.pdf&fileName=B5%20NOAA%20Enforcement%20Report.pdf. Office of Law Enforcement, Alaska Enforcement Division, October 2025 Report to the NPFMC. https://meetings.npfmc.org/CommentReview/DownloadFile?p=ddaf96fe-32fc-4b14-a044-9cf3cd5f4b51.pdf&fileName=B5%20NOAA%20OLE%20Report.pdf.
Summary of consistency with CSI RFM Fisheries Standard	The fishery continues to meet the requirements of this Fundamental Clause of the RFM Fisheries Standard.

Fundamental Clause 11. There shall be a framework for sanctions for violations and illegal activities of adequate severity to support compliance and discourage violations.	
11.1 States laws of adequate severity shall be in place that provide for effective sanctions. 11.2 Sanctions applicable to violations and illegal activities shall be adequate in severity to be effective in securing compliance and discouraging violations wherever they occur. Sanctions shall also be in force to affect authorization to fish and/or to serve as masters or officers of a fishing vessel in the event of noncompliance with conservation and management measures. 11.3 Fisheries management organizations shall ensure that sanctions for IUU fishing by vessels and, to the greatest extent possible, nationals under its jurisdiction are of sufficient severity to effectively prevent, deter, and eliminate IUU fishing and to deprive offenders of the benefits accruing from such fishing. This may include the adoption of a civil sanction regime based on an administrative penalty scheme. Fisheries management organizations shall ensure the consistent and transparent application of sanctions. 11.4 Flag States shall take enforcement measures towards fishing vessels entitled to fly their flag, which have been found by the State to have contravened applicable conservation and management measures. The State shall, where appropriate, make the contravention of such measures an offense under national legislation.	
Summary of relevant changes	Clause 11.1, 11.2, 11.3 No relevant changes were reported. It is recommended that the client provides an update on state enforcement and sanctions applied to fishers at the next audit. Clause 11.4 Not applicable.
References	NA
Summary of consistency with CSI RFM Fisheries Standard	The fishery continues to meet the requirements of this Fundamental Clause of the RFM Fisheries Standard.

6.1.4 Key Component D: Serious Impacts of the Fishery on the Ecosystem

Fundamental Clause 12. Considerations of fishery interactions and effects on the ecosystem shall be based on the best scientific evidence available, local knowledge where it can be objectively verified, and a risk assessment-based management approach for determining most probable adverse impacts. Adverse impacts of the fishery on the ecosystem shall be appropriately assessed and effectively addressed.

- 12.1 The fishery management organization shall assess the impacts of environmental factors on target stocks and associated or dependent species in the same ecosystem, and the relationship among the populations in the ecosystem.
- 12.2 The most probable adverse impacts from human activities, including fishery effects on the ecosystem/environment, shall be assessed and, where appropriate, addressed and or/corrected, taking into account available scientific information and local knowledge. This may take the form of an immediate management response or a further analysis of the identified risk. In this context, full consideration should be given to the special circumstances and requirements in developing fisheries, including financial and technical assistance, technology transfer, training, and scientific cooperation. In the absence of specific information on the ecosystem impacts of fishing on the unit of certification, generic evidence based on similar fishery situations can be used for fisheries with low risk of severe adverse impact. However, the greater the risk, the more specific evidence shall be necessary to ascertain the adequacy of mitigation measures.
 - 12.2.1 The fishery management organization shall consider the most probable adverse impacts of the unit of certification on main associated species (CSI RFM v2.2 Guidance Appendix 1, Parts 3 and 7⁶), by assessing and, where appropriate, addressing and or/correcting them, taking into account the best scientific evidence available and local knowledge. Accordingly, these catches (including discards) shall be monitored and shall not threaten these non-target species with serious risk of extinction, recruitment overfishing, or other impacts that are likely to be irreversible or very slowly reversible. If such impacts arise, effective remedial action shall be taken.
 - 12.2.2 The fishery management organization shall consider the most probable adverse impacts of the unit of certification on minor associated species (CSI RFM v2.2 Guidance Appendix 1, Parts 3 and 7⁷), by assessing and, where appropriate, addressing and or/correcting them, taking into account the best scientific evidence available and local knowledge. Accordingly, these catches (including discards) shall be monitored and shall not threaten these non-target species with serious risk of extinction, recruitment overfishing, or other impacts that are likely to be irreversible or very slowly reversible. If such impacts arise, effective remedial action shall be taken.
 - 12.2.3 There shall be outcome indicator(s) consistent with achieving management objectives for non-target species (i.e., avoiding overfishing and other impacts that are likely to be irreversible or very slowly reversible).
 - 12.2.4 The fishery management organization shall consider the most probable adverse impacts of the unit of certification on ETP species (CSI RFM v2.2 Guidance Appendix 1, Parts 4 and 7⁸), by assessing and, where appropriate, addressing and or/correcting them, taking into account the best scientific evidence available and local knowledge.
 - 12.2.5 There shall be outcome indicator(s) consistent with achieving management objectives seeking to ensure that ETP species are protected from adverse impacts resulting from interactions with the unit of certification and any associated enhanced fishery activity, including recruitment overfishing or other impacts that are likely to be irreversible or very slowly reversible.
 - 12.2.6 The fishery management organization shall consider the most probable adverse impacts of the unit of certification on habitats (CSI RFM v2.2 Guidance Appendix 1, Parts 5 and 7⁹), by assessing and, where appropriate, addressing and or/correcting them, taking into account the best scientific evidence available and local knowledge.
 - 12.2.7 There shall be knowledge of the essential habitats for the *stock under consideration* and potential fishery impacts on them. Impacts on essential habitats, and on habitats that are highly vulnerable to damage by the fishing gear involved, shall be avoided, minimized, or mitigated. In assessing fishery impacts, the full spatial range of the relevant habitat shall be considered, not just the part of the spatial range that is potentially affected by fishing.
 - 12.2.8 There shall be outcome indicator(s) consistent with achieving 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.
 - 12.2.9 The fishery management organization shall consider the most probable adverse impacts of the fishery under assessment on the ecosystem (CSI RFM v2.2 Guidance Appendix 1, Part 6¹⁰), by assessing and, where appropriate, addressing and or/correcting them, taking into account available scientific information and local knowledge.

⁶ Guidance to Performance Evaluation for the Certification of Wild Capture and Enhanced Fisheries v2.2

⁷ Guidance to Performance Evaluation for the Certification of Wild Capture and Enhanced Fisheries v2.2

⁸ Guidance to Performance Evaluation for the Certification of Wild Capture and Enhanced Fisheries v2.2

⁹ Guidance to Performance Evaluation for the Certification of Wild Capture and Enhanced Fisheries v2.2

¹⁰ Guidance to Performance Evaluation for the Certification of Wild Capture and Enhanced Fisheries v2.2

	12.2.10 There shall be outcome indicator(s) consistent with achieving management objectives seeking to minimize adverse impacts of the unit of certification (including any fishery enhanced activities) on the structure, processes, and function of aquatic ecosystems that are likely to be irreversible or very slowly reversible. Any modifications to the habitat for enhancing the stock under consideration must be reversible and not cause serious or irreversible harm to the natural ecosystem's structure, processes, and function. 12.2.11 The fishery management organization shall consider the most probable adverse human impacts on the stock/ecosystem under consideration, by assessing and, where appropriate, addressing and or/correcting them, taking into account available scientific information and local knowledge. 12.3 The role of the <i>stock under consideration</i> in the food web shall be considered, and if it is a key prey species¹¹ in the ecosystem, management objectives and measures shall be in place to avoid severe adverse impacts on dependent predators. 12.4 There shall be outcome indicator(s) consistent with achieving management objectives seeking to avoid severe adverse impacts on dependent predators resulting from the unit of certification fishing on a <i>stock under consideration</i> that is a key prey species.¹² 12.5 States shall introduce and enforce laws and regulations based on the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78). 12.6 Research shall be promoted on the environmental and social impacts of fishing gear especially on the impact of such gear on biodiversity and coastal fishing communities. 12.7 The fishery management organization shall make use, where appropriate, of Marine Protected Areas (MPAs). The general objectives for establishing MPAs shall include ensuring sustainability of fish stocks and fisheries and protecting marine biodiversity and critical habitats.
Summary of relevant changes	Clauses 12.1, 12.3, and 12.4 NOAA and NOAA Fisheries continue to have a series of programs monitoring and modelling oceanographic processes in Alaska and adjoining waters. The data, together with a range of other environmental monitoring information such as plankton, low trophic level fish species, fish populations, and population dynamics of higher predators are all assembled through NMFS. The relationship between environmental factors (biotic and abiotic) and BSAI and GOA cod are evaluated annually in the SAFE process (Barbeaux et al. 2024, Spies et al. 2024, Hulson et al. 2024). (Note that updated SAFE reports were not produced in late 2025 due to the U.S. government shutdown.) All significant and commercial species are assessed individually according to the SAFE Tier system. Most of the species' SAFE reports contain details on ecosystem effects on the species (e.g., prey availability) and fishery effects on the ecosystem. The SAFE evaluations provide a process by which a wide range of relevant environmental information is assembled and evaluated in relation to its potential effects. Ecosystem Status Reports are done annually for EBS, AI, and GOA, updating the climate, biological, and fishing effects in each region (Siddon 2024, Ortiz and Zador 2024, Ferriss 2024). (Note that updated Ecosystem Status Reports were not produced in late 2025 due to the U.S. government shutdown.) In addition, the relationship between different populations in the ecosystem is evaluated through ongoing ecosystem and multi-species modelling programs within NMFS. These information sources are presented and considered annually at Council meetings. TAC-setting within the Council demonstrably follows the precautionary principle. This is also informed by the range of ecosystem indicators reported to the plan teams as part of the SAFE process. These indicators include mammalian predators of groundfish (e.g., Northern fur seals, Seller sea lions), which are considered by the stock assessment plan teams, SSC, and the Council in setting TACs. For mammalian predators of groundfish (e.g., cod, pollock), outcome indicators of direct mortality are required by the Marine Mammal Protection Act (MMPA) and ESA in terms of allowable mortalities. As noted in Section 5.5, recent conditions have been unusually warm with sea surface temperatures as much as 3° C (about 5.4° F) higher than average. Additionally, in recent years, the annual ice cover in the BS has decreased dramatically, which has likely affected several species' survivability and reproductive success. These changes have been and continue to be investigated. The Council's SSC and the Groundfish Plan Teams are considering these factors on an ongoing basis as they assess the groundfish stocks (e.g., Barbeaux et al. 2024, Spies et al. 2024, Hulson et al. 2024). Clauses 12.2, 12.2.1, 12.2.2, and 12.2.3

¹¹ See Appendix 1 page 150 of the Guidance to Performance Evaluation for the Certification of Wild Capture and Enhanced Fisheries v2.2.

¹² See Appendix 1 page 150 of the Guidance to Performance Evaluation for the Certification of Wild Capture and Enhanced Fisheries v2.2.

	There is a comprehensive set of measures in place to minimize catch, waste, and discards of non-target species, as described above. Each of the BSAI and GOA cod fisheries have limited non-target catches with cod making up more than 80% in both regions (Table 7 and Table 8). <u>BSAI cod fishery</u> For the cod fishery, there are some main associated species with each making up less than 8% of the total average catch. The main associated species include: • Alaska skate – According to Tribuzio et al. (2024), the stock is not overfished. • Aleutian skate – Falls within “other skate (<i>Bathyrāja</i>)” and is not overfished (Tribuzio et al. 2023). • Pollock – RFM and MSC certified; not overfished • Sculpin – According to Spies et al. (2019a), the stock complex is not overfished. Also, the grouping makes up 0.97% of total catch and 4.72% of total bycatch; however, this is a complex that is made up of several sculpin species so no single species is likely to be main associated species. • Skate, unidentified – Regarding Alaska skate catch within the BSAI UoAs, NMFS (pers. comm.) stated that the species identification improved in 2022. Previously, most of the skate catch was reported under “skate, unidentified”. Tribuzio et al. (2023) states that “the Alaska skate is the dominant species of skate caught in the BSAI FMP area, accounting for over 90% of the skate biomass on the eastern Bering Sea (EBS) continental shelf (most commonly at depths of 50-200 m).” It is likely that in coming years, the “skate, unidentified” catch will fall below the main associated threshold. There are several minor associated species with each of them making up <0.6% of the total average catch. Given the large number of minor associated species but the low catch rate, the audit team has determined that it is unnecessary to list each one of them here. Refer to Table 7 for more details. None of the minor associated species are overfished so none are likely to be negatively impacted by the cod fishery. Overall, these main and minor associated species and their catch amounts are similar to previous years. Therefore, this combined with operational measures employed by industry to meet the specific targets are effective at achieving the specified management objectives. <u>GOA cod fishery</u> For the GOA fishery, there are some main associated species with each making up less than 2% of the total average catch. The main associated species include: • Aleutian skate – Falls within “other skate (<i>Bathyrāja</i>)” and is not overfished (Cronin-Fine 2023). • Arrowtooth flounder – MSC certified; not overfished • Big skate – According to Cronin-Fine (2023), the stock is not overfished. • Longnose skate – According to Cronin-Fine (2023), the stock is not overfished. • Octopus – According to Ormseth (2021), the stock is not overfished. • Pollock – RFM and MSC certified; not overfished • Rock sole –MSC certified; not overfished • Sablefish – RFM and MSC certified; not overfished • Sculpin – According to Spies et al. (2019b), the stock complex is not overfished. Also, the grouping makes up 0.67% of total catch and 5.78% of total bycatch; however, this is a complex that is made up of several sculpin species so no single species is likely to be main associated species. It is unlikely that the fishery under assessment is negatively impacting the species. • Skate, unidentified – According to Cronin-Fine (2023), none of the skate stocks are overfished. • Spiny dogfish – Does not appear to be overfished (https://www.fisheries.noaa.gov/species/pacific-spiny-dogfish). Makes up 0.65% of total catch and 5.60% of total bycatch so unlikely that the fishery under assessment is negatively impacting the species. There are several minor associated species with each making up <0.3% of the total average catch. Given the large number of minor associated species but the low catch rate, the audit team has determined that it is unnecessary to list each one of them here. Refer to Table 8 for more details. None of the minor associated species are overfished so none are likely to be negatively impacted by the cod fishery. Overall, these main and minor species and their catch amounts are similar to previous years. Therefore, this combined with operational measures employed by industry to meet the specific targets are effective at achieving the specified management objectives.
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	Clauses 12.2.4 and 12.2.5 There continues to be a process in place for the development of management objectives to ensure that endangered species are protected from adverse impacts from interactions with the unit of certification. The endangered species inhabiting the BSAI and GOA are primarily under the responsibility of the U.S. Fish and Wildlife Service (USFWS) for seabird species and NOAA Fisheries for other protected species. For these fisheries, these are primarily marine mammals. Annually, NOAA Fisheries categorizes all U.S. commercial fisheries under the MMPA's List of Fisheries according to the levels of marine mammal mortality and serious injury (https://www.fisheries.noaa.gov/national/marine-mammal-protection/list-fisheries-summary-tables). (Note that the List of Fisheries was not updated in late 2025 or early 2026 due to the U.S. government shutdown.) Category III fisheries interact with marine mammal stocks with annual mortality and serious injury $\leq 1\%$ of the marine mammal's potential biological removal (PBR) level and total fishery-related mortality $< 10\%$ of PBR. Any fishery in Category III is considered to have achieved the target level of mortality and serious injury. Category II fisheries have a level of mortality and serious injury that is $> 1\%$ but is $< 50\%$ of the stock's PBR level, if total fishery related mortality is $\geq 10\%$ of the PBR. Category I fisheries have frequent mortality and serious injury of marine mammal resulting in annual mortality $\geq 50\%$ of PBR. In 2024, the BSAI cod pot fishery, the BSAI cod longline and trawl fisheries, and the GOA cod longline and trawl fisheries are Category III. The GOA Pacific cod pot fishery has not had any interactions in the last five years of available data (i.e., 2016-2020), and as of 2021, the BSAI and GOA Pacific cod jig fisheries are no longer classified due to the lack of any interactions. Observer program data continue to provide annual estimates of takes of endangered species – fish, seabirds, and marine mammals in the BSAI and GOA cod fisheries. <u>BSAI cod fishery</u> The pot fishery interacted with the following number of species during the period 2018-2022 (Brower et al. 2024): • Harbor seal (Bristol Bay) – 0 • Harbor seal (Pribilof Islands) – 1 • Humpback whale (Hawai'i, Mexico-North Pacific, and western North Pacific) – 2 The longline fishery interacted with the following number of species during the period 2018-2022 (Brower et al. 2024): • Bearded seal (Alaska) – 1 • Killer whale – 1 • Northern fur seal (eastern Pacific) – 0 • Ribbon seal – 0 • Steller sea lion (western U.S.) – 0 The trawl fishery interacted with the following number of species during the period 2018-2022 (Brower et al. 2024): • Bearded seal (Alaska) – 0 • Ribbon seal – 0 • Ringed seal – 1 • Steller sea lion (western U.S.) – 1 As noted above, marine mammals are rarely taken incidentally in the BSAI cod trawl fishery. Overall, all of these catch numbers are significantly less than the species' PBRs (Young et al. 2026). Considering the cumulative impacts of all certified BSAI fisheries, the catch numbers are also below PBRs. Regarding Steller sea lions, BSAI and GOA cod fisheries have a negligible impact on the species. Additionally, mitigation measures are in place to limit interactions (e.g., closed areas for Steller sea lion breeding; https://www.fisheries.noaa.gov/species/steller-sea-lion/conservation-management). Seabird interactions with fishing gear are recorded through the NMFS Observer Program (summarized in Tide and Eich 2022), and population trends are monitored by the USFWS (summarized in Dragoo et al. 2020). The catch numbers of seabird species in this fishery are minimal, and data show no significant changes to the amount of bycatch. The only recent seabird bycatch are auklets, black-footed albatross, gulls, kittiwakes, Laysan albatross, murres, northern fulmar, and shearwaters; none of these are ESA-listed
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	species. Short-tailed albatross remains the main endangered bird species of concern in the Alaska fisheries, and the BSAI fishery has not caught any in at least the last 10 years. Three ESA-threatened salmon stocks that migrate to Alaskan waters include Lower Columbia River Chinook salmon, upper Willamette River Chinook salmon, and Lower Columbia River Chinook, spring. The bycatch of ESA-listed Chinook salmon by the BSAI cod fishery increased in 2023 but decreased again in 2024. All recent catch totals remain within the 45,000 PSC limit. Data continue to be collected, and the bycatch numbers are analyzed annually (NOAA Fisheries 2023, 2024). Cumulatively, the catch numbers are also below limits. <u>GOA cod fishery</u> The GOA Pacific cod longline and trawl fisheries continue to be Category III. The longline fishery interacted with the following number of species during the period 2018-2022 (Brower et al. 2024): • Harbor seal (Cook Inlet/Skelikof Strait) – 1 • Steller sea lion (western U.S.) – 0 The GOA Pacific cod trawl fishery interacted with the following number of species during the period 2018-2022 (Brower et al. 2024): • Steller sea lion (Western U.S.) – 0 As noted above, marine mammals are rarely taken incidentally in the GOA cod trawl fishery. These catch numbers are significantly less than the species' PBRs. Cumulatively, the catch numbers are also below the PBR. Recent surveys indicate that in the GOA pup and non-pup numbers have increased, showing positive population trends. Seabird interactions with fishing gear are recorded through the NMFS Observer Program (summarized in Tide and Eich 2022), and population trends are monitored by the USFWS (summarized in Dragoo et al. 2020). The catch numbers of seabird species in this fishery are minimal, and data show no significant changes to the amount of bycatch. The only recent seabird bycatch are gulls, northern fulmar, and short-tailed albatross. Short-tailed albatross remain the main endangered bird species of concern in the Alaska fisheries, and this fishery has caught only 2 in at least the last 10 years. Clauses 12.2.6, 12.2.7, 12.2.8, and 12.7 In April 2022, a new five-year review of essential fish habitat (EFH) was announced. The review evaluated: 1) published scientific literature 2) unpublished scientific reports 3) information solicited from interested parties 4) previously unavailable or inaccessible data In 2023, the Council revised the EFH sections of its FMPs to address the results of the five-year review, and the results of the review led to improved species distribution mapping using a more uniform approach as well as an update to the fishing effects model to remove a coding error that omitted unobserved catch events (https://www.fisheries.noaa.gov/alaska/habitat-conservation/alaska-essential-fish-habitat-reviews). All groundfish species had EFH impacts that were determined to be minimal and temporary. There were two key issues regarding pelagic trawl gear: 1. The Council chose not to take action to close the Red King Crab Savings Area due to concerns that fishing effort by pot, longline, and pelagic trawl gear could be having adverse effects on the recovery of the severely depleted Bristol Bay red king crab stock. However, the Council established an unobserved mortality working group for crab that has met and will provide a report to Council at their June 2025 meeting. 2. A discussion paper was produced for the Council looking at the pelagic trawl gear definition to both align current regulations with objectives of the Council, which are to promote gear innovation and improvements as well as fixing more straightforward regulatory items (fix the codend not intended as part of the pelagic trawl/floats in salmon excluders, etc.). There is some interest in removing outdated regulations and improving the definition to meet the future needs of innovation and development particularly regarding benthic habitat impacts of pelagic trawl gear.
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	Bait usage within the fishery is primary sardines, herring, and <i>Illex spp.</i> squid (client, pers. comm.). These species are not ETP species. Clauses 12.2.9, 12.2.10, and 12.2.11 Management measures continue to be in place, based on sound, fishery-related evidence platforms and extensive evaluations designed to achieve the stated objectives for relevant ecosystem components. These specifically include marine mammals, seabirds, prohibited species, target and bycatch species, EFH, HAPCs, and food-web effects. Also, ongoing monitoring and ecosystem modelling are in place to meet the overarching objective of effective ecosystem-based management (NPFMC 2007; 2019; 2024a, b). Clause 12.5 All fishing vessels operating in federal waters are required to comply with MARPOL Annex V, which specifically prohibits the at-sea disposal of all plastics. Vessels operating in the North Pacific therefore have three options: 1) non-plastics can be disposed of at sea within the legal restrictions, 2) they can incinerate wastes onboard the vessel, or 3) they can hold the wastes for shoreside disposal at port. Vessels are required to post oil pollution and garbage placards; have a written solid waste management plan that describes procedures for collecting, processing, storing, and discharging garbage; and have a designated person in charge of carrying out the plan. The BSAI and GOA cod fishing vessels continue to be compliant with MARPOL Annex V (client, pers. comm.). Clause 12.6 The Council's overarching policy continues to include the objective of applying judicious and responsible fisheries management practices, based on sound scientific research and analysis. Also, all management measures are to be based on the best scientific information available. Key to delivering this scientific evidence base remains the work of the AFSC and their five-year strategic plan (NOAA Fisheries 2022). Research is often promoted and encouraged by academic institutions, furthering the aim of the Council. Research continues into community development associated with fisheries. Industry is also regularly involved in research.
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Summary of consistency with CSI RFM Fisheries Standard	The fishery continues to meet the requirements of this Fundamental Clause of the RFM Fisheries Standard.

7 NON-CONFORMANCES

No non-conformances were raised during this surveillance audit.

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9 APPENDICES

Appendix 1: Stakeholder submissions

No stakeholder comments were received during the announced consultation opportunities.



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