Alaska Groundfish Harvest Specifications

Supplementary Information Report

February 2026

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1. Alaska Groundfish Harvest Specifications Background

The groundfish fisheries in Federal waters off the coast of Alaska are managed under the Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands Management Area (BSAI FMP) and the Fishery Management Plan for Groundfish of the Gulf of Alaska (GOA FMP). In the Bering Sea and Aleutian Islands (BSAI) and the Gulf of Alaska (GOA), groundfish harvests are managed subject to annual limits on the amounts of each stock or stock complex that may be taken. The annual limits are referred to as "harvest specifications," and the process of establishing them is referred to as the "harvest specifications process." National Marine Fisheries Service (NMFS) (acting under delegated authority) approves and implements the harvest specifications based on the recommendations of the North Pacific Fishery Management Council (Council) consistent with the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act).

NMFS prepared the 2007 Alaska Groundfish Harvest Specifications Final Environmental Impact Statement, hereafter referred to as the 2007 EIS[1], for the harvest strategy used to set the annual harvest specifications. The 2007 EIS examines alternative harvest strategies for the federally-managed groundfish fisheries in the GOA and the BSAI management areas that comply with Federal regulations, the FMPs, and the Magnuson-Stevens Act. The 2007 EIS provides decision-makers and the public with an evaluation of the environmental, social, and economic effects of alternative harvest strategies. The preferred alternative established a harvest strategy for the BSAI and GOA groundfish fisheries necessary for annual implementation of the harvest specifications, which facilitates the management of the groundfish fisheries and the conservation of marine resources, as required by the Magnuson-Stevens Act and as described in the management policy, goals, and objectives in the FMPs.

Annually, the harvest specifications process uses the best scientific information available when applying the harvest strategy to establish annual harvest specifications. The Council's BSAI and GOA Groundfish Plan Teams review stock assessments and recommend overfishing limits (OFLs) and acceptable biological catch (ABC) for each stock or stock complex (hereafter referred to as "stock") for specified management areas. The Scientific and Statistical Committee (SSC) recommends OFLs and ABCs, which provide the foundation for the Council to recommend and NMFS to establish the total allowable catch (TAC) for each stock. Under the preferred alternative, the harvest strategy is to set TACs that fall within the range of ABCs recommended through the harvest specifications process.

OFLs and ABCs reflect fisheries science, applied within the requirements of the BSAI and GOA FMPs and the Magnuson-Stevens Act National Standard guidelines at 50 CFR 600.310. TACs are established at or below the ABCs; TACs cannot exceed the ABCs recommended by the SSC. The sum of TACs for each area (BSAI or GOA) is constrained by the optimum yield (OY) established for that area, as defined at 50 CFR 679.20(a)(1) and in the BSAI and GOA FMPs. Under the Magnuson-Stevens Act, the OY principle is governed by National Standard 1, which states that, "conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the OY from each fishery for the United States fishing industry."[2] For the BSAI groundfish fisheries, OY is set so the sum of TACs is between 1.4 and 2 million metric tons (mt). OY for the BSAI is often the primary constraint on BSAI TACs because if the sum of TACs was set to ABCs, then the TACs would exceed 2 million mt. For the GOA groundfish fisheries, the OY is set so the sum of TACs is between 116,000 and 800,000 mt. NMFS publishes the annual harvest specifications in the *Federal Register* to provide the public with notice and opportunity for

[1] NOAA Fisheries. Alaska Groundfish Harvest Specifications Environmental Impact Statement (EIS), Errata, and Supplementary Information Reports (all years). Available from: https://www.fisheries.noaa.gov/resource/document/alaska-groundfish-harvest-specifications-environmental-impact-statement-eis

[2] 16 U.S.C. § 1851(a)(1); 50 CFR § 600.310(e)(3)

comments prior to providing notice of the final annual harvest specifications. Annual harvest specifications also announce the prohibited species catch (PSC) limits based on existing regulations and apportion PSC limits consistent with the FMPs and applicable regulations and in consideration of Council recommendations for sector apportionments and seasonal PSC limits.

2. Purpose of this Supplementary Information Report

The National Environmental Policy Act (NEPA) requires the consideration of environmental effects in Federal decision making. NMFS must comply with NEPA before making final decisions about major Federal actions that could have environmental effects.[3] As noted above, NMFS prepared the 2007 EIS to evaluate the environmental effects of alternative harvest strategies for developing the annual groundfish harvest specifications. NMFS selected one of those alternative harvest strategies (the preferred alternative, Alternative 2) for implementation in developing the annual groundfish harvest specifications in NMFS's Record of Decision (ROD).

In selecting Alternative 2, NMFS explained in the ROD that the preferred alternative harvest strategy (1) prevents overfishing because it is consistent with the ABCs for the target species recommended on the basis of the best scientific information; (2) sets TACs that fall within the OY ranges for the BSAI and GOA groundfish fisheries, which are set to reflect ecosystem constraints; (3) works within a broad range of existing and evolving fishery management measures meant to balance harvest for fishing and processing industries and communities with environmental harm and ecosystem impacts, while also facilitating continued harvests of BSAI and GOA groundfish; and (4) allows for management of target species within harvest limits that are based on the best scientific information available, including ecosystem information. The purpose of the harvest strategy is to: (1) provide for orderly and controlled commercial fishing for groundfish; (2) promote sustainable incomes to the fishing, fish processing, and support industries; (3) support sustainable fishing communities; and (4) provide sustainable flows of fish products to consumers.

The 2007 EIS and ROD contemplate that NMFS use the preferred alternative harvest strategy for the development and implementation of the annual groundfish harvest specifications. Before implementing the annual groundfish harvest specifications, NMFS evaluates and determines each year whether a Supplemental EIS (SEIS) is necessary.

This supplementary information report (SIR) evaluates whether NMFS should prepare a SEIS for the 2026 and 2027 groundfish harvest specifications. Generally, an SEIS should be prepared if a major federal action remains to occur, and–

1. the agency makes substantial changes to the proposed activity or decision that are relevant to environmental concerns, or
2. there are substantial new circumstances or information about the significance of adverse effects that bear on the proposed activity, decision, or its effect.[4]

Not every change requires a SEIS; only those changes that cause significantly different effects from those already studied require supplementary consideration.[5] The Supreme Court directs that "an agency need not supplement an EIS every time new information comes to light after the EIS is finalized. To require

[3] 42 U.S.C. § 4332

[4] NOAA Policies and Procedures for Compliance with the National Environmental Policy Act and Related Authorities. Published June 30, 2025. See Section VIII., page 19. Available from: https://www.noaa.gov/sites/default/files/2025-06/2025NOAANEPAProcedures.pdf

[5] See *Davis v. Latschar*, 202 F.3d 359, 369 (D.C. Cir. 2000)

otherwise would render agency decision making intractable."[6] On the other hand, if there remains a major Federal action to occur, and if significant new information or circumstances indicates that the remaining action will affect the quality of the human environment in a significant manner or to a significant extent not already considered, a SEIS must be prepared.[7] The NEPA therefore does not require the agency to take a new look every time it implements a component or step of an action previously-analyzed under NEPA, "so long as the impacts of that step were contemplated and analyzed by the earlier analysis."[8] Ultimately, an agency is required "to take a 'hard look' at the new information to assess whether supplementation might be necessary."[9]

This SIR was prepared in conformance with NEPA, case law, and NOAA's Policy and Procedures for Compliance with NEPA and Related Authorities (Companion Manual for NOAA Administrative Order 216-6A), which provides: "A SIR is not a NEPA document; it is a decision tool that documents a decision maker's evaluation of new information, changed circumstances, or proposed changes to an action and assists a decision maker in determining whether a supplemental NEPA document is necessary."[10]

NMFS utilizes a two-part inquiry in order to assess the need for a SEIS (Figure 2-1). In the first part, NMFS analyzes whether there are substantial changes in the proposed action that are relevant to environmental concerns, or, in other words, NMFS considers whether the harvest strategy process changed in such a way that it is meaningfully different than how the strategy was considered and evaluated in the 2007 EIS. In the second part of the inquiry, NMFS assesses if there are substantial new circumstances or information about the significance of adverse effects that bear on the analysis in the 2007 EIS, or, in other words, NMFS considers whether there is new information that would alter the conclusions on impacts of the implementation of the harvest strategy that were made in the 2007 EIS. Ultimately, NMFS considers whether there is substantial new information that indicates implementation of the harvest specifications will affect the environment in a significant manner or to a significant extent not considered in the 2007 EIS. In making this evaluation, NMFS analyzes available reports and data, as detailed in Section 4.1 Major Reports and Processes that Inform the SIR.

Since the publication of the 2007 EIS, NMFS has evaluated each year, prior to the implementation of the annual groundfish harvest specifications, whether an SEIS is required.[11] To date, NMFS has not concluded a SEIS is necessary. In March 2025, the United States District Court for the District of Alaska affirmed NMFS's conclusion that a SEIS was not required to implement the 2023 and 2025, and the 2024 and 2025, groundfish harvest specifications for the BSAI.[12]

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[6] *Marsh v. Oregon Nat. Res. Council*, 490 U.S. 360, 373 (1989)

[7] See *Marsh v. Oregon Nat. Res. Council*, 490 U.S. 360, 373-74 (1989); see also *Friends of the Clearwater v. Dombeck*, 222 F.3d 552, 557-58 (9th Cir. 2000); *Ass'n of Vill. Council Presidents v. Nat'l Marine Fisheries Serv.*, No. 3:23-CV-00074-SLG, 2025 WL 776638, *12 (D. Alaska Mar. 11, 2025)

[8] *N. Alaska Env't Ctr. v. U.S. Dep't of the Interior*, 983 F.3d 1077, 1091 (9th Cir. 2020) (quoting *Mayo v. Reynolds*, 875 F.3d 11, 14-15 (D.C. Cir. 2017))

[9] *Norton v. S. Utah Wilderness All.*, 542 U.S. 55, 72-73 (2004) (quoting *Marsh v. Oregon Nat. Res. Council*, 490 U.S. 360, 374 (1989)); *Protect Our Communities Found. v. LaCounte*, 939 F.3d 1029, 1040 (9th Cir. 2019) ("We have held that NEPA does not require agencies to prepare an SEIS every time new information comes to light but instead requires agencies to maintain a hard look at the impact of agency action when the new information is sufficient to show that the remaining action will affect the quality of the human environment in a significant manner or to a significant extent not already considered.") (cleaned up)

[10] Companion Manual for NOAA Administrative Order 216-6A, Section VIII., page 19. See *Earth Island Inst. v. United States Forest Serv.*, 87 F.4th 1054, 1069 (9th Cir. 2023) (noting NEPA does not explain how agencies are to evaluate the significance of new information or circumstances, but courts have condoned the use of SIRs for this purpose) (citing *Idaho Sporting Congress, Inc. v. Alexander*, 222 F.3d 562, 566 (9th Cir. 2000)); see also *Marsh v. Oregon Nat. Res. Council*, 490 U.S. 360, 383-85 (1989) (upholding the Army Corps of Engineers' use of SIR to analyze significance of new reports questioning the environmental impact of a dam project)

[11] Alaska Groundfish Harvest Specifications Environmental Impact Statement (EIS), Errata, and Supplementary Information Reports. Available from: https://www.fisheries.noaa.gov/resource/document/alaska-groundfish-harvest-specifications-environmental-impact-statement-eis. Each year's annual SIRs are available from this source.

[12] *Ass'n of Vill. Council Presidents v. Nat'l Marine Fisheries Serv.*, No. 3:23-CV-00074-SLG, 2025 WL 776638, *15 (D. Alaska Mar. 11, 2025) ("NMFS concluded, based on its reasoned evaluation of the new information regarding changes in the Bering Sea and

The following sections discuss each of the considerations for evaluating the need for a SEIS: changes to the harvest specifications process (Section 3) and new information and new circumstances (Section 4).

Aleutian Islands region, that the harvest specifications would not result in significant impacts to the human environment that were not considered in the 2007 Harvest Specifications EIS, such that a supplemental EIS was not required.")

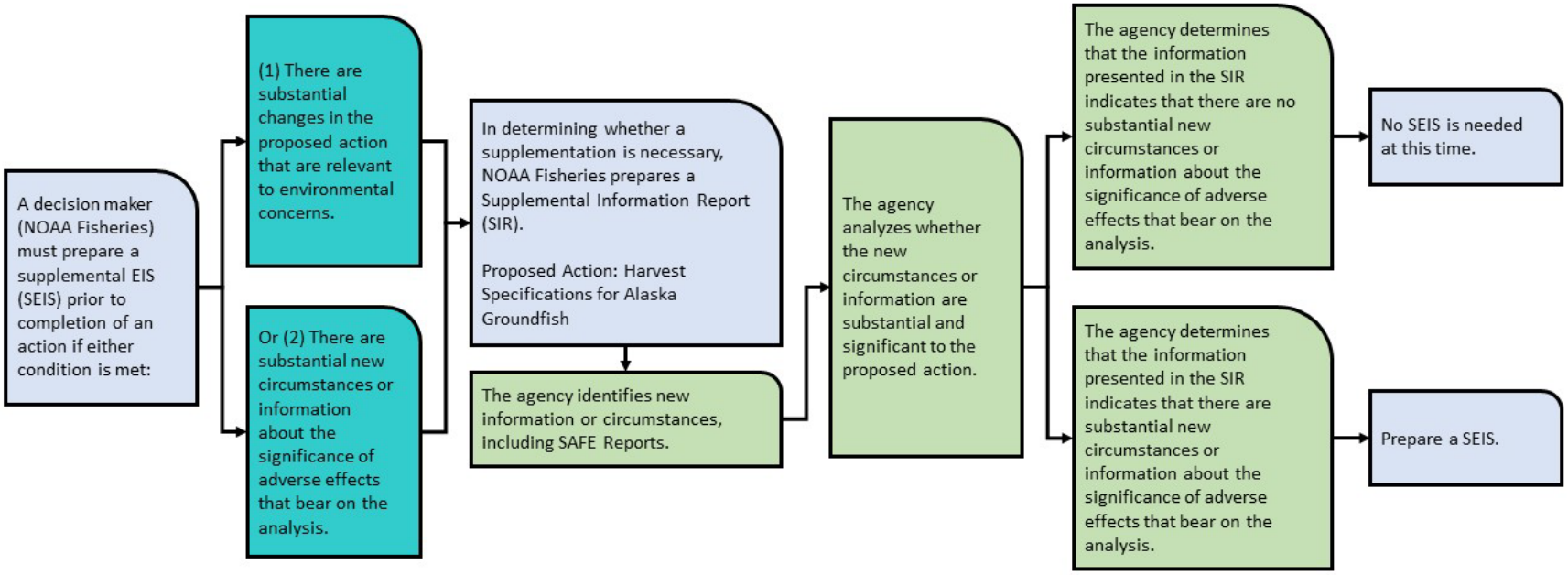

Figure 2-1. Flow chart demonstrating the general process used to assess the need for a supplemental environmental impact statement.

3. Harvest Strategy Process

The first part of the inquiry to determine whether an SEIS is required is to consider whether there are substantial changes in the proposed action that are relevant to environmental concerns (Figure 2-1).

This action is the annual implementation of the preferred alternative harvest strategy as analyzed in the 2007 EIS. The 2007 EIS provides for the annual determination of the harvest specifications based on information developed through the harvest specifications process. The preferred alternative harvest strategy for the federally-managed groundfish fisheries in the GOA and the BSAI management areas is designed to comply with the Magnuson-Stevens Act as implemented through the National Standard 1 guidelines in Federal regulations at 50 CFR 600.310 and the tier system and process in the FMPs.

3.1. *Overview of Harvest Specification Process*

3.1.1. The Tier System and Process in the FMPs

The FMPs for the BSAI and GOA set forth a tier system for the calculation of status determination criteria, which are the measurable and objective factors that are used to determine if overfishing has occurred or if the stock is overfished. The OFL is a status determination criterion, and the OFL and ABC are reference points. To calculate OFL, the OFL control rule applies, which is prescribed through a set of six tiers corresponding to the level of reliable information available for the stock assessment. To calculate the ABC, the ABC control rule applies.

To calculate OFL, first, the control rule is structured explicitly in terms of the type of information available, which is related qualitatively to the amount of scientific uncertainty. Second, the size of the buffer between the maximum permissible ABC fishing mortality rate (max F_{ABC}) in Tier 1 of the ABC control rule and the maximum allowable instantaneous rate at which fish may be removed by fishing (F_{OFL}) in Tier 1 of the OFL control rule varies directly with the amount of scientific uncertainty. For the information levels associated with the remaining tiers, relating the buffer between max F_{ABC} and F_{OFL} to the amount of scientific uncertainty is more difficult because the amount of scientific uncertainty is harder to quantify, so buffers of fixed size are used instead.

Specification of ABC is similar to specification of OFL, in that both use harvest control rules with six tiers relating to various levels of information availability. However, the ABC control rule prescribes an upper bound and ABC may be reduced, based on the following process:

- Determine the appropriate tier (this is usually the same tier used to specify OFL).
- Determine the maximum permissible ABC fishing mortality rate from the appropriate tier of the ABC control rule.
- Determine whether conditions exist that warrant setting ABC at a value lower than the maximum permissible value (such conditions may include—but are not limited to—data uncertainty, recruitment variability, and declining population trend) and, if so:
    - document those conditions,
    - recommend an ABC lower than the maximum permissible value, and
    - explain why the recommended value is appropriate.

These steps are undertaken first by the stock assessment authors in the individual chapters of the SAFE report. The Plan Teams then review the SAFE report and make their own recommendations. The SSC then reviews the SAFE report and Plan Teams' recommendations including risk tables (see Section 3.2),

and makes OFL and ABC recommendations to the Council.[13] The Council then reviews the SAFE report, Plan Team recommendation, and SSC recommendation and makes TAC recommendations to NMFS, with the constraint that the Council's recommended TACs cannot exceed the ABCs.

The Magnuson-Stevens Act directs that the Council's recommended annual catch limits (ACL) cannot "exceed the fishing level recommendations of its [SSC]" (16 U.S.C. 1852(h)(6)). NMFS has interpreted "fishing level recommendation" to be the ABC recommendation from the SSC (50 CFR 600.310(b)(2)(v)(D)). This ensures that the ACL does not exceed the ABC specified by the SSC. Under the FMPs, the ACL is equal to the ABC for each stock.

Finally, the specifications include the TACs (which are the annual catch targets described at 50 CFR 600.310). As defined in the FMPs and consistent with National Standard 1 regulations, the TAC is the annual catch target for a stock, derived from the ABC by considering social and economic factors and management uncertainty (*i.e.*, uncertainty in the ability of managers to constrain catch so the ACL is not exceeded, and uncertainty in quantifying the true catch amount) (50 CFR 600.310(f) and (g)(4)). The FMP further provides that TAC may be lower than the ABC if warranted on the basis of bycatch considerations, management uncertainty, or socioeconomic considerations, or if required in order to cause the sum of the TACs to fall within the OY range. Regulations at 50 CFR 679.20(a)(3) also provide that the annual determinations for TACs may be adjusted based on the biological condition of groundfish stocks and specific socio-economic considerations. Consistent with National Standard 1 guidelines in Federal regulations at 50 CFR 600.310 and the FMPs, the TAC cannot exceed ABC and ABC cannot exceed the OFL (50 CFR 600.310(f)(3), (f)(4), and (g)(4)).

3.1.2. The Annual Implementation of the Harvest Strategy Under the FMPs

The 2007 EIS stated that the preferred alternative harvest strategy would be used in subsequent years for the development and implementation of the annual groundfish harvest specifications for the BSAI and GOA consistent with the FMPs. As outlined in the ROD for the 2007 EIS, this strategy is to set TACs that fall within the range of ABCs recommended through the harvest specifications process. The annual process generally is as follows:

- **Winter/spring/summer:** Alaska Fisheries Science Center (AFSC) conducts surveys and research that provide data to be used for that same year's assessment cycle. This includes fisheries and ecosystem research. See Section 3.2.1.1 Research and Modeling.
- **Summer/fall:** Stock assessments authors work on updated assessments and integrate new information as it becomes available.
- **September:** Plan Teams meet and review (1) survey results and updated ecosystem information, if available; (2) any operational full assessments for stocks slated for such an assessment that year; and (3) harvest projections for stocks slated for such an update that year. Plan Teams provide recommended proposed OFLs and ABCs, and these are based on the previous years' stock assessments since the current year's stock assessments are still being prepared.
- **October:** The SSC meets and reviews, similar to the Plan Teams, the following: (1) survey results and updated ecosystem information, if available; (2) the operational full assessments for stocks slated for such an assessment that year; and (3) the harvest projections for stocks slated for such an update that year. Note that stocks subject to harvest projections are only reviewed during the September/October cycle. The SSC provides recommended proposed OFLs and ABCs, and these are based on the previous years' stock assessments since the current year's stock

[13] Dorn, M. W., and S. G. Zador, S. G. 2020. A risk table to address concerns external to stock assessments when developing fisheries harvest recommendations. Ecosystem Health and Sustainability 6(1): 1813634. https://apps-afsc.fisheries.noaa.gov/Plan_Team/2023_ESR_CIE/Dorn%20and%20Zador%202020.pdf

assessments are still being prepared. The Advisory Panel (AP) meets and provides recommended proposed TACs; and the Council meets and provides recommended proposed TACs.

- **October - December:** NMFS reviews the Council's recommendations and publishes proposed rules inviting public comment on the proposed harvest specifications, consistent with the Magnuson-Stevens Act and other applicable law.
- **November:** Plan Teams meet again and review (1) any updated or now-available survey results and ecosystem information; (2) the operational full assessments for stocks slated for such an assessment that year (this type of an assessment is generally reviewed twice, while the remainder are generally only reviewed once); (3) review any operational update assessments for stocks slated for such an assessment that year; and (4) review catch reports for stocks slated for such reports that year. The Plan Team compiles each assessment, projection, or report for each stock (operational full assessments, operational update assessments, and catch reports, as well as harvest projections from the September/October meetings) into the SAFE report, which is a public document that provides NMFS and the Council with a summary of scientific information concerning the most recent biological condition of stocks and marine ecosystems and is updated or supplemented when new information is available. The Plan Team recommends final OFLs and ABCs based on these updated stock assessments in the new SAFE report.
- **December:** SSC meets again to review the stock assessments and catch reports the Plan Teams reviewed in November (this often entails a second review of operational full assessments, a first review of operational update assessments, and a first review of catch reports, with harvest projections having already been reviewed in October). The SSC reviews the new SAFE report, which includes other updated components like the ESPs and ESRs. The SSC then provides final OFLs and ABCs. The AP meets and provides recommended final TACs to the Council. The Council meets and provides recommended final TACs.
- **December - February/March:** NMFS reviews the Council's recommendations and public comment and publishes final rules implementing the final harvest specifications, consistent with the Magnuson-Stevens Act and other applicable law.

In September 2025, the Groundfish Plan Teams met and recommended proposed harvest specifications for 2026 and 2027 based on the 2024 stock assessments. In October 2025, the SSC reviewed these recommendations and all relevant data and made recommendations on proposed OFLs and ABCs to the Council. After review of all the information provided, the Council made recommendations on the proposed 2026 and 2027 OFLs, ABCs, and TACs in October 2025.

Due to a lapse in federal appropriations and subsequent government shutdown from October 1, 2025 through November 12, 2025, AFSC was unable to prepare the stock assessments scheduled for updates in 2025[14] and the November Groundfish Plan Team meetings were canceled. At the December Council

[14] For the BSAI, of the 23 assessed stocks, 7 stocks were scheduled for an updated stock assessment (an operational assessment) in 2025 (with the remainder either scheduled for a harvest projection (10) or a catch report (6)). For the GOA, of the 20 assessed stocks, 13 stocks were scheduled for an updated stock assessment (an operational assessment) in 2025 (with the remainder either scheduled for a harvest projection (4) or a catch report (3)). More information on the types of assessment products produced by the AFSC is provided in Section 3.2.5 of this report. The AFSC's stock assessment frequency schedule for groundfish stocks is available in the SAFE Introductions for the BSAI and GOA. In light of the disruptions to this schedule from the lapse in appropriations and government shutdown last fall, the AFSC is considering how to prioritize stock assessments for the 2026 groundfish assessment cycle. More information on current efforts is available here: https://meetings.npfmc.org/CommentReview/DownloadFile?p=ff7dee7e-242d-42e7-85c7-2479d7eeac96.pdf&fileName=D2%20Groundfish%20Stock%20Assessment%20Priorities.pdf. In the BSAI, 5 stocks are subject to an updated stock assessment (an operational assessment) annually, 12 stocks every 2 years, and 6 stocks every 4 years. In the GOA, 3 stocks are subject to an updated stock assessment (an operational assessment) annually, 9 stocks every 2 years, and 8 stocks every 8 years. Note that one of the stocks assessed annually for both BSAI and GOA is sablefish, which is managed as an Alaska-wide stock. For reference on how other Regions schedule assessment frequency, see, *e.g.*, https://www.fisheries.noaa.gov/pacific-islands/population-assessments/western-pacific-stock-assessment-review-schedule.

meeting, the SSC used the best scientific information available to make recommendations on final 2026 and 2027 OFLs and ABCs. This information included the 2024 stock assessments (which already included projected OFLs and ABCs for 2026), Groundfish Plan Team recommendations from its 2024 meetings and September 2025 meetings, and risk tables. Additional information was also provided or prepared to inform the final harvest specifications and this included:[15]

- GOA and BSAI catch reports for each stock, which include recent catch data and TACs for each stock compared to ABCs/OFLs (except GOA deep-water flatfish, for which a harvest projection was completed, more information provided below).
- GOA and BSAI summary tables of groundfish stock information. These summaries included: the tier of each stock, the type of assessment product previously expected for each stock in 2025 (*e.g.,* operational assessment, harvest projection, catch report), the frequency of each assessment (number of years between each operational assessment), links to the most recent operational assessment and any additional documents of relevance (*e.g.,* 2024 harvest projections, ESPs), the expected date of the next operational assessment, whether the 2025/2026 ABC was set at maxABC, survey trends relative to prior survey if available, and whether the stock biomass was below $B_{35\%}$. For stocks for which assessments had been planned in 2025, tables with additional metrics were also provided.
- Limited 2025 AFSC survey information, as available at the September Plan Team and October SSC meetings: GOA bottom trawl survey biomass and abundance estimates and Eastern Bering Sea (EBS) Bottom Trawl survey and abundance estimates. Some of this information was presented in the October Plan Team presentation to the SSC (GOA slides 5-7, EBS slide 56), and also trends in relative population numbers (RPN) from the GOA longline survey (slide 25).[16]
- A prior SSC presentation on survey modernization, including a spreadsheet identifying a summary of surveys used in each assessment, the proportion of TAC:ABC in 2023 and 2024, and which stocks had elevated risk table scores in 2023 or 2024 and for which categories.
- ESR preview presented to SSC in October (and longer version prepared for September Groundfish Plan Teams), which provides highlights for GOA, AI, and EBS (slides 1-12),[17] and the October Plan Teams presentation provided summaries from the BS and GOA Ecosystem Surveys (slides 21-24).
- For halibut and salmon PSC limits in the BSAI, the 2025 AFSC EBS shelf trawl survey index, the International Pacific Halibut Commission (IPHC) setline survey index, and the 2025 State of Alaska (State) 3–System Index for western Alaska.

In preparing its recommendations for final 2026 and 2027 OFLs and ABCs, the SSC recognized that the lack of new assessments in 2025 due to the government shutdown increases uncertainty and elevates risk for all stocks without a 2025 update. In implementing what the SSC called a "structured process" for developing its OFL and ABC recommendations in light of this increased uncertainty and risk, the SSC used as a starting point the proposed OFLs and ABCs for 2026 that were recommended by the SSC in October 2025; these are the final OFLs and ABCs for 2026 that were reviewed in the 2024 cycle and are based on the 2024 SAFE report. Under the SSC's framework, the SSC then evaluated whether any stocks should be considered for potential changes to those proposed specifications and whether individual stocks

[15] Groundfish Final Harvest Specifications Process in December 2025. Available from: https://meetings.npfmc.org/CommentReview/DownloadFile?p=97bc8f04-91c7-41fd-9537-4bd7d4298a60.pdf&fileName=C4C5%20Groundfish%20Specs%20Process%20Dec%202025.pdf

[16] Joint Groundfish September Plan Team Report. Available from https://meetings.npfmc.org/CommentReview/DownloadFile?p=2068d667-42e7-4e97-8d72-cf5ccec05ec9.pdf&fileName=PPT%20C5%20Joint-GOA-BSAI%20slides%20incl%20highgraded%20topics.pdf

[17] Ecosystem Status Report to the SSC. Available from https://meetings.npfmc.org/CommentReview/DownloadFile?p=20bd1f59-e63e-4445-a329-8b2e2cba80da.pdf&fileName=PPT%20C3%20ESR.pdf

warranted consideration of additional conservation. The SSC explained that "the framework established criteria for considering whether the [proposed] specifications, which were based on the most recent fully peer reviewed SAFE reports, remain the best available scientific advice." The SSC's stock-specific deliberations focused on whether additional uncertainty and risk were sufficient to warrant reductions in ABC (which, as explained above, influences TAC as TAC cannot exceed ABC). SSC discussions highlighted the need to explicitly consider the increase in uncertainty as stock trends and reference points are projected forward over multiple years, but noted that an approach for quantifying increased uncertainty could not be developed in the current timeframe. Ultimately, SSC used the established qualitative risk table framework for consistency across years in order to inform whether reductions in ABC were warranted on the basis of the best information available during this year's specifications process. The SSC also explained that the specifications process is based on the tier system, precautionary harvest control rules, and assessment frequencies that reflect different life history dynamics and are periodically reviewed and adjusted. The SSC recognized the potential for increased uncertainty and risk in developing the 2026 and 2027 OFLs and ABCs; any additional uncertainty and risk was expressly assessed by the SSC for each stock through the evaluation of the risk tables, which are an established method for assessing additional scientific information and uncertainty that are not captured in the modeling for calculating ABC.[18] The Council then reviewed the available information and recommendations from the SSC and recommended final 2026 and 2027 TACs, as well as sector apportionments and seasonal PSC limits.

While AFSC made the determination that it would not be able to update stock assessments and ESRs for 2025 following the lapse in federal appropriations and subsequent government shutdown, the Council requested that AFSC consider updating one stock assessment: the Gulf of Alaska Pacific cod assessment. The AFSC determined that it could update the stock assessment, including an abbreviated GOA ESR and ESP specific to Pacific cod. The AFSC stock assessment author proceeded to finalize the 2025 stock assessment for that stock, and staff with AFSC also updated the GOA ESR and Pacific cod ESP. The 2025 GOA ESR update focused on environmental conditions and inputs for the updated Pacific cod stock assessment.

In January 2026 the GOA Groundfish Plan Team reviewed the 2025 GOA Pacific cod stock assessment, which included GOA survey data from 2025 and recommended a new final 2026 and 2027 OFL and ABC for Pacific cod. At that same meeting, the GOA Groundfish Plan Team also heard a presentation on an updated 2025 GOA ESR and ESP, which focused on relevant ecosystem indicators informative for GOA Pacific cod. After reviewing these recommendations, the updated 2025 GOA Pacific cod stock assessment and ESP, the updated GOA Pacific GOA ESR, and other relevant information in February, including the GOA Pacific cod risk table, the SSC made final 2026 and 2027 OFL and ABC recommendations to the Council on GOA Pacific cod. The Council then reviewed this information and recommended final 2026 and 2027 TACs for GOA Pacific cod at its February meeting.

The 2026 and 2027 harvest specifications are consistent with the preferred alternative harvest strategy analyzed in the 2007 EIS because they were developed through the harvest specifications process that includes review by the Groundfish Plan Teams (BSAI and GOA), SSC, AP, and Council and they are based on the best scientific information available.[19]

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[18] SSC. December 2025. Report to the NPFMC for the December 2025 Meeting. Available from: https://meetings.npfmc.org/CommentReview/DownloadFile?p=74322a78-4de1-451c-a10f-13b11286f8b9.pdf&fileName=Draft%20SSC%20Report%20Dec%202025.pdf

[19] SSC. February 2026. Report to the NPFMC for the February 2026 Meeting. Available from:https://meetings.npfmc.org/CommentReview/DownloadFile?p=251f6996-68eb-48a3-9d10-684300d51d44.pdf&fileName=SSC%20Report%20Feb%202026.pdf
SSC. December 2025. Report to the NPFMC for the December 2025 Meeting. Available from: *https://meetings.npfmc.org/CommentReview/DownloadFile?p=74322a78-4de1-451c-a10f-13b11286f8b9.pdf&fileName=Draft%20SSC%20Report%20Dec%202025.pdf*

The 2026 and 2027 OFLs and ABCs are unchanged from the 2026 OFLs and ABCs, with two exceptions described below. These 2026 OFLs and ABCs were reviewed by the Plan Teams in 2024, the SSC in 2024, and then reviewed again by the Plan Teams in October 2025 and the SSC in October 2025 and December 2025. As a result, NMFS is implementing OFLs and ABCs that have been reviewed through the harvest specifications process. Indeed, the only change was the cancellation of the November 2025 Plan Team meeting, during which the Plan Team normally would have reviewed the operational full assessments, operational update assessments, and catch reports. This review was not necessary since those assessments were not completed, and there were no new OFL or ABC amounts to review (apart from the exceptions discussed next). Apart from the two exceptions (below), the 2026 and 2027 harvest specifications are based on final stock assessments that underwent the full review by the Plans Teams and SSC in 2024, consistent with the harvest specifications process and the stock assessment prioritization schedule. This means that the scientific information on which the 2026 and 2027 harvest specifications are based was subject to complete review by all relevant bodies (Plan Teams and SSC).

The two exceptions are stocks that do have updated OFLs and ABCs: GOA Pacific cod and GOA deep-water flatfish. For GOA Pacific cod, the specifications are based on a stock assessment that was updated in 2025-2026 and that underwent full review by the GOA Plan Team and SSC. This is the one stock for which the Council requested that AFSC consider preparing a new stock assessment this cycle. The AFSC agreed, and the stock assessment author completed an updated assessment after the December 2025 meeting. GOA Pacific cod is also informed by an updated ESP and an updated 2025 GOA ESR. The GOA Plan Team and SSC reviewed the updated assessment (and related information like the updated ESP and ESR) and recommendations for OFL and ABC. As a result, the final specifications have been reviewed through the harvest specifications process, which includes the additional Plan Team and SSC meetings in January and February 2026, respectively, and the updated stock assessment is the best available scientific information for the stock.

GOA deep-water flatfish were slated for a harvest projection in 2025, which means that the harvest projection was completed and then reviewed by the GOA Plan Team in September 2025 and the SSC in October 2025, consistent with the schedule for reviewing harvest projections. The final specifications for that stock complex are based on that updated harvest projection. As a result, the 2026 and 2027 OFLs and ABCs for deep-water flatfish are based on Plan Team and SSC review in September 2025 and October 2025, and the final 2026 OFLs and ABCs have been revised slightly based on the updated harvest projections assessment. The harvest projection is the best available scientific information for that stock complex.

In sum, although AFSC was not able to complete an update of all stock assessments in 2025, as it would have normally absent the government shutdown and as planned under the stock assessment prioritization schedule, the 2026 and 2027 harvest specifications are based on the best scientific information available.

Finally, the final 2026 and 2027 TACs are within the range of the final ABCs recommended by the SSC and the TACs recommended by the Council: The TACs do not exceed the ABC for any stock, the recommended ABC does not exceed the recommended OFL for any stock, and the sum of all TACs are also within the OY ranges established for the BSAI and the GOA.

The proposed 2026 and 2027 harvest specifications for the BSAI and GOA were published in the *Federal Register* on December 16, 2025 (90 FR 58204, 90 FR 58185). The Council took final action to recommend final harvest specifications at its December 2025 meeting. NMFS reviews the Council's recommendations and will publish a final rule implementing the harvest specifications if consistent with the Magnuson-Stevens Act and other applicable law. If NMFS does proceed with the final rules, NMFS plans to publish the *Federal Register* notices implementing the final harvest specifications for 2026 and 2027 by March 2026.

NMFS continues to use the preferred alternative analyzed in the 2007 EIS and selected in the ROD for the development and implementation of the groundfish harvest specifications, that is, to set TACs that fall

within the range of ABCs recommended through the harvest specifications process and TACs recommended by the Council. Even though the November 2025 Plan Team was cancelled and AFSC did not complete stock assessments scheduled for updates in 2025, the harvest specifications are based on the best scientific information available that was subject to review by the Plan Teams and SSC, and the OFLs and ABCs were likewise subject to review by the Plan Teams and SSC. As detailed above, even if all stocks assessments and ESRs were not fully updated this year, there was also a wealth of information available to inform the 2026 and 2027 harvest specifications. The 2026 and 2027 harvest specifications therefore do not constitute a substantial change in the proposed action analyzed in the 2007 EIS. The harvest specification process and the environmental consequences of the selected harvest strategy are fully described in the 2007 EIS.

3.1.3. Recent Council Actions or Changes in Management Relevant to Harvest Specifications (2021-present)

For purposes of evaluating whether there has been a substantial change to the proposed action, NMFS has looked at recent FMP amendments and regulatory changes or other actions (recent meaning within the past 5 years). This is likely over-inclusive since NMFS has considered management changes each year in the annual SIRs. Since 2021, NMFS has implemented a number of FMP amendments and regulatory changes or other actions to improve fisheries management in the Exclusive Economic Zone (EEZ) off the coast of Alaska. Assessment of actions from 2007 to 2021 is provided in previous SIRs.[20]

While all of these actions, except one, were unrelated to the annual harvest specifications, these actions do impact resources components identified in the 2007 EIS. Actions that are summarized in this section that also impact resources components are described in more detail in Section 4.2.

For these actions, NMFS reviewed and confirmed that they did not substantially change the proposed action (the preferred alternative harvest strategy). These actions are briefly described below. The remaining action changed the definitions of two rockfish stock complexes in the Gulf of Alaska, but, after carefully reviewing this action, NMFS confirmed that redefining these two rockfish stock complexes did not substantially change the proposed action because NMFS continues to follow the preferred alternative harvest strategy to set specifications for those revised stock complexes. In other words, changing the rockfish stock complexes (as described below) does not change how NMFS sets the annual specifications for those stock complexes. Temporary emergency actions that are no longer in effect have not been included in this list; Amendments to revise essential fish habitat (EFH) definitions are included as they are used to inform management decisions that may impact habitat.

Alaska-Wide

On July 29, 2024, NMFS published a final rule to implement **Amendment 126** to the BSAI FMP and **Amendment 114** to the GOA FMP to expand electronic monitoring (EM) to the pollock fisheries (89 FR 60796). This rule implements an EM program for pelagic trawl pollock CVs and tender vessels delivering to shoreside processors and stationary floating processors in the BSAI and GOA. **As described in the EA/RIR and FONSI, the action would not result in significant impacts on the human environment.**[21]

On July 19, 2024, NMFS published a final rule implementing **Amendment 127** to the BSAI FMP and **Amendment 115** to the GOA FMP to update the text descriptions and species distribution models and maps of EFH, and update information on adverse effects on EFH from fishing and non-fishing activities

[20] SIRs from 2008-2025. Available from NOAA Fisheries at: https://www.fisheries.noaa.gov/resource/document/alaska-groundfish-harvest-specifications-environmental-impact-statement-eis

[21] EA/RIR for Amendment 126 to the GOA FMP and Amendment 114 to the BSAI FMP published March 28, 2024 and Finding of No Significant Impact dated April 15, 2024. Available from NOAA Fisheries at: https://www.fisheries.noaa.gov/action/amendment-126-fmp-groundfish-bering-sea-and-aleutian-islands-management-area-and-amendment

based on the best scientific information available (89 FR 58632). **As described in the EA and FONSI, this action would not result in significant impacts to the human environment.**[22]

On February 27, 2023, NMFS published a final rule to implement **Amendment 124** to the BSAI FMP and **Amendment 112** to the GOA FMP to amend regulations for the IFQ and CDQ programs for pot gear configurations, gear tending and retrieval requirements, pot limits, and associated record-keeping and reporting requirements (88 FR 12259). **As described in the EA/RIR and FONSI, the action would not result in significant impacts on the human environment.**[23]

In August 2021, the Center for Biological Diversity **petitioned NMFS to list the sunflower sea star** (*Pycnopodia helianthoides*) **as a threatened or endangered species under the ESA** and to designate critical habitat concurrent with the listing. NMFS announced a 90-day finding on the petition, finding the petition presented substantial scientific information indicating listing may be warranted, and initiated a status review to determine whether a listing under the ESA is warranted (86 FR 73230, December 27, 2021). On March 16, 2023, NMFS published a proposed rule (88 FR 16212) to list the sunflower sea star as a threatened species under the ESA and solicited public comment to inform the final listing determination as well as the development of future potential protective regulations and future critical habitat designation. NMFS did not propose to designate critical habitat in the proposed rule because it is not currently determinable. As a proposed species for listing, sunflower sea stars were included in the analysis for the 2024 ESA Section 7 Biological Opinion (Opinion) on the GOA groundfish fisheries through a conference opinion.[24]

Bering Sea and Aleutian Islands

On March 27, 2025, NMFS published a final rule to **authorize the use of longline pot gear by hook-and-line catcher/processor (CP) vessels in the directed fishery for Greenland turbot in the Bering Sea subarea of the BSAI management area** (90 FR 13842). The final rule amended regulations by: 1) allowing for hook-and-line CP vessels to use longline pot gear for the directed fishery for Greenland turbot in the Bering Sea subarea including associated gear marking and gear configuration requirements; 2) adding the directed fishery for Greenland turbot in the Bering Sea subarea to the collapsible pot exception; 3) adding an exception to the 9 inch maximum pot tunnel opening restriction for longline pot gear when fishing for Greenland turbot; and 4) clarifying maximum retainable amounts (MRAs) for longline pot gear with the authorization of this gear type for the directed fishery for Greenland turbot in the Bering Sea subarea. **As described in the EA and FONSI, this action would not result in significant impacts to the human environment.**[25]

On November 24, 2023, NMFS published a final rule to implement **Amendment 123** to the BSAI FMP (88 FR 82740), which establishes abundance-based management of the Amendment 80 Program PSC limit for Pacific halibut. This final rule replaced the previous Amendment 80 sector static halibut PSC limit (1,745 mt) with a process for annually setting the Amendment 80 sector halibut PSC limit based on the most recent halibut abundance estimates from the IPHC setline survey index and the NMFS AFSC EBS shelf trawl survey index. The annual process uses a table with pre-established halibut abundance

[22] EA for FMP Amendment 115 to the GOA FMP, Amendment 127 to the BSAI FMP, Amendment 56 to the Crab FMP, Amendment 17 to the Salmon FMP and Amendment 3 to the Arctic FMP published July 19, 2024 and Finding of No Significant Impacts dated July 10, 2024. Available from NOAA Fisheries at: https://www.fisheries.noaa.gov/action/fisheries-exclusive-economic-zone-alaska-essential-fish-habitat-amendments

[23] EA/RIR for Amendment 112 to the GOA FMP and Amendment 124 to the BSAI FMP published January 2023 and Finding of No Significant Impact dated January 24, 2023. Available from NOAA Fisheries at: https://www.fisheries.noaa.gov/action/amendment-124-fmp-groundfish-bering-sea-and-aleutian-islands-and-amendment-112-fmp

[24] ESA Section 7(a)(2) Biological and Section 7(a)(4) Conference Opinion Fishery Management Plan for the Groundfish Fisheries of the Gulf of Alaska. Available from: https://repository.library.noaa.gov/view/noaa/66786

[25] EA/RIR for Proposed Regulatory Amendment to allow longline pot gear in the Bering Sea Greenland turbot fishery published December 23, 2024 and Finding of No Significant Impact dated December 30, 2024. Available from NOAA Fisheries at: https://www.fisheries.noaa.gov/action/fisheries-exclusive-economic-zone-alaska-authorizing-hook-and-line-catcher-processors-use

ranges based on those surveys (Table 58 to 50 CFR part 679). The annual Amendment 80 sector halibut PSC limit is set annually at the value found at the intercept of the results from the most recent survey indices. NMFS prepared an EIS that analyzed a range of alternatives for proposed management measures to link the Amendment 80 commercial groundfish trawl fleet's Pacific halibut PSC limit in the BSAI groundfish fisheries to halibut abundance. **The EIS and ROD found that the preferred alternative implemented through Amendment 123 provides reasonable and practical means to avoid, minimize, or compensate for environmental harm from this action.**[26]

On November 9, 2023, NMFS published a final rule to revise the monitoring requirements for pot gear CPs participating in BSAI groundfish fisheries (88 FR 77228). This action improved observer data collection by requiring participating CPs to carry a Level 2 observer and comply with pre-cruise meeting notifications by requiring certification and testing standards for participants choosing any of the following voluntary monitoring options: providing observer sampling stations, installing motion-compensated platform and flow scales, and carrying additional observers on the vessel. **As described in the CE, this action was categorically excluded from further NEPA review.**[27]

On August 8, 2023, NMFS published a final rule to implement **Amendment 122** to the BSAI FMP (88 FR 53704, and 88 FR 57009, August 22, 2023). Amendment 122 and the final rule established the Pacific Cod Trawl Cooperative (PCTC) Program. Cooperatives are allocated the BSAI trawl catcher vessel (CV) sector's A and B seasons Pacific cod allocation as an exclusive harvest privilege in the form of cooperative quota (CQ), equivalent to the aggregate QS of all cooperative members. This action also reduced the halibut and crab PSC limits for the BSAI trawl CV Pacific cod fishery, modified the American Fisheries Act (AFA) CV sideboard limit for Pacific cod to apply in the C season only, and removed the halibut PSC sideboard limit for AFA trawl CVs. **As described in the EA and FONSI, this action would not result in significant impacts to the human environment.**[28]

Gulf of Alaska

At the September 2023 Plan Team meeting, the GOA Groundfish Plan Team recommended separating seven species of demersal shelf rockfish (DSR) from the Other Rockfish Species complex into a GOA-wide assessment.[29] The SSC and the Council agreed with this recommendation. Beginning with the 2024 GOA harvest specifications, the changes resulted in the Other Rockfish Complex with one GOA-wide OFL and ABC, with two sub-area apportionments of ABCs for Western/Central/West Yakutat (W/C/WYK) and Southeast Outside (SEO). This also resulted in two stock complexes for DSR with separate OFLs and ABCs for the W/C/WYK and SEO, respectively.

On August 16, 2023, NMFS published a final rule implementing **Amendment 113** to the GOA FMP (80 FR 66633). Amendment 113 and the final rule modified specific provisions of the Central GOA Rockfish Program to change the season start date from May 1 to April 1, remove the catcher vessel cooperative quota cap, and revise the processing and harvesting caps. This rule is intended to increase flexibility and efficiency and to help ensure the rockfish TAC is fully harvested and landed in Kodiak while maintaining

[26] Final Environmental Impact Statement for the BSAI Halibut Abundance-Based Management (ABM) of Amendment 80 Prohibited Species Catch (PSC) Limit published December 2022. Available from NOAA Fisheries at https://repository.library.noaa.gov/view/noaa/47919. Record of Decision dated March 1, 2023. Available from NOAA Fisheries at https://www.fisheries.noaa.gov/s3/2023-03/amd-123-halibut-abm-rod.pdf

[27] Categorical Exclusion for the regulatory action to revise the monitoring requirements for pot gear CPs participating in BSAI groundfish fisheries dated October 13, 2023. Available from NOAA Fisheries at: https://www.fisheries.noaa.gov/action/monitoring-requirements-pot-catcher-processors-participating-bering-sea-aleutian-islands

[28] EA//RIR for Amendment 122 to the BSAI FMP published January 2023 and Finding of No Significant Impact dated AMarch 17, 2023. Available from NOAA Fisheries at https://www.fisheries.noaa.gov/action/amendment-122-fishery-management-plan-groundfish-bering-sea-and-aleutian-islands-management

[29] Gulf of Alaska Demersal Shelf Rockfish Spatial Management Report under agenda item C3 from the October 2023 Council meeting. Available from: https://meetings.npfmc.org/CommentReview/DownloadFile?p=dd60bd2e-974d-4797-89ad-3eebd90136ef.pdf&fileName=C3%20GOA%20DSR%20Other%20Rockfish%20Spatial%20Management.pdf

the intent of the Rockfish Program. **As described in the EA and FONSI, this action would not result in significant impacts to the human environment.**[30]

Summary

Since 2007, NMFS has made some changes that could be relevant to the harvest specifications. NMFS has continually reviewed those changes in the annual SIRs. NMFS concludes, based on this review, that none of these changes, individually or cumulatively since 2007, represent a substantial change in the proposed action relevant to environmental concerns as analyzed in the 2007 EIS.

3.2. *Processes and Reports that Overlap, Support, or Inform Specifications Process*

3.2.1. Fisheries Data

Fisheries data, compiled from research, modeling, fisheries-independent surveys, and fisheries-dependent catch observations and associated records, are the first step in the groundfish harvest specifications process (Figure 3-1). Below we summarize each fisheries data component and highlight any new information.

[30] EA/RIR for Amendment 113 to the GOA FMP to modify the Central GOA Rockfish Program published May 28, 2024 and Finding of No Significant Impact dated June 21, 2024. Available from https://www.fisheries.noaa.gov/action/amendment-113-fmp-groundfish-gulf-alaska-central-gulf-alaska-rockfish-program-adjustments

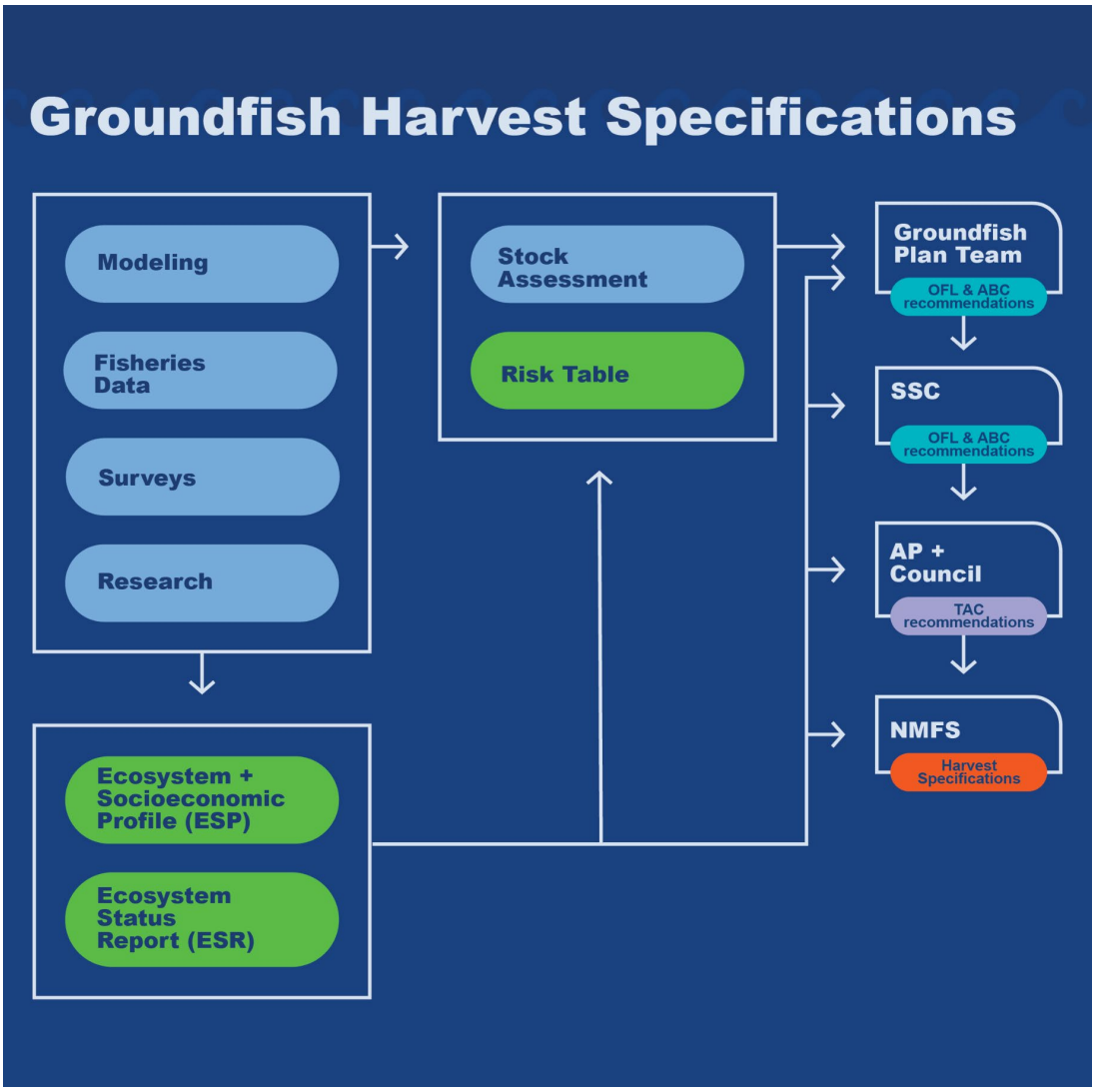

Figure 3-1. Flow chart demonstrating the information and process used to inform the groundfish harvest specifications process.

3.2.1.1. Research and Modeling

The AFSC has several divisions devoted to collecting fisheries-dependent and fisheries-independent data and performing research to fill in knowledge gaps on population dynamics that are not observed. The five primary divisions are:

- **Auke Bay Laboratories**: This division consists of four main programs that conduct scientific research on federally managed species, marine ecosystems components, and the connections between species through marine food webs.
- **Fisheries Monitoring and Analysis Division**: This division monitors groundfish fishing activities, and research includes sampling commercial fishery catches, estimating catch and bycatch mortality, and analysis of fisheries-dependent data. The division is responsible for training, briefing, debriefing, and overseeing observers, and for quality control/quality assurance of observer data.

- **Resource Assessment and Conservation Engineering Division**: The division conducts fisheries-independent surveys to measure the distribution and abundance of commercial fish and crab stocks.

- **Resource Ecology and Fisheries Management Division**: The division collects data to support management of fish and crab stocks, produces annual stock assessments, and evaluates how fish stocks and user groups might be affected by management actions.

- **Marine Mammal Laboratory**: The laboratory conducts research on marine mammals.

Stock assessment models are used to calculate stock size and understand and track population dynamics. These use computer-simulated fish populations with model inputs, including current population estimates and research results for reproduction, growth, and natural and fishing mortality metrics. The results from stock assessment models are used to inform stock assessments and harvest specifications. More information is provided in Section 3.2.5, Stock Assessment and Fishery Evaluation Reports. There is also a multi-species assessment for EBS walleye pollock (*Gadus chalcogrammus*), Pacific cod (*G. macrocephalus*), and arrowtooth flounder (*Atheresthes stomias*). Beginning in 2023, the multi-species model is presented as a standalone document annually.[31]

The Alaska Climate Integrated Modeling project (ACLIM) represents a comprehensive effort by NMFS and partners to describe and project responses of the Bering Sea ecosystem—both the physical environment and human communities—to varying conditions. Output from these models will be used in future, climate-informed projections of species abundances and distributions to help decision-makers choose resilient management measures.[32]

The ModSquad team in the Resource Assessment and Conservation Engineering (RACE) Division Groundfish Assessment Program (GAP) uses fisheries-independent survey data (*e.g.,* abundance, distribution, age-composition) to develop models of population distributions and abundances in space and time which are used to inform stock assessments in the Bering Sea and Gulf of Alaska. This information is also used to inform EFH mapping efforts (see 2023 EFH 5-year review).[33] More information on EFH is presented in Section 3.2.4 and Section 4.2.7.

3.2.1.2. Fisheries-Independent Data

Fisheries-independent data collection and monitoring activities are aimed at providing a standardized time-series of biological and ecological data that is independent of the fishing fleet. These data, collected using standardized fishing and trawling methods, bait, and other gear, provide an important comparison with data collected from the directed fishery. Commercial fishers target areas where fish are abundant, meaning that in commercial fisheries data, increasing stock trends are amplified while decreasing stock trends are muted. Fisheries-independent surveys are not influenced by commercial fisher behavior and provide a less biased year-over-year comparison of population trends. Surveys collect catch rate information (*i.e.*, catch-per-unit-effort (CPUE)), as well as biological samples from individual fish, including sex, length, age, maturity, as well as environmental metrics. Data from fisheries-independent surveys are a primary source of population trend information and are supplemented with commercial data and population modeling efforts for the stock assessment analysis.

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[31] NPFMC 2024. 2024 Climate-enhanced multispecies stock assessment for walleye pollock,Pacific cod,and arrowtooth flounder in the eastern Bering Sea. Available from: https://files.npfmc.org/SAFE/2024/EBSmultispp.pdf

[32] NMFS Alaska Climate Integrated Modeling Project information available from: https://www.fisheries.noaa.gov/alaska/ecosystems/alaska-climate-integrated-modeling-project

[33] Pirtle, J. L., G. A., Harrington, M. Zaleski, C. Felkley, S. Gardiner, and J. T. Thorson. 2025. Essential Fish Habitat 5-year Review Final Summary Report: North Pacific 2023 Essential Fish Habitat 5-year Review. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-F/AKR-31, 134 p. https://doi.org/10.25923/ve1v-ns96

AFSC conducts various resource assessment surveys and oceanographic studies to measure the distribution and abundance of commercially important fish and crab stocks in the BSAI and GOA regions.[34] These include the long-standing (1953 - present) RACE-GAP bottom trawl survey, which monitors distribution, abundance, habitat use, and biological interactions (*e.g.,* competition, predation) of groundfish stocks to estimate growth, mortality, and recruitment. The AFSC longline survey runs annually in May through September and collects biological data to help estimate the population size and health of groundfish species targeted with hook-and-line gear.

The Ecosystems and Fisheries-Oceanography Coordinated Investigations (EcoFOCI) are another long-standing survey series.[35] EcoFOCI is a joint research program between the AFSC and the Pacific Marine Environmental Laboratory. They integrate field surveys with laboratory and modeling studies to understand how biological and physical factors influence marine ecosystems. An example of EcoFOCI's research is the Bering Arctic and Subarctic Integrated Survey (BASIS) program, an annual survey of the epipelagic ecosystem.

The most recent AFSC field season and program updates can be found in a series of research briefs posted annually or biennially depending on the survey type. Each year, staff provide recent survey updates and information from fisheries-independent data collection and monitoring activities to the Groundfish Plan Teams, the SSC, and the Council during the harvest specifications process. Stock assessment authors integrate relevant information and information from fisheries-independent data collection and monitoring activities is also summarized in the stock assessments, including in the risk tables. For 2026, the most recent survey information includes (but is not limited to): the 2024 Aleutian Islands bottom trawl survey,[36] the 2025 Gulf of Alaska bottom trawl survey,[37] the 2025 EBS and Northern Bering Sea bottom trawl surveys,[38] and the 2025 longline survey.[39]

3.2.1.3. Fisheries-Dependent Data

Fisheries-dependent data refers to information collected from the fishing activity itself, rather than from AFSC independent scientific surveys. It is "dependent" because the data are generated only when and where fishing occurs, and therefore depend on fishing behavior, locations, effort, gear choices, and regulations. NMFS primarily collects fisheries dependent data through observers, electronic monitoring, and from industry reported data. These data are used as inputs for stock assessments and by the CAS to generate estimates of total catch. Estimates of total catch are used for inseason fisheries management on a near-real-time basis to close fisheries and prevent overfishing or to reallocate TAC to fully prosecute harvest.

3.2.1.3.1. Observer Program.

Since 2013, NMFS has developed an Annual Deployment Plan (ADP) to explain how observers and Electronic Monitoring (EM) systems (sensors, cameras, and hard drives) will be deployed to collect information from federal fisheries off Alaska, and the agency prepares an Annual Report that evaluates

[34] NMFS Alaska fish research surveys by year are available from: https://www.fisheries.noaa.gov/alaska/ecosystems/alaska-fish-research-surveys

[35] NMFS EcoFOCI program webpage: https://www.ecofoci.noaa.gov/

[36] 2024 Aleutian Islands Biennial Summer Bottom Trawl Survey. Available from: https://www.fisheries.noaa.gov/resource/outreach-materials/2024-aleutian-islands-biennial-summer-bottom-trawl-survey

[37] 2025 Gulf of Alaska Biennial Bottom Trawl Survey. Available from: https://www.fisheries.noaa.gov/resource/outreach-materials/2025-gulf-alaska-biennial-bottom-trawl-survey

[38] 2025 Eastern Bering Sea Annual Bottom Trawl Survey. Available from: https://www.fisheries.noaa.gov/resource/outreach-materials/2025-annual-bottom-trawl-survey-eastern-bering-sea
2025 Northern Bering Sea Bottom Trawl Survey. Available from: https://www.fisheries.noaa.gov/resource/outreach-materials/2025-bottom-trawl-survey-northern-bering-sea

[39] 2025 Alaska Longline Survey. Available from: https://www.fisheries.noaa.gov/resource/outreach-materials/2025-alaska-fisheries-science-center-longline-survey

the performance of the prior year's ADP. A draft ADP for the coming year of sampling is released in September, and a final ADP is released in December. Through the ADP and annual report process, NMFS evaluates the impact of changes in observer and EM deployment to identify where improvements are needed to maintain a scientifically rigorous data collection program for groundfish and halibut fisheries. All ADPs are available online.[40]

Under the current Observer Program, fishing activities are classed as belonging to either partial or full coverage. In the full coverage component of the program, every trip is monitored; one observer or EM system is required on CVs and two or more observers and compliance cameras are required on most mothership and catcher/processor vessels to monitor all fishing events. NMFS has determined that full coverage is needed in programs where catch is allocated to specific entities with quotas and transferable PSC limits since economic incentives could exist for the industry to under-report PSC discarded at-sea, especially in catch share programs where limits are placed on the amount of catch that may be retained and discarded. Catch share programs with transferable PSC allocations include Bering Sea pollock (both AFA and CDQ programs), the groundfish CDQ fisheries (CDQ fisheries other than Pacific halibut and fixed-gear sablefish; only vessels greater than 46 ft LOA), the Pacific Cod Trawl Cooperative program (PCTC), and the Central GOA Rockfish Program. In a typical year, over 90 percent of groundfish harvest is covered by the full coverage portion of the program.

In the partial coverage component of the program, a subset of trips are randomly selected for monitoring by an observer or EM system, and the ADP specifies the scientific sampling design and the selection rate—the portion of trips that are sampled. The final 2026 ADP describes how NMFS intends to deploy fishery observers and EM to vessels fishing in the North Pacific during the 2026 calendar year.[41] Vessels that request, and are approved, for fixed-gear EM will be placed in the fixed-gear EM pool if there is sufficient funding to support them. Vessels measuring less than 40 ft (12.2 m) LOA and vessels fishing with jig gear (including handline, jig, troll, and dinglebar troll gear) are currently not subject to EM or observer coverage. On July 29, 2024, NMFS published a final rule implementing the trawl EM program for pelagic trawl pollock CVs and tender vessels delivering to shoreside processors and stationary floating processors in the BSAI and GOA (89 FR 60796) in 2025. Catcher vessels and tender vessels must opt-in annually by November 1, and be approved by NMFS, to participate in the trawl EM program for the upcoming fishing year. The remaining vessels are monitored by observers, and vessel owners/operators declare each trip in the Observer Declare and Deploy System (ODDS) to determine if a trip is selected for coverage.

Data collection through the Observer Program provides a reliable and verifiable method for NMFS to collect fishery discard and biological information on fish, and data concerning seabird and marine mammal interactions with fisheries. These data contribute to the best available scientific information used to manage the federal fisheries off the coast of Alaska. Observers prioritize recording takes of marine mammals and collection of photos and length information from all taken marine mammals. In addition, snouts and deep tissue samples are taken from all freshly dead pinnipeds (except for walrus), and tissue samples are taken from all dead cetaceans that are in good condition. Biological samples from Pacific walrus and sea otters are not collected, as these species are managed by the U.S. Fish and Wildlife Service (USFWS). Observers also prioritize recording takes of ESA-listed species, collect specimens of ESA-listed species, and rehabilitate injured ESA-listed seabird species if possible. Historically, takes of marine mammals and ESA-listed species have been infrequent, and so the majority of an observer's time is typically spent recording the composition of groundfish species caught and collecting age and length samples. Observers also have specific instructions on how to deal with PSC, such as salmon, halibut, and crab. Generally, observers identify PSC to the species level, collect biological data (*i.e.*, length, body

[40] NMFS Annual Observer Reports are available from: https://www.fisheries.noaa.gov/tags/north-pacific-observer-program?title=annual%20deployment&field_species_vocab_target_id=&sort_by=created

[41] NMFS 2026 Annual Deployment Plan. Available from: https://www.fisheries.noaa.gov/resource/document/2026-annual-deployment-plan-observers-and-electronic-monitoring-groundfish-and

condition, tissue samples, sex), and discard PSC at sea with a minimum of injury (except where they are explicitly instructed to retain PSC). After collecting tissue samples, observers check Chinook and chum salmon PSC for coded-wire tags. A full description of observer sampling priorities can be found in the annual observer sampling manual.[42]

3.2.1.3.2. Fishery Data.

The CAS uses observer data in conjunction with data provided by fishermen and processors. For CPs and motherships, the data source used to estimate retained catch is dependent on reporting requirements and observer coverage rates specified by federal regulations that vary greatly by vessel type (50 CFR 679.50). Landing reports (fish tickets or production reports) are required from all processors that are required to have a Federal Processing Permit (FPP) and which receive groundfish from catcher vessels that are issued a Federal Fisheries Permit (FFP). Processors may be at-sea motherships, floating, or shoreside. The collection period for a landing report for CVs is defined as the period from when fishing begins to the time of delivery. In contrast to landing reports derived from CVs, CPs must submit at-sea production reports if issued a FFP. Motherships must submit both landing reports for any delivering CVs and at-sea production reports if issued a FFP. Production reports are required daily for both shoreside processors and the at-sea fleet.

In general, the CAS estimates retained catch from observer data collected on CPs and motherships with 100 percent observer coverage[43] (in cases where the observer has access to flow scales) and uses landing and production reports of retained catch on CVs delivering shoreside or CPs and motherships with less than 100 percent observer coverage. Information about non-retained species that were caught or otherwise impacted by fishing operations from industry landing and production reports are unverifiable or absent altogether. For this reason, the CAS uses at-sea discard rates estimated from observer data obtained from observed vessels that are fishing with similar gear, areas and/or times, and applies this rate to industry landing reports from vessels with those same gear, areas, and/or times to estimate at-sea discards. At-sea discards from vessels with 100 percent or greater observer coverage are estimated from observer data. Total catch used for quota management is the sum of retained and discarded catch.[44]

Although not as central as landing and production reports, vessel logbooks are another type of industry data that are used in catch accounting. Logbook information is used for compliance purposes (*e.g.,* MRA accounting) for full and partial coverage fishing fleets. Observers obtain information from onboard logbooks about location and vessel operations, which is imported into the CAS and is directly used for estimation. In addition, the trawl EM program uses the logbook information for compliance monitoring, and the fixed gear EM program uses logbook information similar to the way it is used for onboard observers, and thus fixed gear EM trip attributes make it into the CAS with the EM review data. In rare cases, electronic logbooks are used to assign catch from the PCTC program to the appropriate cooperative.

3.2.2. Ecosystem Status Reports

ESRs are generally produced annually to compile and summarize information about the status of Alaska's Large Marine Ecosystems for the Council, the scientific community, the public, and NMFS.[45] As of 2016,

[42] NMFS. 2025. North Pacific Observer Sampling Manual. Available from: https://www.fisheries.noaa.gov/resource/document/north-pacific-observer-sampling-manual

[43] All vessels that require 100% observer coverage must carry at least one observer. Some of these vessels must carry two observers, in accordance with 50 CFR 679.51(a)(2)(vi): https://www.ecfr.gov/current/title-50/part-679#p-679.51(a)(2)(vi)

[44] Cahalan, J., J. Gasper, and J. Mondragon. 2014. Catch sampling and estimation in the federal groundfish fisheries off Alaska, 2015 edition. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-AFSC-286, 46 p. https://repository.library.noaa.gov/view/noaa/4833

[45] ESRs were not produced in 2025 due to the timing of the lapse in appropriations and resulting government shutdown.

there are separate reports for the EBS, AI, and GOA ecosystems. These reports include ecosystem report cards, ecosystem assessments, and ecosystem and ecosystem-based management indicators that together provide context for ecosystem-based fisheries management in Alaska.

The ESRs are intended to provide the Council, including its SSC and AP, and the public with information on ecosystem status and trends. This information provides context for the SSC's ABC and OFL recommendations, as well as the Council's final TAC recommendation for groundfish. NMFS considers the ESRs in its implementation of the annual harvest specifications. ESRs follow the same annual schedule and review process as groundfish stock assessments, and are generally made available to the Council at the annual December meeting when the Council makes its recommendations to NMFS for the final groundfish harvest specifications. ESRs include assessments based on ecosystem indicators that reflect the current status and trends of ecosystem components, which range from physical oceanography to biology and human dimensions. Many indicators are based on data collected from NMFS AFSC surveys. All are developed by, and include contributions from, scientists and fishery managers at NMFS AFSC, other Federal and State agencies, academic institutions, tribes, nonprofits, and other sources. The ecosystem information in these reports are integrated into the annual harvest recommendations through inclusion in stock assessments, in the stock-specific risk tables,[46] presentations to the Groundfish Plan Teams during annual meetings, presentations to the SSC and Council in their annual meetings, and submission of the final reports to the Council in December (Figure 3-2). The SSC is the primary audience for these reports, as the ABCs are recommended by the SSC, based on biological and environmental scientific information through the stock assessment and tier system (see Section 3.1.1). TACs may be set lower than the ABCs due to biological and socioeconomic information. Thus, the ESRs are also presented to the AP and Council to provide ecosystem context to inform TAC recommendations. Additional background can be found in the Appendix of the 2024 EBS ESR (p. 251).[47]

[46] Dorn, M. W., and S. G. Zador, S. G. 2020. A risk table to address concerns external to stock assessments when developing fisheries harvest recommendations. Ecosystem Health and Sustainability 6(1): 1813634. https://apps-afsc.fisheries.noaa.gov/Plan_Team/2023_ESR_CIE/Dorn%20and%20Zador%202020.pdf

[47] The 2024 Ecosystem Status Reports (and reports from past years) are available from: https://www.fisheries.noaa.gov/alaska/ecosystems/ecosystem-status-reports-gulf-alaska-bering-sea-and-aleutian-islands

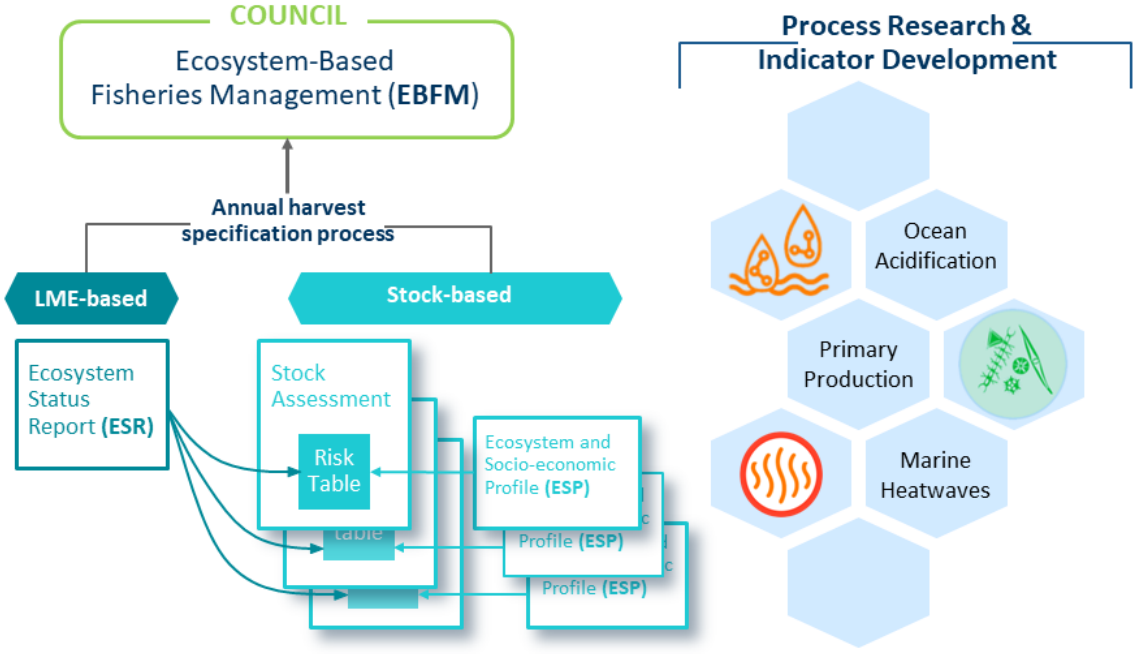

Figure 3-2. NOAA Fisheries' ecosystem information mapping to support ecosystem-based fisheries management (EBFM) through Alaska's annual harvest specification process. The 'honeycomb' on the right shows examples of ecosystem indicators that are provided to Ecosystem Status Reports (ESRs) at the large marine ecosystem scale and/or to Ecosystem and Socio-economic Profiles (ESPs) at the stock-based level.

3.2.3. Ecosystem and Socioeconomic Profile

The ESP is a standardized framework for compiling and evaluating relevant stock-specific ecosystem and socioeconomic indicators to inform environmental and ecosystem considerations, population dynamics, and fisheries performance. It also communicates linkages and potential drivers of stock condition within the stock assessment process.[48] The ESP process creates a traceable pathway from the initial development of indicators to management advice and serves as an on-ramp for developing ecosystem-linked stock assessments. The ESP report card provides data updates to the most recent year available of the indicator suite created in the initial full ESP. ESPs are prepared for the following stocks: EBS Pacific cod, GOA Pacific cod, GOA pollock, and sablefish.

3.2.4. Essential Fish Habitat

The Magnuson-Stevens Action defines EFH as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity" (16 U.S.C. 1802(10)). The Magnuson-Stevens Act requires NMFS and regional fishery management councils to describe and identify EFH for all fisheries, minimize to the extent practicable the adverse effects of fishing on EFH, and identify other actions to encourage the conservation and enhancement of EFH (16 U.S.C. 1853(a)(7)).

[48] Shotwell, K., C. Cunningham, E. J. Fedewa, and K. Blackhart. 2023. Introducing the Ecosystem and Socioeconomic Profile, a Proving Ground for Next Generation Stock Assessments. Coastal Management 51(1): 1-34. https://www.tandfonline.com/doi/full/10.1080/08920753.2023.2291858

To guide the review of EFH every 5 years, regulations at 50 CFR 600.815(a)(10) state:

> *Councils and NMFS should periodically review the EFH provisions of FMPs and revise or amend EFH provisions as warranted based on available information. FMPs should outline the procedures the Council will follow to review and update EFH information. The review of information should include, but not be limited to, evaluating published scientific literature and unpublished scientific reports; soliciting information from interested parties; and searching for previously unavailable or inaccessible data. Council should report on their review of EFH information as part of the Annual Stock Assessment and Fishery Evaluation (SAFE) report prepared pursuant to §600.315(e). A complete review of all EFH information should be conducted as recommended by the Secretary, but at least once every 5 years.*

In 2005, NMFS and the Council completed the EIS for EFH Identification and Conservation in Alaska (EFH EIS).[49] Following the EFH EIS, 5-year reviews were completed in 2012, 2017, and, most recently, 2023. For the 2023 review, all FMP amendments to update EFH information, including new species distribution models and maps (Section 3.2.1.1), were implemented as an omnibus amendment package in 2024 (89 FR 58632, July 19, 2024) and summarized in the 2023 EFH 5-year Review Final Summary Report.[50]

3.2.5. Stock Assessment and Fishery Evaluation Reports

The SAFE report contains a review of the latest scientific analyses and estimates of each stock's biomass and past, present, and possible future conditions. The SAFE report also contains an economic summary informed by the Economic SAFE report and ecosystem information summarized from the ESRs. The SAFE provides information to the Council and NMFS for recommending and setting, respectively, annual harvest levels for each stock and documenting significant trends or changes in the resource, marine ecosystems, and fisheries over time. The SAFE reports include a general introduction, stock assessment chapters, the ESRs, and any ESPs.

The following provides a general overview of a stock assessment, and more detailed information on the types of stock assessment used for groundfish are provided below. The ultimate goal for a stock assessment is to produce reliable predictions of stock status, trends, and catch levels. For each stock, the stock assessment may summarize the life history of the stock, stock structure, and other relevant stock-specific biological information; describe the fishery for the stock, such as catch location, timing, and patterns; and provide an overview of management measures for the stock. The assessment would summarize the data used in the model and the analytical approach (meaning the base model and alternative models for consideration) and provide an evaluation of those different models (*i.e.*, how well the models "fit"). The assessment may summarize changes from the prior assessment (which can include changes in methods and/or data) and respond to prior Plan Team and SSC comments. Based on the model selected, the stock assessment will specify the following SDC, reference points, and other data: biomass estimates, mortality and fishing mortality, OFL, maxABC, and ABC (if reduced from maxABC). The SDC and reference points (OFLs and ABCs) are provided for the following two calendar years. This information is also used to determine whether the stock is subject to overfishing, overfished, or approaching an overfished condition. The stock assessment provides the SDC and reference points required under National Standard 1 guidelines and the FMPs.

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[49] NMFS. 2005. Final environmental impact statement for essential fish habitat identification and conservation in Alaska (EFH EIS). NMFS Alaska Regional Office, Juneau, Alaska. Volume I: https://repository.library.noaa.gov/view/noaa/17391; Volume II: https://repository.library.noaa.gov/view/noaa/17392

[50] Pirtle, J. L., G. A., Harrington, M. Zaleski, C. Felkley, S. Gardiner, and J. T. Thorson. 2025. Essential Fish Habitat 5-year Review Final Summary Report: North Pacific 2023 Essential Fish Habitat 5-year Review. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-F/AKR-31, 134 p. https://doi.org/10.25923/ve1v-ns96

There are different types of stock assessments, based on the level of review provided in a particular year,[51] but each year updated SDC and reference points (*e.g.,* OFL and ABC) based on the best scientific information available are provided for the following two calendar years.[52] Not all stocks are subject to an operational full or update assessment annually. The AFSC has a stock assessment prioritization schedule that balances fishery importance, target frequency, ecosystem importance, and stock status, with the timing in part based on the biennial periodicity of the AI and GOA trawl surveys.[53]

Operational Full Assessment: This type of assessment considers all available data and multiple model configurations or new modeling platforms and includes any new unreviewed data sources that are not considered in other assessment types. A full assessment can be applied to a stock that has not been previously assessed or re-applied to a previously assessed stock, in which case the full assessment involves a re-examination of the underlying assumptions, data, and model parameters previously used to assess the stock. Operational full assessments are generally initially reviewed by the Plan Teams and SSC in September and October and then again in November and December, respectively.

Operational Update Assessment: An operational update assessment is defined as an assessment that maintains the model structure of the previous full assessment, with additions generally restricted to data that have become available since the last assessment added to previously evaluated time series, along with limited allowable minor model changes required to fit the model to the new data. These assessments must carry forward the fundamental structure of the last operational full assessment reviewed and endorsed through the review process. For assessments that have relatively few outstanding modeling or data issues and provide relatively stable results as new data are added, an operational update assessment may be preferable when updating current information is desired and there are other priorities for full assessments. Operational update assessments are generally reviewed by the Plan Teams and SSC in November and December, respectively.

Harvest Projection: Harvest projections are used during the period between operational assessment cycles. Harvest projections for Tier 1 to 3 groundfish with age-or-length structured models are used to estimate stock status and project ABCs and OFLs for future years. Harvest projections implement model projections updated with recent catch data and include the most recent survey abundance index estimates (if available). Harvest projections for Tier 1 to 3 assessments do not rerun the stock assessment model nor estimate new parameters so parameter estimates and recruitment time series remain unchanged from the last operational full or update assessment. Harvest projection documents are short, consisting of a brief update. The Plan Teams and SSC review harvest projections at the September/October meetings, with any large changes in catches or surveys noted for further consideration. Harvest projection documents should be augmented with updated survey biomass trends if available prior to document deadlines and/or with any information that indicates elevated stock concerns. Tier 4 to 6 stocks do not have projection models. Thus, there are no harvest projections for Tier 4 to 6 assessments as they are always in an operational assessment year (full or update) or a catch report year.

Catch Report: In response to Plan Teams and SSC requests to ensure that sudden changes in the fishery or stock are not missed during years when the above stock assessment products (full or update operational stock assessments, or harvest projections) are not produced, the AFSC provides catch reports. A catch report tabulates fishery removals for recent years to ensure that fishery removals are below specified ACLs and ABCs and are not showing a significant change or concern in fishery catch. If a substantial

[51] NOAA Alaska Fisheries Science Center. March 2025. Revised Groundfish Stock Assessment Definitions. Available from https://files.npfmc.org/SAFE/GroundfishStockAssessmentDefinitions.pdf

[52] For more information on best scientific information available in the context of status determination criteria (SDC) and catch specifications (like OFL and ABC), see Best Scientific Information Available. April 2022. Available from https://www.fisheries.noaa.gov/s3/2022-06/Alaska-best-scientific-information-available-final.pdf

[53] NOAA Alaska Fisheries Science Center. January 26, 2023. Stock Assessment Prioritization. Available from https://meetings.npfmc.org/CommentReview/DownloadFile?p=311fef06-1c6a-4602-868d-b0ca79b1688e.pdf&fileName=D3%20Stock%20Prioritization%20Discussion%20Paper.pdf

change is noted in a catch report, this could serve as a trigger for an operational update or full assessment. Catch reports are designed to be brief and provide recent catches and ABC (landings and discards). A table captures all stocks scheduled for catch reporting for a particular year and is reported in the SAFE Introduction for each FMP. Catch reports are generally reviewed by the Plan Teams and SSC in November and December, respectively.

Risk tables are included in each stock assessment and reviewed by the Plan Team and SSC. The risk table is a standardized framework to document concerns about four types of considerations (assessment-related, population dynamics, ecosystem and environment, and fishery performance) that are not explicitly addressed within the stock assessment model. A scoring procedure is used to evaluate the severity of the concern. These concerns can then be evaluated to determine whether a reduction from maxABC is warranted (consistent with the FMPs that ABC may be reduced if conditions warrant), while providing reviewers and the public with transparent documentation of concerns, if any. Stock assessment authors review and document relevant considerations in the risk table, which are reviewed by the Plan Teams and SSC. Population dynamics considerations could include, for example, a decreasing biomass trend, poor recent recruitment, or an abrupt increase or decrease in stock abundance. Environmental/ecosystem considerations could include, for example, trends in environmental/ecosystem indicators, ecosystem model results, decreases in ecosystem productivity, decreases in prey abundance or availability, or increases in predator abundance or productivity. The risk table can be used to evaluate unanticipated ecosystem and environmental impacts on marine resources that may require a rapid management response; here, the rapid management response would be using the risk table to inform a reduction in ABC for that stock (*e.g.,* the risk table in the stock's 2024 stock assessment chapter would inform a reduction in the 2025 ABC).

The individual stock assessments are compiled into a SAFE report, with one report prepared for the GOA and one for the BSAI. The SAFE reports include the ESRs and ESPs. Also prepared is an Economic SAFE report, which summarizes available economic data about the federal groundfish fisheries and includes summary statistics on catch, discards, PSC, ex-vessel and first-wholesale production and value, participation by small entities, and effort in these fisheries.[54] Consistent with National Standard 2 guidelines, the SAFE reports are a public document that provides NMFS and the Council with a summary of scientific information concerning the most recent biological condition of stocks and marine ecosystems, and they are updated or supplemented when new information is available.[55] In addition, individual stock assessments are subject to external peer review by impartial and objective experts at the Center for Independent Experts (CIE), who review scientific information to ensure quality and credibility and provide objective and independent feedback on stock assessments; the AFSC requests CIE review of stock assessments regularly and responds to review recommendations through the harvest specifications process, including incorporation of CIE recommendations in future assessments, which are publicly available.[56] NOAA also provides peer review reports online (for example, for 2025 CIE peer review reports include GOA rex sole and EBS pollock).[57]

3.2.6. Plan Teams

The BSAI and GOA Groundfish Plan Teams provide the SSC, AP, and the Council with review and recommendations of fishery stock assessments, as well as information on the ecosystem and economic

[54] NOAA Alaska Fisheries Science Center. December 2024. Available from: https://www.fisheries.noaa.gov/s3//2024-12/gf-econ-safe.pdf

[55] 50 CFR § 600.315(d). This regulation defines a SAFE report as a public document or a set of related public documents that provides NMFS and the Council with a summary of scientific information concerning the most recent biological condition of stocks, stock complexes, and marine ecosystems and the social and economic condition of the recreational and commercial fishing interests, fishing communities, and the fish processing industries.

[56] More information on Center for Independent Experts (CIE) Peer Reviews is available from https://www.st.nmfs.noaa.gov/science-quality-assurance/cie-peer-reviews/index

[57] Annual CIE Peer Review Reports are available from https://www.st.nmfs.noaa.gov/science-quality-assurance/cie-peer-reviews/peer-review-reports

issues as they relate to the groundfish fisheries of the BSAI and GOA. Plan Teams include Council staff and personnel from NMFS Alaska Regional Office (AKRO), the NMFS AFSC, the Alaska Department of Fish and Game (ADF&G), the Washington Department of Fisheries, the IPHC, universities, and other institutions. Generally there are Plan Team meetings in September and November each year, with the BSAI and GOA teams meeting jointly and separately over the course of a week. There was no November meeting in 2025 due to the timing of the lapse in appropriations and resulting government shutdown.

The primary purpose of the Plan Teams is to compile annual SAFE reports that provide the best available scientific information on the most recent biological condition of the groundfish stocks, ecosystem conditions, and the social and economic condition of the fishing and processing industries. Annually, the Council's BSAI Groundfish Plan Team compiles the stock assessment section of the SAFE report for the BSAI groundfish fisheries from chapters contributed by scientists at AFSC. The GOA Groundfish Plan Team compiles the SAFE report for GOA groundfish fisheries from chapters contributed by scientists at AFSC and the ADF&G. Each stock is represented in the SAFE report by a chapter containing the current year's stock assessment or catch report (which links the most recent stock assessment). New or revised stock assessment models are generally reviewed at the annual September Plan Team meeting. The Plan Team provides feedback to authors who then bring updates and revisions back to the Plan Team in November in the final stock assessments. Plan Team feedback provided to authors is comprehensive and can address issues like with model runs, data inputs, poor data fits, and reference point assumptions. The Plan Teams also review the authors' risk table and offer input and recommendations.

During the Plan Team meetings, the teams hear presentations on fisheries-independent data collection and monitoring activities (*e.g.,* survey results) and updated information from the ESRs and ESPs. These reports and presentations also inform the discussion of risk tables.

Ultimately, the Plan Teams make OFL and ABC recommendations based on the information provided in each SAFE chapter and in other components of the SAFE (ESRs and ESPs).

3.2.7. At the SSC, AP, and Council

The SSC is a Council body that advises the Council on scientific and other technical matters by providing peer-reviewed, science-based advice to the Council to ensure fisheries management decisions are grounded in the best available science. The SSC is composed of leading scientists in biology, economics, statistics, and social sciences. The Magnuson-Stevens Act requires that the SSC provide scientific advice for fishery management decisions, including recommendations for ABCs, preventing overfishing (*i.e.*, OFLs), and reporting on stock status and health (16 U.S.C. 1852(g)(1)(B)). As outlined in the FMPs, the SAFE reports accepted by the SSC constitute the best scientific information available for purposes of the Magnuson-Stevens Act. The SSC reviews the SAFE reports and Plan Teams' recommendations, including risk tables, and makes its own recommendation on OFLs and ABCs to the Council. Generally, the SSC reviews and recommends proposed OFLs and ABCs at its October meeting, and then reviews and provides final OFLs and ABCs at its December meeting. The SSC recommends OFL and ABC for the following two calendar years.

The AP is a Council body that provides advice and recommendations to the Council on fishery management issues by representing the perspectives of fishery participants and affected communities. The Council appoints to the AP recognized experts from the fishing industry and related fields who represent a variety of gear types, industry, and related interests as well as a spread of geographic regions of Alaska and the Pacific Northwest having major interests in the fisheries off Alaska. To ensure Tribal perspectives are included and represented on the AP, the Council has established one designated Alaska Native Tribal seat on its AP, noting that this designated seat in no way limits the number of Alaska Natives that may serve as members of the AP. The AP recommends TACs to the Council, taking into account the SSC's recommended OFLs and ABCs and ensuring total TACs fall within the OY range while not exceeding the recommended ABCs for each stock.

The Council is charged with ensuring sustainable use of fishery resources while balancing conservation, economic, and community interests. Members are appointed by the Secretary of Commerce and include representatives from Alaska, Washington, and Oregon, plus Federal and State agency officials. The Council develops FMPs and recommends FMP amendments, regulations, and harvest specifications to NMFS, which, after review, implements them if consistent with the Magnuson-Stevens Act and other applicable law. After consideration of the best available scientific information, Plan Team recommendations, SSC recommendations, AP recommendations, and public comments, the Council makes its own recommendation on TAC, with the constraint that the Council's recommended TAC cannot exceed the ABC. Generally, the Council reviews and makes recommendations for proposed TACs at its October meeting, and then reviews and provides final TAC recommendations at its December meeting. The Council recommends TACs for the following two calendar years.

3.2.8. NMFS Rulemaking and Inseason Management

When the Council recommends the proposed TACs in October and final TACs in December, NMFS publishes proposed and final harvest specifications, typically in November and March, respectively. NMFS publishes a proposed and final rule for both the GOA and the BSAI. NMFS responds to public comments on the proposed rules, if any, in the final rules.

At the beginning of each year, NMFS enters TACs, apportionments, season allowances, sector allocations, PSC limits, and other management values into the CAS. Managers monitor the catch of groundfish and prohibited species daily and utilize CAS and vessel monitoring system (VMS) onboard vessels to determine catch rates and forecast fishery closures, openers, and reallocations relative to TACs and apportionments. CAS is updated daily and relies on landing, observer, and electronic monitoring data for groundfish catch estimates, discard rates, and PSC estimates. For each fishery, NMFS determines the directed fishing allowance and an incidental catch allowance to support other fisheries that are likely to catch the target species incidentally. When NMFS determines that a directed fishing allowance is reached, the fishery will be closed, prohibiting directed fishing for the target species. When a fishery is closed to directed fishing, MRAs are in effect for a fishing trip which still allows some retention of fish. When NMFS determines that the TAC is reached, the fishery will be placed on prohibited species status, prohibiting retention for the target species by all vessels, even if incidentally caught. Both retained and estimated discarded catch accrues towards the TACs. If a PSC limit is reached, NMFS will close the directed fishery for which the limit was met.

3.3. *Summary of Changes*

Since 2007, NMFS has made changes to the management of the groundfish fisheries that could be relevant to the harvest specifications; any recent changes (actions that occurred in the last five years) are described in Section 3.1.3 and changes prior to 2021 are provided in previous SIRs. NMFS reviewed and confirmed that these FMP amendments and regulatory changes or other actions did not substantially change the proposed action (the preferred alternative harvest strategy). Considering NMFS's holistic review of management changes since 2007, NMFS has further determined that none of these management changes, individually or cumulatively since 2007, represent a substantial change in the proposed action relevant to environmental concerns as analyzed in the 2007 EIS.

NMFS has determined that the process used to set the 2026 and 2027 harvest specifications does not represent a substantial change relative to the harvest strategy process analyzed in the 2007 EIS. Specifically, the following process remains the same. The stock assessments that calculate biomass, OFLs, and ABCs for each stock for specified management areas, as well as the harvest projections and catch reports, are reviewed by the BSAI and GOA Groundfish Plan Teams. The SSC reviews those stock assessments, harvest projections, and catch reports, and recommends OFLs and ABCs that provide the foundation for the Council to recommend and NMFS to establish the TACs for each stock. While this

process has not changed, additional tools have been implemented since the 2007 EIS that further support the ability of each stage in this process to make informed decisions based on the best scientific information available, such as the addition of risk tables and ESRs.

For the 2026 and 2027 harvest specifications, there were some changes in the information available in that not all stocks scheduled for updates had updated stock assessments for this year. NMFS also cancelled the November 2025 Plan Team meeting, which is the meeting when the Plan Teams normally would have reviewed some of the stock assessments (the operational full assessments, operational update assessments, and catch reports). Plan Team review in November was not necessary this year since those assessments were not completed, and there were no new OFL or ABC amounts to review (apart from the exceptions for GOA deep-water flatfish, which was subject to harvest projections reviewed in the normal cycle in September/October, and GOA Pacific cod, for which an updated stock assessment and ESP were prepared).

These changes, however, are not a substantial change in the action relevant to environmental concerns. First, the harvest specifications are based on the best scientific information available, primarily the 2024 SAFE report (and ESRs), the 2025 GOA Pacific cod stock assessment and ESP, the 2025 GOA ESR, and the 2025 GOA deep-water flatfish harvest projection. It is also important to keep in mind that even without an entire suite of updated 2025 stock assessments and ESRs, the harvest specifications are based on a wealth of information provided through the process this year. This information is detailed in this SIR. Finally, the 2026 and 2027 OFLs and ABCs are unchanged from the 2026 OFLs and ABCs, with two exceptions discussed in Section 3.1.2 (for which there are updated OFLs and ABCs reviewed by the Plan Team and SSC). These 2026 OFLs and ABCs were reviewed by the Plan Team in 2024, the SSC in 2024, and then reviewed again by the Plan Team in October 2025 and the SSC in October 2025 and December 2025. As a result, NMFS is implementing OFLs and ABCs that have been reviewed through the harvest specifications process. NMFS continues to use the preferred alternative harvest strategy analyzed in the 2007 EIS and selected in the ROD for the development and implementation of the groundfish harvest specifications, that is, to set TACs that fall within the range of ABCs recommended through the harvest specifications process and TACs recommended by the Council. NMFS has therefore determined that the process used to set the 2026 and 2027 harvest specifications does not represent a substantial change to the preferred alternative harvest strategy analyzed in the 2007 EIS.

4. New Circumstances and Information

In the second part of the inquiry in determining whether an SEIS is required, NMFS evaluates whether there is substantial new information or circumstances about the significance of adverse effects that bear on the analysis in the 2007 EIS. To do so, NMFS considers whether there is new information that would alter the conclusions on impacts from the implementation of the harvest strategy (*i.e.*, the 2026 and 2027 harvest specifications) that were made in the 2007 EIS. Not all new information triggers the requirement for an SEIS; only substantial new information that the implementation of these 2026 and 2027 harvest specifications will affect the physical environment in a significant manner or to a significant extent not considered in the 2007 EIS triggers the requirement for an SEIS. New information must show effects that rise to a level of significance that alters the scope or intensity of adverse effects considered in the 2007 EIS (Figure 2-1). Significant new information or circumstances triggers supplementation of an EIS when it indicates that analysis of the effects of an action would significantly change based on new information or circumstances not already considered in an EIS.

4.1. *Major Reports and Processes that Inform the SIR*

This section provides a summary of the information NMFS reviewed for the purposes of this SIR. More details are provided below for each resource component. For more detail on these reports, see Section 3.2.

The primary sources of information directly related to the action and its impacts are the 2024 BSAI and GOA SAFE reports, which include AFSC's annual EBS trawl survey results along with other resource surveys; catch data; ESRs for the EBS, AI, and GOA; and ESPs.[58, 59] The SAFE reports also include additional reports on ecosystem component species that, although are not formal stock assessments, are informative for the status of these ecosystem component species. Additional information includes the 2025 GOA Pacific cod stock assessment (including an updated ESP) and a 2025 abbreviated GOA ESR.

The purpose of the ESRs is to provide the Plan Teams, SSC, AP, Council, scientific community, and the public, as well as NMFS, with annual information about ecosystem status and trends for the EBS, AI, and GOA. The ESRs inform stock assessment models and annual harvest recommendations, including through stock assessment specific risk tables. The risk tables include four considerations: assessment-related, population dynamics, environmental/ecosystem, and fishery performance. The risk tables inform Plan Team and SSC OFL and ABC recommendations by signaling the status of these four considerations for a stock. Risk tables are most informative for the specification of ABC by accounting for additional scientific information and uncertainty that is not captured in the modeling. This approach is consistent with the FMPs and National Standard 1 regulations that ABC accounts for scientific uncertainty in the estimate of OFL and "any other scientific uncertainty."[60]

Some stock assessments also include an ESP, which is a framework for organizing ecosystem and socioeconomic information about an individual stock. The ESP informs environmental and ecosystem considerations, population dynamics, and fisheries performance about that stock and is also integrated into the stock assessment in the risk table.

In addition, several other regularly updated reports are available as resources to make informed harvest specification choices, including marine mammal stock assessment reports,[61] ESA 5-year status reviews,[62] and other ESA and marine mammal specific reports; EFH 5-year reviews;[63] and bycatch reports.[64] The marine mammal stock assessment reports are produced annually, status reviews are produced regularly (about every 5 years), EFH reviews generally occur every 5 years, and NMFS inseason management prepares reports on catch, including bycatch, that is typically presented at the December Council meeting.[65] NMFs analyzed catch and landings data and bycatch data from the CAS and Observer Program and analyses and reports prepared by NMFS and others. In addition, information on bycatch and PSC in the GOA and BSAI groundfish fisheries is available on the NMFS webpage for catch and landings reports; NMFS also produces specific reports that assess bycatch and PSC in the fisheries, such as analyses on the genetic stock composition of Chinook and chum salmon PSC in the pollock fisheries, and reports on incidental take in the fisheries, including annual reports of salmon catch and coded wire tag and recovery data. For crab PSC, NMFS also looked at the Crab SAFE report prepared for federally-managed crab stocks. When relevant, NMFS also reviews analyses prepared to support other NMFS

[58] BSAI and GOA Ecosystem Status Reports are found here: https://www.fisheries.noaa.gov/alaska/ecosystems/ecosystem-status-reports-gulf-alaska-bering-sea-and-aleutian-islands

[59] The Groundfish Economic Status Reports, as well as other information on the human dimensions of fisheries, are found here: https://reports.psmfc.org/akfin/f?p=501:2000.

[60] 50 CFR § 600.310(f)(1)(ii) and (f)(3); BSAI FMP Sections 3.2.1 and 3.2.3.3.1; GOA FMP Sections 3.2.1 and 3.2.3.3.1). FMPs for all NPFMC-managed fisheries are available here: https://www.npfmc.org/library/fmps-feps/

[61] NMFS Marine Mammal Stock Assessment Reports by region. Available from: https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports-region

[62] 5-year status reviews under the ESA are available from the NOAA Fisheries website https://www.fisheries.noaa.gov/resources/documents?title=&region%5B1000001106%5D=1000001106&field_category_document_value%5Besa_five_review%5D=esa_five_review&field_species_vocab_target_id=&sort_by=created

[63] NMFS Essential Fish Habiatat (EFH) Reviews. Available from: https://www.fisheries.noaa.gov/alaska/habitat-conservation/alaska-essential-fish-habitat-reviews

[64] NMFS Alaska region inseason management reports. Available from: https://www.fisheries.noaa.gov/resource/document/alaska-inseason-management-annual-reports-north-pacific-fishery-management

[65] Inseason management reports are available from NOAA Fisheries at: https://www.fisheries.noaa.gov/resource/document/alaska-inseason-management-annual-reports-north-pacific-fishery-management

management actions and new rules or program amendments. Finally, NMFS reviewed and considered public comments.

The preferred alternative harvest strategy analyzed in the 2007 EIS anticipated that information on changes in stock abundance and condition, environmental and ecosystem factors, and socio-economic conditions are used each year in setting the annual harvest specifications. It is a flexible process designed to adjust to new information. The use of new information from the SAFE reports, including risk tables that incorporate information from ESRs and ESPs, allows the SSC, Council, and NMFS to respond to environmental changes and stock changes in the BSAI and GOA and to adjust the harvest specifications as necessary. This is consistent with the preferred alternative harvest strategy from the 2007 EIS and with National Standard 2 of the Magnuson-Stevens Act to use the best scientific information available (16 U.S.C. 1851(a)(2); 50 CFR 600.315).

As a result, new information and circumstances, including on the status of stocks and ecosystems in the BSAI and GOA, are incorporated in the groundfish harvest specifications process such that the setting of OFL and ABC for each stock accounts for the best scientific information available. The ESRs and ESPs can be helpful for setting TACs. In the TAC setting process, the Council reviews the Plan Team and SSC reports. With this information, public comment, and TAC recommendations from the Council's AP, the Council recommends TACs to NMFS. NMFS reviews those recommendations, the Plan Team and SSC reports, the SAFE reports, and other relevant documents. TACs are set equal to or less than the ABCs for each stock. The TAC setting process is therefore informed by ecosystem information and circumstances based on the best scientific information available. OFLs, ABCs, and TACs are annually set for the following two calendar years (see Section 3.1.2).

However, the fact that new information and circumstances inform the annual harvest specifications consistent with the preferred alternative harvest strategy and National Standard 2 guidelines does not mean that there is substantial new information or circumstances relative to the scope, scale, or intensity of effects evaluated in the 2007 EIS. This is because not all new information triggers the requirement for an SEIS; only substantial new information that the implementation of the harvest specifications will affect the physical environment in a significant manner or to a significant extent not considered in the 2007 EIS triggers the requirement for an SEIS. This section reviews whether that trigger to prepare an SEIS has been met.

In this review, NMFS has also reviewed the available information and determined that there is no additional or new information this year that falls outside the scope of the process contemplated in the 2007 EIS for the consideration of new information (*i.e.*, the new information is not of a scale or scope that it could not be incorporated and integrated into the SAFE reports and harvest specifications based on those reports through the process and implementation of the harvest strategy analyzed in the 2007 EIS).

4.2. *Resource Components*

This section evaluates whether there is new information or circumstances that would alter how the 2007 EIS considered effects to resource components. Resource components are those elements of the environment that could potentially be affected by the action. The resource component categories analyzed in the 2007 EIS were:

- Systemic Ecosystem Impacts;
- Target Species;
- Non-Specified and Forage Fish Species;
- Prohibited Species (Salmon, Halibut, and Crab);
- Marine Mammals;

- Seabirds;
- Habitat; and
- Economic and Social Considerations.

4.2.1. Systemic Ecosystem Impacts

Subsequent sub-sections of this SIR examine ecosystem issues, evaluating the impacts of the alternative harvest strategies on a wide range of ecosystem components (target and other fish species categories, seabirds, marine mammals, and habitat). This section is concerned with systemic ecosystem impacts, rather than the impacts on specific resource components. Systemic ecosystem impacts are broad, far-reaching environmental effects that arise when a disturbance alters the structure, function, or dynamics of an entire ecosystem—not just individual species or localized components. For purposes of this analysis systemic ecosystem effects are evaluated through the lenses of predator-prey relationships, energy flow and balance, and diversity, which are the same as evaluated in the 2007 EIS. Table 4-1 (below) summarizes the three indicators (predator-prey relationships; energy flow and balance; diversity) used to evaluate the systemic ecosystem impacts of Alaska groundfish fisheries in the 2007 EIS.

Table 4-1. Indicators and considerations for fisheries-induced impacts on ecosystem attributes (adapted from Table 11-1 in the 2007 EIS).

Issue	Impact	Considerations	Indicators
Predator-prey relationships	Pelagic forage availability	Fishery-induced changes outside the natural level of abundance or variability for a prey species relative to predator demands.	Population trends in pelagic forage biomass (quantitative; pollock, Atka mackerel, bycatch/catch trends of forage species, squid, herring)
	Spatial and temporal concentration of fishery impact on foraging	Fishery concentration levels high enough to impair the long-term viability of ecologically important, non-resource species such as marine mammals and birds.	Degree of spatial/temporal concentration of fishery on pollock, Atka mackerel, herring, squid, forage species (qualitative).
	Removal of top predators	Catch levels high enough to cause the biomass of one or more top level predator species to fall below minimum biologically acceptable limits	● Trophic level of the catch ● Sensitive top predator bycatch (quantitative: sharks, birds; qualitative: pinnipeds) ● Population status of top predator species (whales, pinnipeds, seabirds) relative to minimum biologically acceptable limits
	Introduction of nonnative species	Fishery vessel ballast water and hull fouling organism exchange levels high enough to cause viable introduction of one or more nonnative species or invasive species.	Total catch levels.

Issue	Impact	Considerations	Indicators
Energy Flow and Balance	Energy redirection	Long-term changes in system biomass, respiration, production, or energy cycling that are outside the range of natural variability due to fishery discarding and offal production practices.	● Trends in discard and offal production levels (quantitative for discards). ● Scavenger population trends relative to discard and offal production levels (qualitative) ● Bottom gear effort (qualitative measure of unobserved gear mortality particularly on bottom organisms)
	Energy removal	Long-term changes in system-level biomass, respiration, production, or energy cycling that are outside the range of natural variability due to fishery removals of energy.	Trends in total retained catch levels (quantitative).
Diversity	Species diversity	Catch removals high enough to cause the biomass of one or more species (target, nontarget) to fall below or to be kept from recovering from levels below minimum biologically acceptable limits.	● Population levels of target, nontarget species relative to MSST* or ESA listing thresholds, linked to fishing removals (qualitative) ● Bycatch amounts of sensitive (low potential production turnover rates) species that lack population estimates (quantitative: sharks, birds, biota in HAPCs**) ● Number of ESA-listed marine species ● Area closures
	Functional (trophic, structural habitat diversity)	Catch removals high enough to cause a change in functional diversity outside the range of natural variability observed for the system.	● Guild diversity or size diversity changes linked to fishing removals (qualitative) ● Bottom gear effort (measure of benthic guild disturbance) ● HAPC biota bycatch
	Genetic diversity	Catch removals high enough to cause a loss or change in one or more genetic components of a stock that would cause the stock biomass to fall below minimum biologically acceptable limits.	● Degree of fishing on spawning aggregations or larger fish (qualitative) ● Older age group abundances of target groundfish stocks

* MSST = Minimum Stock Size Threshold
** HAPC = Habitat Areas of Particular Concern

4.2.1.1. What the 2007 EIS Analyzed

The 2007 EIS analyzed systemic ecosystem impacts from the alternative harvest strategies in the context of the physical and oceanographic conditions of the BSAI and GOA, including ongoing ecosystem and environmental variability, regime shifts, warming and loss of sea ice, and acidification. The 2007 EIS contemplated changes in the ecosystem, including physical and oceanographic conditions and climate variability, would be incorporated into the harvest specifications process and informative of the harvest specifications. In selecting the preferred alternative harvest strategy, NMFS noted that setting TACs within the OY ranges for the BSAI and GOA reflects ecosystem constraints and that harvest

specifications would be reflective of the best scientific information available, including ecosystem information. More details are provided below.

Summary of Ecosystem Impacts: The 2007 EIS addressed systemic relationships between ecosystem components according to the following three issues (with summaries of impacts from the 2007 EIS provided):

- **Predator-prey relationships:** GOA and BSAI pollock, and AI Atka mackerel biomass (Stellar sea lion prey) are expected to be lower in 2007 and 2008, reducing availability of forage resources. Biomass is likely to increase subsequently. There appear to be few other issues with forage species. Overall there appears to be little indication of fishing down the trophic levels. Introduction of invasive species remains a concern.

- **Energy flow and balance:** Harvest specifications are expected to be associated with biomass removals and energy redirection similar to that of recent years. Biomass removals are expected to be small relative to the total system biomass.

- **Diversity:** Measures of species richness and diversity do not suggest a concern under status quo harvest specifications. Functional diversity is not considered a concern. Impacts on genetic diversity are unknown to a considerable extent in the absence of a baseline genetic survey.

The 2007 EIS also examined existing physical and oceanographic conditions in the BSAI and GOA, and addressed climate and ecological regime shifts, warming and loss of sea ice, and acidification.

The 2007 EIS considered the impacts of the annual harvest specifications process on systemic ecosystem relationships with the understanding that both the Magnuson-Stevens Act National Standards (50 CFR 600.310) and the BSAI and GOA FMPs establish guidelines for the consideration of new information on stock abundance and condition, ecosystem and environmental factors, and socio-economic conditions. The use of new information from stock assessments and the risk tables, which include information from ESRs and ESPs, allows the Council and NMFS to respond to changes in stocks and ecosystem and environmental conditions in the BSAI and GOA. The implementation of the preferred alternative harvest strategy remains consistent year to year while allowing flexibility to respond to changes in the ecosystem.

The increasing use of ecosystem and environmental factors in the annual harvest specification process was analyzed in the 2007 EIS and is consistent with the preferred alternative harvest strategy. The 2007 EIS anticipated that the scientific information used for the specifications would be updated each year, consistent with National Standard 2 of the Magnuson-Stevens Act to use the best scientific information available. To do so, the process is flexible, and includes updated information, when available, on stock abundance and condition, ecosystem and environmental factors, and socio-economic conditions, which is presented in stock assessments (and their risk tables), ESRs, and ESPs, and other SAFE reports (*e.g.*, Economic SAFE). This ensures that the Council and NMFS respond to changes in stocks and ecosystem and environmental conditions in the BSAI and GOA when recommending and implementing, respectively, the harvest specifications. There is flexibility to adjust the harvest specifications for stocks as necessary based on the most recent, best available information based on the process, although the process (the implementation of the harvest strategy) remains consistent year to year. This approach is consistent with the preferred alternative harvest strategy from the 2007 EIS, the FMPs, and National Standard 2 of the Magnuson-Stevens Act to use the best scientific information available.

The harvest specifications include OFLs, ABCs, and TACs that are based on the best scientific information available on stock status, as informed by relevant ecosystem and environmental information. The TACs, as well as PSC limits, are used by NMFS inseason management to monitor and manage fishing levels in real time, which provides some benefits for preserving ecosystem function and

productivity. Inseason management closes directed fisheries when TACs are harvested, and restricts fishing in other fisheries taking the species as bycatch when OFLs are approached. Limits to bycatch and PSC are also used to restrict directed fishing before TACs are reached. TACs and harvests, especially in the GOA, are often set lower than they would be otherwise, in order to protect other species, especially halibut, that may be taken as bycatch. Directed fishing for some species can be restricted before TACs are reached, in order to constrain catch below TAC limits or comply with PSC limits.

Other ecosystem features of the harvest specifications include the determination of a species' OFL as a harvest limit rather than a target and the use of ABCs that are below OFLs. As recognized in the ROD, the preferred alternative harvest strategy is meant to prevent overfishing based on the calculation and specification of OFL and ABC (where ABC cannot exceed OFL). OFL and ABC are calculated using prescribed methods set forth in the FMP, which uses a tier system. Under the tier system, specification of OFL and ABC becomes more precautionary depending on the tier level and stock status: for example, with less reliable information the larger the buffer (reduction) between OFL and ABC, and as stock status declines the OFL and ABC are reduced. ABCs can also be set lower than the ABC calculated under the tier system and model (maxABC) to take account of special circumstances, including ecosystem considerations. TACs never exceed ABCs and are frequently set at lower levels.

Additional mechanisms within the existing management structure have ecosystem benefits as well. OY is specified for the groundfish fisheries. Optimum in the context of OY is defined "as the amount of fish that will provide the greatest overall benefit to the Nation, particularly with respect to food production and recreational opportunities and *taking into account the protection of marine ecosystems*; that is prescribed on the basis of the maximum sustainable yield from the fishery, *as reduced by any relevant economic, social, or ecological factor* (50 CFR 600.310(e)(3)). As prescribed, OY accounts for marine ecosystems. OY for the groundfish fisheries is set in regulation as a range of TACs. In practice, the OY range is constraining and also precautionary across the ecosystem in the BSAI because setting TACs equal to ABCs would result in a total TAC that exceeds the upper limit of the OY range. NMFS recognized in the ROD that the preferred alternative harvest strategy sets TACs that fall within the OY ranges for the BSAI and GOA groundfish fisheries, which are set to reflect ecosystem constraints.

Certain regulations also provide benefits to components of the ecosystem, like Steller sea lions. The harvest specifications include a suite of spatial and temporal restrictions for catch of pollock, Pacific cod, and Atka mackerel; these restrictions are detailed in the proposed and final rules implementing the harvest specifications. And a harvest control regulation for pollock, Pacific cod, and Atka mackerel requires NMFS to prohibit directed fishing for pollock, Pacific cod, or Atka mackerel if the stock assessment projects that the spawning biomass in that area will be equal to or below 20 percent of the projected unfished spawning biomass during a fishing year (50 CFR 679.20(d)(4)). This means that fishing levels drop abruptly at low biomass levels, in order to protect the prey needs of Steller sea lions (Section 4.2.5, Marine Mammals).

4.2.1.2. Relevant New Information or Circumstances

The annual harvest specifications process considers the best scientific information available in establishing the annual groundfish harvest specifications. As explained in Section 3.2.1, the 2026 and 2027 harvest specifications are based on the best scientific information available.

As discussed in this SIR, the SAFE reports prepared to inform the annual groundfish harvest specifications include the ESRs, which summarize and present information about ecosystem status and trends, physical oceanography, biological data, and socio-ecological dimensions. There are many examples of climate variability considerations presented in the ESRs, including: 1) physical indicators and oceanographic metrics (*e.g.*, sea surface and bottom temperatures, marine heatwaves, wind, sea-ice, and cold pool extents); 2) impacts from oceanographic changes (*e.g.*, changes in sea ice and cold pool

extents resulting in distributional shifts in space (*e.g.*, northward) and time (*e.g.,* earlier/later seasonal movement) in stocks); 3) climate-driven changes to metabolic demands and foraging conditions tied to declining conditions for groundfish during recent marine heatwaves; 4) impacts of anomalously warm conditions in the marine and river environments on juveniles and adults of certain salmon stocks; and 5) emerging stressors like ocean acidification and implications for species (*e.g.*, crab, mollusks). As described in Section 3.1.2 due to the lapse in appropriations and subsequent government shutdown, ESRs were not updated for 2025, with the exception of an abbreviated update for the GOA. The GOA report is summarized below.

The Plan Teams, SSC, AP, and Council review the ESRs prior to the review of the stock assessments and advancing recommendations to NMFS for the annual OFLs, ABCs, and TACs. NMFS reviews the ESRs as well when developing the rules to implement the annual OFLs, ABCs, and TACs. The ESRs provide the scientific review body (the SSC) with context for the annual biological reference points (OFLs and ABCs), and for the Council's final TAC recommendations for groundfish, which are constrained by those biological reference points. Information from the ESRs are also integrated into the annual harvest recommendations through inclusion in stock assessment-specific risk tables, which as described in Section 4.2.1.1 informs the specification of a particular biological reference point, ABC.

The 2007 EIS analyzed alternatives for an implementing framework process for the BSAI and GOA harvest specifications and evaluated the potential effects of those alternatives on the physical environment. This framework process for the harvest strategy under the 2007 EIS results in the effects of climate variability being considered in the annual process for setting the harvest specifications.

Abbreviated 2025 GOA ESR: The GOA 2025 marine ecosystem was characterized by warm waters at the surface and at depth for much of the year, with signs of reduced lower trophic level production, relative to 2024. Fewer signs of warm water impacts were observed in higher trophic levels. The warm water came from two sources: warm waters in the northwest Pacific transported via strong winter winds from the west onto the shelf, and from upwelled warm waters at the center of the North Pacific subarctic gyre. The La Niña event in the winter of 2024/2025 increased gyre circulation bringing these warm upwelled waters onto the shelf and did not result in the anticipated cooling associated with past La Niña's. The GOA had characteristics of a warm ecosystem (including similarities to 2019, the most recent year dominated by warmer waters), especially within the faster-responding lower trophic levels. Examples of these warm characteristics included a phytoplankton community dominated by smaller-celled organisms, indicating less efficient energy transfer, increased biomass of smaller copepods versus larger copepods, increased frequency of harmful algal blooms, and reduced body condition in certain groundfish species and Glacier Bay humpback whales. Numerous indicators reflected a productive system at higher trophic levels, perhaps due to delayed food web impacts, including elevated biomass of lipid-rich euphausiids, continued presence of certain forage fish species (capelin, herring), and above-average seabird reproductive success. In considering similarities to the 2014-2016 GOA ecosystem, associated with the decline of the GOA Pacific cod population, similarities exist in bottom temperature and lower trophic level indicators, but these similarities did not occur throughout the ecosystem. Many ecosystem responses to the 2014-2016 marine heatwave were only observed to occur in 2015, the second consecutive year of the event (*e.g.*, decline of capelin and herring and seabird die-offs). Sea surface temperatures in the fall of 2025 continued to be above or near the marine heatwave threshold, making the rapid dissipation of heat (especially at depth) less likely. The possibility of a continued response to extended warming in the GOA shelf marine ecosystem in 2026 could include cumulative effects that extend further through the food web.

Climate Variability: Ongoing research has increased NMFS's understanding of the interactions among ecosystem components, including how they are impacted by changing environmental and climate conditions. Climate variability is accounted for in NMFS's decision-making on the annual implementation of the harvest specifications, consistent with the harvest strategy in the FMPs and analyzed in the 2007 EIS. Chapter 3.5 of the 2007 EIS examined existing physical and oceanographic

conditions in the BSAI and GOA, and addressed climate and ecological regime shifts, warming and loss of sea ice, and acidification; these variables continue to be monitored and evaluated using the best available scientific information. Climate variability and ecological regime shifts are known to impact all three issues used to assess systemic ecosystem impacts in the 2007 EIS (see below).

The harvest specifications process uses the best scientific information available on climate variability, as summarized primarily from the SAFE reports (including the ESRs). The information from SAFE reports and other sources are considered during the harvest specifications process and used to evaluate risk, uncertainty, and ecosystem factors when setting TACs in the manner consistent with the preferred alternative harvest strategy contemplated by the 2007 EIS. Recent ESRs have reported indices of borealization[66] in the southeastern Bering Sea in order to monitor ecosystem-level responses to warming conditions.

The annual harvest specifications process continues to assess systemic ecosystem impacts across the three indicators used in the 2007 EIS. Advances in research (*e.g.*, genomic sequencing, electronic monitoring) and engineering (*e.g.*, autonomous sampling vehicles, ship-based acoustic monitoring) have also expanded the breadth of information available for consideration in the annual harvest specifications process since the 2007 EIS. Advances in regional climate and ecosystem modeling also continue to resolve trophic and energetic linkages, contributing to more robust understanding of systemic ecosystem impacts (discussed further in Section 3.2.1.1, Research and Modeling). Systemic ecosystem impacts continue to be assessed across the three categories named in the 2007 EIS. The following provides a high-level summary of current conditions for the issues from the 2007 EIS:

> **Predator-prey relationships:** Prey species of particular importance to marine mammals (*e.g.*, Stellar sea lions) and ecologically, or economically, valuable fish species continue to be monitored for biomass and stock health. Recent warming in the GOA has contributed to reduced zooplankton quantity and quality which is expected to persist under ongoing El Niño conditions. Though the EBS has been in a cold phase for several years, zooplankton and fish assemblages have lagged in response, resulting in an ongoing transitional phase in the ecosystem since the 2014 - 2016 marine heatwave in the North Pacific. Recent scientific advances (*e.g.*, genomic sequencing) have also expanded marine mammal diet studies to observe potential shifts in diet composition which can be indicative of reduced prey availability and quality. Assessments of marine mammals, fish, and seabirds continue to incorporate estimates of age-specific prey-preferences and needs as these are critical factors in early-life mortality and age-at-maturity, both of which are key predictors of population vulnerability. This aspect of systemic ecosystem impacts is described further in later sections (Section 4.2.5, Marine Mammals; Section 4.2.6, Seabirds; Section 4.2.7, Habitat).
>
> **Energy flow and removal:** Annual harvest specifications continue to consider annual stock assessment reports to ensure that removals are small relative to the total system biomass. In particular, the BSAI TACs are limited relative to the system's total ABCs. Ongoing advances in active and passive bioacoustic monitoring have also added to monitoring and assessment of total system biomass.
>
> **Diversity:** Since the 2007 EIS, scientific advancements in genomic sequencing have expanded the information available for consideration in the harvest specifications process. ESRs and other reports contain evaluations of salmon bycatch to monitor and preserve genomic diversity (see Section 4.2.4.2.2, Salmon Bycatch Management). These reports of genomic diversity are used to inform the annual harvest specifications process. Current and ongoing projects with regional

[66] 'Borealization' is the transition from an Arctic physical state supporting a cold-adapted species assemblage to a subarctic (boreal) physical state supporting a warm-adapted assemblage. This topic is discussed in the 2024 ESR for the eastern Bering Sea. Available from: https://www.fisheries.noaa.gov/resource/data/ecosystem-status-report-2024-eastern-bering-sea

collaborators are also monitoring genomic diversity in other groundfish stocks (*e.g.*, gadid populations in the Arctic) and groundfish communities.

New information related to specific aspects of the ecosystem (*i.e.*, non-target species) are evaluated below in the subsections of Section 4.3.

NMFS has evaluated whether there is substantial new information that would alter the analysis of impacts in the 2007 EIS on this resource component from the implementation of the preferred alternative harvest strategy, and NMFS concludes that the implementation of the harvest specifications will not affect this resource component in a significant manner or to a significant extent not considered in the 2007 EIS.

4.2.2. Target Species

4.2.2.1. What was Analyzed in the 2007 EIS

Target species are defined in the BSAI and GOA FMPs as those species that support either a single species or mixed species target fishery, are commercially important, and for which a sufficient database exists that allows each to be managed on its own biological merits. Accordingly, a specific TAC is established annually for each target stock. The catch of each species must be recorded and reported. The FMPs explicitly list target species. In the GOA, target species include walleye pollock, Pacific cod, sablefish, shallow and deep water flatfish, rex sole, flathead sole, arrowtooth flounder, Pacific ocean perch, shortraker rockfish, rougheye and blackspotted rockfish, northern rockfish, other rockfish, demersal shelf rockfish, thornyhead rockfish, Atka mackerel, skates, sharks, and octopus. In the BSAI, target species include pollock, Pacific cod, sablefish, yellowfin sole, Greenland turbot, arrowtooth flounder, Kamchatka flounder, northern rock sole, flathead sole, Alaska plaice, "other flatfish", Pacific ocean perch, northern rockfish, shortraker rockfish, blackpotted/rougheye rockfish, "other rockfish", Atka mackerel, skates, sharks, and octopus.

Both the BSAI and GOA FMPs have ecosystem component categories. This category includes prohibited species, forage fish species, grenadiers, squids, and sculpins. Ecosystem component categories are addressed in subsequent subsections.

The 2007 EIS evaluated impacts of the groundfish harvest strategy alternatives on target species using the following indicators; (1) mortality, (2) genetic structure of the population, (3) reproductive success, (4) prey availability, and (5) habitat. Genetic structure and reproductive success are measures of the impact of spatial and temporal concentration of fishing on the stocks.

The conclusions of the 2007 EIS using these indicators for the preferred alternative harvest strategy were as follows:

> **Mortality:** Tier 1-3 species were not overfished, not being overfished and were not approaching an overfished condition. Similar determinations could not be made for species in other tiers, although overfishing was expected to be unlikely. All fishery harvests are expected to be within OFL levels.
>
> **Spatial and Temporal Impacts**: Not expected to alter the genetic sub-population structure for Tier 1-3 stocks in a way that would jeopardize MSST. Tier 4-6 stocks harvested within OFL have a low likelihood of adverse genetic structure impacts. Not expected to affect reproductive success for Tier 1-3 stocks in a way that would jeopardize MSST. Tier 4-6 stocks harvested within OFL have a low likelihood of adverse impacts on reproductive success.
>
> **Prey:** Preferred alternative is not expected to lead to overfishing of prey available to target groundfish fisheries.

Habitat: Impacts are expected to be minimal and persistent.

4.2.2.2. Relevant New Information

The SAFE reports for the BSAI and GOA summarize the best available scientific information concerning the past, present, and possible future condition of the stocks, marine ecosystems, and fisheries that are managed under Federal regulation. The reports provide information for setting annual harvest levels for each stock, documenting significant trends or changes in the resource, marine ecosystems, and fishery over time, and assessing the relative success of existing Federal fishery management programs. The stock assessments for each stock also include the best scientific information on the life history of the stock, stock structure and other genetic studies and information, and other stock-specific biological information relevant to assessing the impact of fishing on that stock. Current management measures also limit spatial and temporal impacts by establishing seasonal allowances of TAC and spreading TAC (and therefore catch) across management subunits, and stock assessments include scientific recommendations for apportionments across those management areas. The stock assessments therefore provide updated information on mortality and other impacts based on current fishing effort. The frequency with which each stock is assessed can be found on page 13 of the introduction for each SAFE (BSAI and GOA).[67]

For the BSAI, the status of the stocks continues to appear favorable. All stocks are above B_{MSY} or the B_{MSY} proxy of $B_{35\%}$[68], which is used when a stock is Tier 3 and there is no direct estimate available. For the GOA, the spawning biomass estimates of pollock (W/C/WYK GOA), sablefish, northern rock sole and southern rock sole (assessed as part of the shallow-water flatfish stock complex), Dover sole (assessed as part of the deep-water flatfish stock complex), flathead sole, rex sole, arrowtooth flounder, Pacific ocean perch, rougheye and blackspotted rockfish, northern rockfish, and dusky rockfish are above target stock size. With the updated 2025 stock assessment for Pacific cod in the GOA,[69] the spawning biomass of Pacific cod is nearly equal to the B_{MSY} proxy at $B_{33.1\%}$.[70] However, if B_{MSY} is below $B_{40\%}$ then the stock status is recategorized to subtier b of Tier 3 and the maxABC cannot be set greater than 41,520 mt. The target biomass levels for Southeast Outside GOA pollock, deep-water flatfish (excluding Dover sole), shallow-water flatfish (excluding northern and southern rock sole), shortraker rockfish, other rockfish, demersal shelf rockfish, thornyhead rockfish, Atka mackerel, skates, octopus, and sharks are unknown.

Within the SAFE report introductions for both the GOA and BSAI is an overview of stock status projected for 2025.[71] Overall, according to this information, there has been no change in any stock's status relative to the established status determination criteria. No groundfish stocks are overfished or approaching an overfished condition, nor is overfishing occurring.

[67] NMFS 2024 SAFE reports for the Groundfish Resources of the BSAI and GOA are available from: https://files.npfmc.org/SAFE/2024/BSAIintro.pdf & https://files.npfmc.org/SAFE/2024/GOAintro.pdf

[68] BSAI FMP. Available from: https://files.npfmc.org/fmp/BSAI/BSAIfmp.pdf

[69] Assessment of the Pacific cod stock in the Gulf of Alaska, 2026. Available from: https://meetings.npfmc.org/CommentReview/DownloadFile?p=d4b7f4f3-400f-4d23-9814-b4d16c038179.pdf&fileName=GOA%20Pacific%20cod%20assessment%20Jan2026%20Plan%20Team%20DRAFT.pdf

[70] GOA FMP. Available from: https://files.npfmc.org/fmp/GOA/GOAfmp.pdf

[71] NPFMC Groundfish Plan Teams. 2024. Stock Assessment and Fishery Evaluation Reports for the Groundfish Resources of the GOA and BSAI. Available from: https://www.npfmc.org/wp-content/PDFdocuments/SAFE/2024/BSAIintro.pdf and https://www.npfmc.org/wp-content/PDFdocuments/SAFE/2024/GOAintro.pdf

The status of the groundfish stocks in the BSAI and GOA are stable for continued commercial fisheries based on the most recent stock assessments (SAFE reports for the BSAI and GOA). The ESRs also present a Fish Stock Sustainability Index (FSSI),[72] which is a performance measure for the sustainability of stocks that are important to commercial and recreational fisheries. The FSSI indicates that the majority of Alaska groundfish (and crab) stocks continue to be sustainably managed.

At present no groundfish target stock is overfished, approaching a condition of being overfished, or experiencing overfishing.

NMFS has evaluated whether there is substantial new information that would alter the analysis of impacts in the 2007 EIS on target species from the implementation of the preferred alternative harvest strategy, and NMFS concludes that the implementation of the harvest specifications will not affect this resource component (target species) in a significant manner or to a significant extent not considered in the 2007 EIS.

[72] NMFS Fishery Stock Status Updates. Available from NOAA Fisheries at: https://www.fisheries.noaa.gov/national/population-assessments/fishery-stock-status-updates

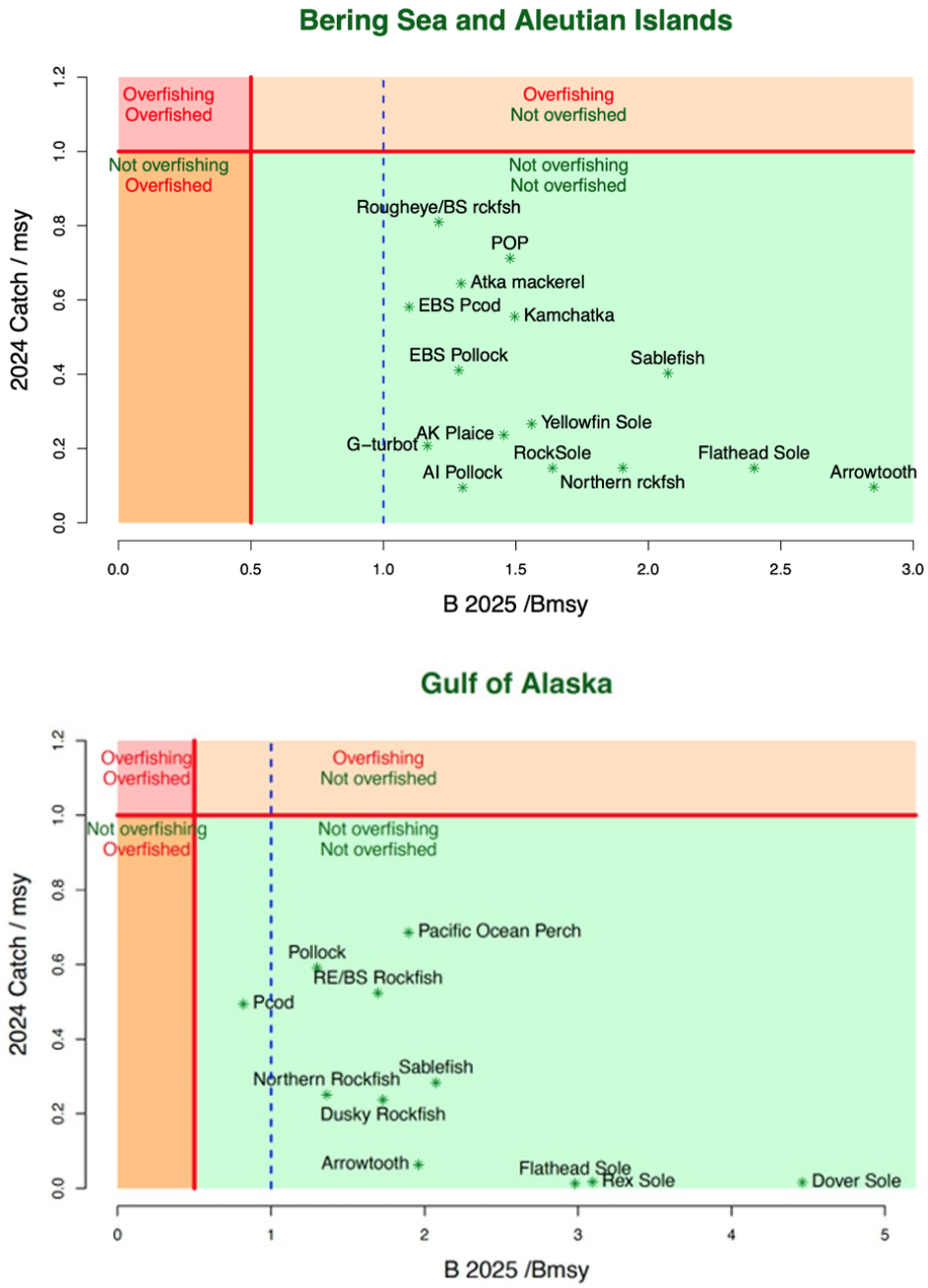

Figure 4-1. Summary of most recent BSAI (top) and GOA (bottom) stock status (spawning biomass relative to Bmsy; horizontal axis) and current year catch relative to fishing at Fmsy (vertical axis). Note that sablefish is for Alaska-wide values. In the BSAI, due to model changes in 2024, Aleutian Island Pacific cod is not included in this figure. In the GOA, stock status was carried over the previous year for arrowtooth flounder, rougheye/blackspotted rockfish, Pacific ocean perch, flathead sole, rex sole, and Dover sole.

4.2.3. Non-Specified Species and Forage Species

4.2.3.1. What was Analyzed in 2007 EIS

The 2007 EIS examined impacts on the non-specified fish species category, which are species that are not defined in the BSAI or GOA FMPs as target, other, forage, or prohibited species. At that time, non-

specified fish species included jellyfish, grenadiers (a group of deep-sea species related to hakes and cods), starfish, prowfish, smooth lumpsuckers, eels, sea cucumbers, Pacific lamprey, greenling, and Pacific and black hagfish, among others. Grenadiers, sculpins, squid, and forage fish species are now managed as ecosystem component species under the FMPs. Grenadiers and sculpins are on a 4-year review cycle. The report on forage fish and squid is on a two-year cycle.

The 2007 EIS examined impacts on forage fish, including mortality, spatial and temporal impacts, prey, and habitat. The EIS indicated that almost all the GOA forage fish incidental catch, and most of the BSAI incidental catch, consists of smelts (Family Osmeridae, including capelin, eulachon, and other smelts).

4.2.3.2. Relevant New Information

Regulations prohibit directed fishing for forage fish, grenadiers, squids, and sculpins (50 CFR 670.20(i)). Retention of these species is limited by maximum retainable amounts, and the rest of the catch must be discarded. Catch of forage fish and grenadiers are subject to further restrictions: the sale, barter, trade, or processing of forage fish and grenadiers is prohibited, except the retained catch of forage fish or grenadiers not exceeding the maximum retainable amount may be processed into fishmeal for sale, barter, or trade. Retained catch of squids and sculpins not exceeding the maximum retainable amount may be sold to a processor or processed into any product form, including (but not limited to) fishmeal, bait, and whole fish/food fish, for sale, barter, or trade.

Information on forage fish is compiled for the BSAI and GOA every two years. The forage fish report presents available data on trends in abundance and distribution of forage populations (primarily bottom trawl survey data) and a description of their interactions with federal fisheries as incidental catch. Osmerids and shrimp account for almost all of the incidental catch in the BSAI. Osmerids regularly make up the vast majority of forage fish incidental catch in the GOA. Overall, incidental catch of forage fish has declined in both the BSAI and GOA.[73]

The forage fish report also includes squid, which are now managed as an ecosystem component species. Since 2019, squid catch in the BSAI has been twice the historical maximums; and in the GOA, catch has been high compared to those observed before 2020. However, squid catches are generally relatively low compared to biomass estimates from trawl surveys and, as noted when squid was placed in the ecosystem component category, there is a low risk of overfishing given high productivity and no directed fishery.[74] Average annual catch for squid in the BSAI and GOA from 2021-2025 was 6,247 mt.

Information on grenadiers and sculpins is also compiled for the BSAI and GOA. For grenadiers, although a stock assessment and specifications are not required, the AFSC prepares an unofficial assessment that calculates biomass, OFL, and ABC.[75] The most recent "assessment" estimated a BSAI biomass of 1,055,348 mt, an OFL of 82,317 mt, and an ABC of 61,738 mt. For the GOA, biomass was estimated at 369,618 mt, with an OFL of 28,830 mt and an ABC of 21,623 mt. 2021-2025 catches in the BSAI and GOA have averaged 2,606 mt of grenadiers a year. The "assessment" includes a summary of distribution, speciation and stock structure, biology, ecology, natural mortality, ecosystem considerations, and catch history in the GOA and BSAI groundfish fisheries, as well as survey data.

Based on the last stock assessment prepared before sculpins moved to the ecosystem component, for sculpins in the BSAI, biomass was estimated in 2020 at 240,487 mt, with an OFL of 67,817 mt, and an ABC of 50,863 mt.[76] For sculpins in the GOA, biomass was estimated at 33,010 mt, with an OFL of

[73] NMFS. 2024. Alaskan forage report. Available from: https://www.npfmc.org/wp-content/PDFdocuments/SAFE/2024/Forage.pdf

[74] NMFS. 2024. Alaskan forage report. Available from: https://www.npfmc.org/wp-content/PDFdocuments/SAFE/2024/Forage.pdf

[75] AFSC. November 2020. Assessment of the Grenadier Stock Complex in the Gulf of Alaska, Eastern Bering Sea, and Aleutian Islands. Available from: https://apps-afsc.fisheries.noaa.gov/refm/docs/2020/Grenadiers.pdf

[76] NMFS 2019. Assessment of the sculpin stock complex in the Bering Sea and Aleutian Islands. Available from: https://apps-afsc.fisheries.noaa.gov/refm/docs/2019/BSAIsculpin.pdf

6,932 mt and an ABC of 5,199 mt.[77] Average annual catch of sculpin in the BSAI and GOA from 2021-2025 was 5,997 mt. This year, additional information on bycatch (discarded catch) is available.[78] Both the GOA groundfish and BSAI groundfish fisheries had the lowest bycatch rate in 2025, looking at bycatch data from 2013 to 2025. Total amount of discards was also the lowest in 2025 since 2013, with significant declines for some fisheries and some species. For example, the GOA sablefish fishery bycatch of giant grenadiers was 2 mt in 2025 compared to the annual average discard of giant grenadier of 2,823 mt from 2015 to 2024, while the BSAI halibut longline fishery bycatch of sculpins in 2025 was 79 mt compared to annual average of 343 mt from 2020 to 2024 bycatch.

NMFS has evaluated whether there is substantial new information that would alter the analysis of impacts in the 2007 EIS on forage fish, grenadiers, squids, and sculpins from the implementation of the preferred alternative harvest strategy, and NMFS concludes that the implementation of the harvest specifications will not affect forage fish, grenadiers, squids, and sculpins in a significant manner or to a significant extent not considered in the 2007 EIS.

4.2.4. Prohibited Species

4.2.4.1. What was Analyzed in the 2007 EIS

Under the BSAI and GOA FMPs, prohibited species are a part of the ecosystem component category. Prohibited species include Pacific halibut (*Hippoglossus stenolepis*), Pacific herring, Pacific salmon, Steelhead trout, and King and Tanner crab.

The 2007 EIS evaluated impacts of the groundfish harvest strategy alternatives on prohibited species using the following indicators; (1) mortality, (2) genetic structure of the population, (3) reproductive success, (4) prey availability, and (5) habitat. Genetic structure and reproductive success are measures of the impact of spatial and temporal concentration of fishing on the stocks.

The conclusions of the 2007 EIS using these indicators for preferred alternative harvest strategy were as follows:

> **Mortality**: For the preferred alternative harvest strategy (alternative 2) bycatch of herring and crab were believed to be small compared to biomass estimates, while bycatch of Chinook and chum salmon has risen in recent years (relative to 2007 EIS) but not to a level believed to adversely affect the stocks. Halibut mortality is taken into account when commercial quotas are set so as to prevent adverse impacts on halibut stocks.
>
> **Spatial and Temporal Impacts**: There is little information on genetic composition of stocks of prohibited species. Because bycatch species rates are low, genetic impacts are believed to be small. For reproduction, most prohibited species reproduce in protected areas, or are broadcast spawners. Bycatch rates are low. Fishing impacts on reproductive success are believed to be small.
>
> **Prey**: Prohibited species consume species (*i.e.*, zooplankton, euphausiids, other invertebrates, and juvenile groundfish) unlikely to be affected by fishing, or feed where there is relatively little fishing activity. Impacts are expected to be small.
>
> **Habitat**: Salmon and herring are primarily pelagic, using shallow inshore or river waters for spawning. In general impacts on halibut and crab are expected to be small.

[77] NMFS 2019. Partial assessment of the sculpin stock complex in the Gulf of Alaska. Available from: https://apps-afsc.fisheries.noaa.gov/refm/docs/2019/GOAsculpin.pdf

[78] NPFMC. 2026. Bycatch Report. Available from: https://meetings.npfmc.org/CommentReview/DownloadFile?p=d7ae549a-1b0a-4cd4-bb84-32439e5d6403.pdf&fileName=PPT%20B1%20Bycatch%20Report.pdf

Current regulations require vessels engaged in directed fishing for groundfish to (1) minimize its catch of prohibited species and (2) return all prohibited species to the sea immediately with minimum injury, except that vessels with an observer(s) onboard must allow the observer(s) to sample prohibited species (50 CFR 679.21(a)(2)). In addition, regulations prohibit discard of salmon PSC in the Bering Sea pollock fisheries and GOA groundfish fisheries (50 CFR 679.21(a)(2)). Vessels engaged in directed fishing for groundfish are also subject to certain PSC limits. The PSC limits are either set in regulation or NMFS determines which regulatory PSC limits apply based on specific criteria in the regulations. NMFS announces these PSC limits in the annual harvest specifications.[79] More details on the specific management of PSC is provided in the subsections that follow.

4.2.4.2. Relevant New Information

4.2.4.2.1. Halibut Bycatch Management.

Halibut bycatch in the BSAI and GOA is subject to specific limits. In the GOA, regulations establish annual halibut PSC limit apportionments of 1,705 mt for trawl gear, 256 mt for hook-and-line gear, and 9 mt for the demersal shelf rockfish (DSR) fishery in the SEO District. The trawl gear and hook-and-line gear PSC limits are further apportioned into seasonal apportionments and fishery category (trawl shallow-water or deep-water fishery categories) or sector (hook-and-line CVs or C/P sectors) apportionments. In the BSAI, regulations establish three fixed halibut PSC limits totaling 1,770 mt, and assigns 315 mt of the halibut PSC limit as the prohibited species quota reserve for use by the groundfish CDQ Program, 745 mt of the halibut PSC limit for the BSAI trawl limited access sector, and 710 mt of the halibut PSC limit for the BSAI non-trawl sector. The remaining halibut PSC limit for the Amendment 80 sector was changed through Amendment 123 and implementing regulations (see Section 3.1.3).

In 2023, NMFS published a final rule to implement Amendment 123 to the BSAI FMP and regulations governing limits on Pacific halibut PSC, following the Council recommendation in December 2021. The intent of the final rule (88 FR 82740, November 24, 2023) is to minimize halibut mortality and may result in additional harvest opportunities in the commercial, subsistence, and recreational halibut fisheries. NMFS prepared a 2022 EIS[80] that analyzed the impacts of the Amendment 80 Program fishery on resource components and a range of alternatives for proposed management measures to correlate or link the Amendment 80 halibut PSC limit to halibut abundance. The 2022 EIS and ROD accompanying this action found that the preferred alternative implemented through Amendment 123 provides reasonable and practical means to avoid, minimize, or compensate for environmental harm from this fishery.

The action specifies halibut PSC limits for the Amendment 80 sector based on fisheries-independent indices of halibut abundance derived from scientific survey data. The two survey indices recommended by the Council and implemented in the final rule are the IPHC setline survey index in Area 4ABCDE and the AFSC EBS shelf trawl survey index. Each year, the IPHC calculates an index of halibut biomass in Area 4ABCDE,[81] which it will provide to NMFS and the Council. NMFS will categorize the resulting index into one of four abundance index ranges: very low, low, medium, or high. Similarly, the AFSC uses the most recent results from the EBS shelf trawl survey to calculate an index of halibut biomass and NMFS will categorize the resulting index into one of two ranges: low or high. The value at the intercept of those separate indices in Table 58 to 50 CFR part 679 will be the Amendment 80 sector's halibut PSC

[79] It is important to note that while NMFS announces PSC limits in the annual harvest specifications, regulations either set a specific limit or specify the factors NMFS must use and the specific limits NMFS must set based on those factors. The regulations do not give NMFS discretion to set a PSC limit different from the limits prescribed in regulation. See 50 CFR 679.21.

[80] Final EIS for the BSAI Halibut ABM of Amendment 80 PSC Limit. Available from: https://www.fisheries.noaa.gov/resource/document/final-environmental-impact-statement-bering-sea-and-aleutian-islands-bsai-halibut

[81] IPHC Statistical Areas can be viewed here: https://www.iphc.int/data/geospatial-data/

limit for the following calendar year. The Amendment 80 sector's halibut PSC limit will be updated each year based on the survey indices and announced in the groundfish harvest specifications.[82]

The halibut PSC limits for trawl gear and non-trawl gear are further apportioned into seasonal apportionments and fishery category apportionments.

Halibut Discard Morality Rates (DMRs): NMFS uses observed halibut incidental catch rates, DMRs, and estimates of groundfish catch to project when a halibut PSC limit is reached. Halibut incidental catch rates are based on observed estimates of halibut incidental catch in the groundfish fisheries. DMRs are estimates of the proportion of incidentally caught halibut that do not survive after being returned to the sea. The cumulative halibut mortality that accrues to a particular halibut PSC limit is the product of a DMR multiplied by the estimated halibut PSC. DMRs are estimated using the best scientific information available in conjunction with the annual stock assessment process. The DMR methodology and findings are included as an appendix to the BSAI and GOA SAFE reports. The methodology for calculating DMRs is intended to improve estimation accuracy, transparency, and transferability used for calculating DMRs and includes a recent reference period (the period of data used for calculating the DMRs) that allows for more responsive changes in the calculated DMRs. The current DMR methodology continues to ensure that NMFS is using DMRs that accurately reflect halibut mortality, which will inform the sectors of their estimated halibut mortality and allow sectors to respond with methods that could reduce mortality and, eventually, the DMR for that sector. Conversely, if a sector's halibut mortality increases, the DMR would increase too.

The impacts of halibut PSC also remain the same or similar as was analyzed in the 2007 EIS. The 2007 EIS analyzed impacts of the harvest strategy on halibut and halibut bycatch, including impacts to mortality, spatial and temporal impacts to genetic structure of the population and reproductive success, prey for halibut, and habitat for halibut. Information on halibut bycatch in the GOA and BSAI groundfish fisheries is available on the NMFS webpage for catch and landings reports and from other sources.[83] For 2025, no sector exceeded a halibut bycatch limit.[84] The 2024 EBS ESR also included an overview of foraging and energetics for halibut, and the 2024 AI ESR evaluated changes in the biomass of fish apex predators, including halibut. Regulations limiting halibut PSC in the groundfish fisheries have only gotten more restrictive since 2007 EIS.

NMFS has evaluated whether there is substantial new information that would alter the analysis of impacts in the 2007 EIS on halibut from the implementation of the preferred alternative harvest strategy. Based on the updated analyses on the various halibut bycatch actions, directed fishery management under the IPHC, bycatch reports, and the information and circumstances in the 2024 SAFE reports, NMFS has determined that the implementation of the groundfish harvest specifications will not affect this resource component (halibut) in a significant manner or to a significant extent not already considered in the 2007 EIS.

For additional information on actions taken by the IPHC see Section 5.2.

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[82] NMFS 2022. Final EIS for the BSAI Halibut ABM of Amendment 80 PSC Limit. Available from: https://www.fisheries.noaa.gov/resource/document/final-environmental-impact-statement-bering-sea-and-aleutian-islands-bsai-halibut; Record of Decision on Final EIS for Amendment 123 to the BSAI FMP. Available from: https://www.fisheries.noaa.gov/s3/2023-03/amd-123-halibut-abm-rod.pdf

[83] NMFS Fisheries Catch and Landings Reports in Alaska. Available from: https://www.fisheries.noaa.gov/alaska/commercial-fishing/fisheries-catch-and-landings-reports-alaska
NPFMC. 2026. Bycatch Report. Available from: https://meetings.npfmc.org/CommentReview/DownloadFile?p=d7ae549a-1b0a-4cd4-bb84-32439e5d6403.pdf&fileName=PPT%20B1%20Bycatch%20Report.pdf

[84] NMFS. 2025. BSAI PSC Report. Available from: https://www.fisheries.noaa.gov/sites/default/files/akro/car120_psc_bsai_with_cdq2025.html; NMFS 2024. GOA Halibut Mortality Report. Available from: https://www.fisheries.noaa.gov/sites/default/files/akro/car150_goa_halibut_mortality2025.html

4.2.4.2.2. Salmon bycatch management.

Under the FMPs salmon species are managed as PSC. For Chinook salmon there are PSC limits in place for some fisheries. If those limits are reached or exceeded then the directed fishery where that limit applies closes to directed fishing. All salmon bycatch information is collected by observers on vessels or in processing plants. Extrapolated salmon bycatch numbers are attributed to non-observed vessels. In the GOA and BSAI pollock fisheries all salmon are required to be retained so that full accounting can occur by observers during the offload. Pollock vessels can choose to be part of the EM program where they are required to have a camera system to monitor compliance. NMFS reports on both Chinook and non-Chinook bycatch in all fisheries, even if a Chinook limit does not apply. These reports are updated weekly and are available at the Alaska Region website on the catch and landings page.

4.2.4.2.2.1. Salmon bycatch management in the BSAI.

Reports are updated weekly on the number of Chinook and non-Chinook taken in the BSAI and are available at the Alaska Region website on the catch and landings page.[85] In 2025, 23,231 Chinook salmon were incidentally caught in the BSAI groundfish fisheries with 19,773 Chinook salmon out of the total incidentally caught in the BSAI pollock directed fisheries.[86] In 2025, 156,203 non-Chinook salmon were incidentally caught in the BSAI groundfish fisheries with 151,334 non-Chinook salmon out of the total incidentally caught in the BSAI pollock directed fisheries.[87]

NMFS and the Council have taken comprehensive action through Amendments 91 and 110 (the background of these amendments are described here) to the BSAI FMP and implementing regulations to reduce Chinook salmon bycatch in the pollock trawl fishery because of the potential for negative impacts on Chinook salmon stocks. NMFS prepared a 2009 EIS[88] that analyzed the impacts of the Bering Sea pollock fishery on resource components and a range of alternatives for proposed management measures to minimize Chinook salmon bycatch in the Bering Sea pollock fishery.

Existing measures have reduced Chinook salmon bycatch in the pollock fishery in comparison to the fishery before these measures were in place. Regulations that set limits on how many Chinook salmon can be taken in a year are found at 50 CFR 679.21(f). For the Bering Sea pollock fishery, NMFS annually assigns portions of either 33,318, 45,000, 47,591, or 60,000 Chinook salmon PSC limits among the AFA sectors, depending on past bycatch performance, whether Chinook salmon bycatch IPAs are formed and approved by NMFS, and whether NMFS determines it is a low Chinook salmon abundance year. NMFS will determine that it is a low Chinook salmon abundance year when abundance of Chinook salmon in western Alaska is less than or equal to 250,000 Chinook salmon. The State provides to NMFS an estimate of Chinook salmon abundance using the three-System Index for western Alaska based on the aggregate salmon run estimates among three rivers: the Kuskokwim, Unalakleet, and Upper Yukon. As a result, the process of setting the annual Chinook PSC limits accounts for the current status of Chinook salmon based on the State's three-System Index. For 2025, the adult Chinook salmon run sizes from the Unalakleet, Upper Yukon, and Kuskokwim rivers was less than the threshold level of 250,000 salmon at 176,334 salmon.[89] NMFS determined that 2025 was a low abundance year and set 2026 and 2027 limits in

[85] NMFS. Fisheries Catch and Landings Reports in Alaska. Available from: https://www.fisheries.noaa.gov/alaska/commercial-fishing/fisheries-catch-and-landings-reports-alaska

[86] NMFS 2025. Chinook salmon mortality in BSAI groundfish fisheries. Available from: https://www.fisheries.noaa.gov/sites/default/files/akro/chinook_salmon_mortality2025.html

[87] NMFS. 2025. Non-Chinook salmon mortality in BSAI groundfish fisheries. Available from: https://www.fisheries.noaa.gov/alaska/commercial-fishing/fisheries-catch-and-landings-reports-alaska

[88] Bering Sea Chinook Salmon Bycatch Management: Final EIS Volumes I-II. Available from: https://www.fisheries.noaa.gov/resource/document/bering-sea-chinook-salmon-bycatch-management-final-environmental-impact-statement

[89] Letter from the State of Alaska to NMFS regarding the 2025 three-system index of Chinook salmon runs. Available from: https://meetings.npfmc.org/CommentReview/DownloadFile?p=938dc244-d981-475a-8212-d841970e8091.pdf&fileName=C5%202025%20Chinook%20Abundance%20Index.pdf

accordance with 50 CFR 679.21(f) with a performance standard of 33,318 salmon and an overall PSC limit of 45,000 salmon. These limits can be found in the Final 2026 and 2027 Groundfish Harvest Specifications for the BSAI.

For the Aleutian Islands pollock fishery, regulations specify 700 fish as the Chinook salmon PSC limit (50 CFR 679.21(g)(2)). In addition, for non-Chinook salmon, regulations specify 42,000 fish as the non-Chinook salmon PSC limit for vessels using trawl gear from August 15 through October 14 in the Catcher Vessel Operational Area (CVOA) (50 CFR 679.21(f)(14)).

On December 21, 2021, Kawerak, Inc., the Association of Village Council Presidents, the Kuskokwim River Inter-Tribal Fish Commission, the Yukon River Inter-Tribal Fish Commission, the Aleut Community of St. Paul Island, and the Bering Sea Elders Group requested that NMFS take emergency action pursuant to the Magnuson-Stevens Act, 16 U.S.C. § 1855(c)(1).[90] The petitioners requested that NMFS institute a cap on chum salmon bycatch in the Bering Sea pollock fishery during 2022 and develop long-term measures to reduce chum salmon bycatch. NMFS denied the request for emergency action and determined that the petition did not meet all three criteria necessary to implement an emergency rule.[91]

At their December 2022 meeting, the Council initiated action to modify chum salmon bycatch management measures in the Bering Sea pollock fishery. In April 2023, the Council received a report from its Salmon Bycatch Committee on recommendations for regulatory and non-regulatory chum salmon bycatch management measures. The Council initiated an analysis of potential additional chum salmon bycatch management measures. In October 2023, the Council considered a draft for preliminary review[92] and revised the alternatives for initial review.[93] Initial review of the Council's selected alternatives, as presented in drafts for preliminary review, occurred in April 2024 and February 2025.[94] NMFS published the Draft EIS in September 2025 and obtained public comment on the alternatives.[95] In February 2026, the Council took final action to recommend to NMFS proposed management measures to reduce bycatch of Western Alaska chum salmon in the Bering Sea pollock fishery; these proposed measures include a Western Alaska chum bycatch limit of 45,000 Western Alaska chum salmon and corridor closures for sector exceedances and changes to the existing IPA requirements to further prioritize avoidance of areas and times with the highest proportion of coastal Western Alaska and Upper/Middle Yukon chum salmon stocks.[96] For more information on the management measures the Council is evaluating, see the September 2025 Draft EIS at NMFS webpage.

On January 17, 2024, the Association of Village Council Presidents, Kuskokwim River Inter-Tribal Fish Commission, Tanana Chiefs Conference, Yukon River Drainage Fisheries Association, and Yukon River

[90] NOAA Fisheries webstory on agency decision to deny request for emergency action on Bering Sea salmon bycatch. January 2022. Available from: https://www.fisheries.noaa.gov/feature-story/noaa-fisheries-denies-request-emergency-action-bering-sea-salmon-bycatch#:~:text=About%20Us-,NOAA%20Fisheries%20Denies%20Request%20for%20Emergency%20Action%20on%20Bering%20Sea,of%20the%20Magnuson%2DStevens%20Act.

[91] NMFS published a webstory "NOAA Fisheries Denies Request for Emergency Action on Bering Sea Salmon Bycatch" on January 25, 2022. This article is available from: https://www.fisheries.noaa.gov/feature-story/noaa-fisheries-denies-request-emergency-action-bering-sea-salmon-bycatch

[92] NMFS and NPFMC. 2023. Draft for Preliminary Review on Bering Sea Chum Salmon Bycatch Management. Available from: https://meetings.npfmc.org/CommentReview/DownloadFile?p=5b15695d-d544-4385-87cb-b5cdfee54909.pdf&fileName=C4%20Chum%20Salmon%20Bycatch%20Analysis.pdf

[93] NPFMC 2023. Council Motion on Chum salmon Bycatch. Available from: https://meetings.npfmc.org/CommentReview/DownloadFile?p=399d2901-eed2-49f3-b416-006a3b025113.pdf&fileName=C4%20Council%20Motion%20Chum%20Salmon%20Bycatch.pdf

[94] NPFMC. 2024. Council Motion on Chum Salmon Bycatch. Available from: https://meetings.npfmc.org/CommentReview/DownloadFile?p=51652c12-1852-4f1d-baec-bb983368467f.pdf&fileName=C2%20Motion.pdf

[95] NMFS. 2025. Draft EIS and Regulatory Impact Review on Bering Sea Chum Salmon Bycatch Management. Available from: https://meetings.npfmc.org/CommentReview/DownloadFile?p=32e12788-960d-43db-abc9-3b42d57411d3.pdf&fileName=C2%20Bering%20Sea%20Chum%20Salmon%20Bycatch%20Analysis.pdf

[96] NPFMC. 2026. Council Motion on Final Action Recommendation for Chum Salmon Bycatch. Available from: https://meetings.npfmc.org/CommentReview/DownloadFile?p=73d64f23-98f0-446d-885c-85f9875c83eb.pdf&fileName=C2%20Motion.pdf

Inter-Tribal Fish Commission requested that NMFS take emergency action pursuant to the Magnuson-Stevens Act, 16 U.S.C. § 1855(c)(1), and institute a cap of zero on any further Chinook salmon bycatch in the Bering Sea pollock trawl fishery and that the emergency regulation stay in effect for 180 days. NMFS denied the request for emergency action and determined that the request did not meet all three criteria necessary to implement an emergency rule.[97]

The stock assessment for EBS pollock includes information in its ecosystem considerations section on salmon bycatch. Bycatch is described in terms of CPUE (*i.e.*, total count of salmon per total duration of all tows) and split by the A and B seasons for the pollock fishery. For non-Chinook salmon (~99 percent chum salmon), bycatch has fluctuated on an annual basis and more than 99 percent of non-Chinook bycatch occurs during the B season. For Chinook salmon, bycatch has fluctuated on an annual basis in the A season and is consistently lower in the B season. However, since 2008, annual Chinook bycatch remains lower on average.[98] In 2023, a combined estimated 5,627 Chinook salmon from Coastal Western Alaska, Middle Yukon, and Upper Yukon were caught as bycatch.[99] Not all of these fish would have returned to spawn in that year because not all fish will mature and some will die of natural causes. An adult equivalent (AEQ) model accounts for variable age at maturity and natural mortality to estimate the number of Chinook salmon that would have returned in a given year. For 2023, the AEQ estimate for the combined genetic groups of Coastal Western Alaska, Middle Yukon, and Upper Yukon was 4,074 Chinook salmon with an average of 6,749 salmon for 2011-2023.[100] The genetic analysis is not yet finalized for the estimate of Chinook salmon caught as bycatch in 2024 and 2025 that originated from Western Alaska.

NMFS also genetically samples non-Chinook bycatch to determine the composition of chum salmon originating from Coastal Western Alaska and Upper/Middle Yukon river systems. Based on the available genetic sampling, NMFS estimated the number of Western Alaska chum salmon in the B season that the pollock fleet caught (Table 4-3). On average from 2020-2024, 10.9 percent of chum salmon bycatch originated from Coastal Western Alaska river systems.[101] Larger uncertainty in the parameters underlying the AEQ model precluded a formal analysis for chum salmon; however, a simplified version of the AEQ was developed for the analysis of potential additional chum salmon bycatch management measures. The combined AEQ for Coastal Western Alaska and the Upper/Middle Yukon in 2022 was 53,500 salmon[102] compared to the estimated total catch of 55,724 salmon (Table 4-3).

Table 4-2. Estimated number of Coastal Western Alaska and Upper/Middle Yukon chum salmon caught in the B season for the pollock fishery, 2020-2024.

Year	Number of Coastal Western Alaska chum salmon caught in the B season	Proportion of Coastal Western Alaska chum salmon caught in the B season	Number of Upper/Middle Yukon chum salmon caught in the B season	Proportion Upper/Middle Yukon chum salmon caught in the B season
2020	27,441	8%	3,773	1.1%

[97] NMFS. 2024. NOAA Fisheries Denies Request for Emergency Action on Bering Sea Chinook salmon Bycatch. Available from: https://www.fisheries.noaa.gov/feature-story/noaa-fisheries-denies-request-emergency-action-bering-sea-chinook-salmon-bycatch
[98] NMFS 2024. Assessment of walleye pollock in the eastern Bering Sea. Available from: www.npfmc.org/wp-content/PDFdocuments/SAFE/2024/EBSpollock.pdf
[99] NMFS. 2024. 2023 Genetic Stock Composition Analysis of Chinook Salmon from the PSC of the Bering Sea and Gulf of Alaska Walleye Pollock Trawl Fishery. Available from: https://meetings.npfmc.org/CommentReview/DownloadFile?p=ea59d5e2-4de4-4d4e-9369-4ffe0991cf43.pdf&fileName=C2%20Chinook%20Genetics%20Report.pdf
[100] Table 12, p. 571 of a draft EIS and RIR for a proposed amendment to the BSAI FMP. September 2025. Available from: https://www.fisheries.noaa.gov/resource/document/draft-environmental-impact-statement-and-regulatory-impact-review-proposed
[101] NMFS. 2025. Genetic Stock Composition Analysis of Chum Salmon from the PSC of the 2023 BS Walleye Pollock Trawl Fishery. Available from: https://meetings.npfmc.org/CommentReview/DownloadFile?p=93adc8a8-9284-4731-b492-74d535241a78.pdf&fileName=C2%20Chum%20Salmon%20Genetics%20Report.pdf ;
[102] Table A3-7, pp. 535 of the draft EIS and RIR for proposed amendment to the BSAI FMP. September 2025. Available from: https://www.fisheries.noaa.gov/resource/document/draft-environmental-impact-statement-and-regulatory-impact-review-proposed

2021	48,657	8.9%	2,854	0.5%
2022	51,106	21.1%	4,618	1.9%
2023	9,257	8.3%	2,544	2.3%
2024	2,835	8.3%	1,650	4.8%

The ESRs provide additional information on the status of salmon in the EBS ecosystem and AI ecosystem. The 2024 ESRs included information on salmon in the EBS ecosystem and AI ecosystem, including a synthesis of the status of adult and juvenile chum, Chinook, and sockeye salmon; updated information on the abundance of salmon; fish condition and trends; trends in the run size of Bristol Bay sockeye salmon; the increasing abundance and role of eastern Kamchatka pink salmon in the AI; and trends in directed commercial catch of salmon.

The 2024 EBS ESR summarizes the contrasting, species-specific responses to the recent return to cool/average temperatures following a period of anomalously warm conditions spanning from approximately 2014 to 2021. For chum, the trend of increasing adult returns, juvenile abundance, and above-average to average juvenile condition in recent years point to signs of recovery in western Alaska chum salmon populations. However, a consistent relationship between juvenile chum salmon abundance and future adult returns has not been established, and continued recovery likely depends on environmental conditions remaining favorable. In contrast to chum salmon, western Alaska Chinook salmon do not appear to show signs of recovery in response to the recent cooler conditions. While western Alaska Chinook salmon runs also declined substantially during the recent marine heatwaves, these populations have been declining more broadly since the early 2000s, pointing to a more complex set of stressors that may be constraining production of these stocks. While the abundance of many salmon stocks declined during the recent marine heatwave, Bristol Bay sockeye salmon exhibited an opposite response, with record-high run sizes observed during this time-period. The abundance of Bristol Bay sockeye peaked in 2021–2022, reflecting a strong 2017 year-class and positive ocean entry conditions in 2019. The contrasting response of Bristol Bay sockeye to marine temperature conditions likely reflects their freshwater rearing and marine migratory life histories. Given responses to temperature variation, continued Bering Sea temperatures near or below average may be expected to result in more modest Bristol Bay run sizes in the near future. For juvenile salmon, across species, the 2024 EBS ESR summarized juvenile salmon condition trends in the EBS, noting that juvenile pink, chum, coho, and Chinook salmon in the southern EBS exhibited energy density values that were more consistent with lower energy stores and a reduced capacity for overwinter survival. The juvenile salmon entered the northern Bering Sea in 2024 with average to positive energy stores, which may contribute to higher overwinter survival (when food is limited) and higher adult returns. The 2024 AI ESR includes an evaluation of the implications from the increasing abundance and expanding role of eastern Kamchatka pink salmon in the AI ecosystem, noting that pink salmon grow exceptionally fast, consume a large amount of various prey, and potentially affect growth and survival of other species in the North Pacific Ocean and Bering Sea.

4.2.4.2.2.2. Salmon Bycatch Management in the GOA.

For 2013-2023 and 2025, the annual Chinook salmon caught in the GOA pollock fisheries was less than 26,000 salmon. In 2024, 25,367 Chinook were caught in the GOA pollock fishery.[103] Regulations impose PSC limits in the directed pollock fisheries of 6,684 Chinook salmon in the Western GOA and 18,316 Chinook salmon in the Central GOA (50 CFR 679.21(h)(2)). NMFS is required to close the directed pollock fishery in the Western and Central Regulatory Areas of the GOA if the applicable Chinook

[103] NMFS Gulf of Alaska Seasonal Prohibited Species Report Salmon Through: 31-Dec-2024. Available from: https://www.fisheries.noaa.gov/sites/default/files/akro/car142_goa_salmon2024.html

salmon PSC limit in that regulatory area will be reached (50 CFR 679.21(h)(8)). The cap of 18,316 salmon was exceeded in the Central GOA in 2024 and the pollock fisheries in statistical areas 620 and 630 (Central GOA) were closed for the remainder of 2024 as a result.[104]

There are also Chinook salmon PSC limits for the trawl non-pollock groundfish fisheries in the Western and Central GOA. Regulations establish an initial annual PSC limit of 7,500 Chinook salmon for the trawl non-pollock groundfish fisheries in the Western and Central GOA, and this limit is apportioned among the three sectors that conduct directed fishing for groundfish species other than pollock (trawl CPs; trawl CVs participating in the Rockfish Program; and trawl CVs not participating in the Rockfish Program) (50 CFR 679.21(h)(4)). The Chinook salmon PSC limit for two sectors, trawl CPs and trawl CVs not participating in the Rockfish Program, may be increased by set amounts in subsequent years based on the performance of these two sectors and their ability to minimize their use of their respective Chinook salmon PSC limits during a calendar year. NMFS will monitor the Chinook salmon PSC in the trawl non-pollock groundfish fisheries and close an applicable sector if it reaches its Chinook salmon PSC limit (50 CFR 679.21(h)(8)).

Reports are updated weekly on the number of Chinook caught in the GOA and are available at the Alaska Region website on the catch and landings page.[105]

The 2024 ESR provides additional information on the status of salmon in the GOA ecosystem, including updated information on marine conditions for pink salmon growth and survival, juvenile salmon abundance in Icy Strait, juvenile salmon size and condition trends in Icy Strait, trends in coho, sockeye, and pink salmon survival in Auke Creek, and trends in directed commercial catch of salmon.

4.2.4.2.2.3. ESA Consultations on ESA-listed salmon for GOA and BSAI Groundfish Fisheries.

ESA-Listed Chinook salmon from the West Coast Region: The effects of the GOA and BSAI groundfish fisheries on ESA-listed salmon were analyzed in the December 2, 2009 and January 11, 2007 supplements to the November 30, 2000 Opinion regarding the BSAI and GOA groundfish fisheries, and the supplemental opinion issued on January 9, 2012. Those consultations concluded that groundfish fisheries may adversely affect, but are not likely to jeopardize the continued existence of ESA-listed salmon species. The conclusions of these consultations remain effective for the BSAI groundfish fisheries. In November 2022, the NMFS AKRO SFD indicated its intention to reinitiate consultation on the GOA and BSAI groundfish fisheries. On December 23, 2024, NMFS completed a ESA Section 7 consultation on the GOA groundfish fisheries, which replaced the GOA portions of the prior Opinions. This 2024 Opinion concluded that the GOA groundfish fisheries are likely to adversely affect some threatened salmon species, but not likely to jeopardize the continued existence of any of those threatened salmon species (Lower Columbia River Chinook salmon, Snake River fall-run Chinook salmon, and Upper Willamette River evolutionary significant unit (ESU) Chinook salmon); NMFS determined other species of salmon were not likely to be adversely affected by the GOA groundfish fisheries. NMFS anticipates completing consultation on BSAI groundfish fisheries in 2026.

The 2000 Opinion, and subsequent consultations, concluded that the incidental take statement that established a threshold of 40,000 Chinook salmon annually caught in the GOA groundfish fisheries, including those caught in the Snake River fall-run Chinook salmon, would not jeopardize the continued

[104] NMFS Information Bulletin 24-41: NMFS Prohibits Directed Fishing for Pollock by Vessels Using Trawl Gear in the Central Regulatory Area of the Gulf of Alaska. Available from: https://www.fisheries.noaa.gov/bulletin/ib-24-41-nmfs-prohibits-directed-fishing-pollock-vessels-using-trawl-gear-central

[105] Chinook salmon mortality in GOA groundfish fisheries. Available from: https://www.fisheries.noaa.gov/alaska/commercial-fishing/fisheries-catch-and-landings-reports-alaska

existence of ESA listed salmon.[106] The 2024 Opinion, which supersedes the 2000 Opinion and its supplements for the GOA groundfish fisheries, determined that the following salmon ESUs would be adversely affected: Lower Columbia River Chinook salmon, Snake River Fall-run Chinook salmon, and Upper Willamette River Chinook salmon.[107] Same as the 2000 Opinion, the 2024 Opinion specifies an incidental take limit of 40,000 Chinook salmon in the GOA groundfish fisheries, which is a surrogate for the take of ESA-listed Chinook salmon as it is inclusive of take of ESA-listed Chinook salmon. The actual take of ESA-listed salmon is likely to be much lower. For example, the 2024 Opinion for the GOA groundfish fisheries estimated a ten-year average (2014-2023) of listed Chinook salmon caught in the fisheries, based on mark-expanded estimates of coded-wire tag recoveries, as follows: Lower Columbia River Chinook salmon: 4.1 salmon, Snake River Fall-run Chinook salmon: 1.42 salmon, and Upper Willamette River Chinook salmon: 52.8 salmon. Information from the coded-wire tags indicates that only a fraction of the salmon bycatch is from listed Chinook salmon ESU stocks, which amounts to an insignificant number of fish per year relative to the overall size of these populations, and does not represent a concomitant reduction in the number of spawners to each population given the relatively young average age composition of bycatch. NMFS determined this level of bycatch would not jeopardize the continued existence of any ESA-listed salmon species or stock. As noted in the 2024 Opinion, the total PSC limit for Chinook salmon in the trawl fisheries in the GOA are set lower than the 40,000 Chinook salmon limit in the incidental take statement, providing an additional buffer.

As required by the terms and conditions of the supplements published in 2007 and 2009 and the 2000 and 2024 Opinions, the NMFS AKRO provides the NMFS West Coast Regional Office with additional information in the annual report on salmon bycatch in all of the Alaska groundfish fisheries. The NMFS AKRO publishes these annual reports online as well.[108] The incidental take limit of ESA-listed salmon species in the GOA groundfish fisheries (40,000 salmon) has not been exceeded in recent years, with a count of 28,336 Chinook salmon caught in the GOA groundfish fisheries reported in 2024. The incidental take limit of ESA-listed salmon species in the BSAI groundfish fisheries (upper limit of 68,745 salmon) has not been exceeded in recent years, with a count of 10,450 Chinook salmon caught in the BSAI groundfish fisheries reported in 2024.

NMFS AKRO also prepares a yearly report for the Alaska groundfish fisheries of Chinook salmon coded wire tag and recovery data that supplements the annual report data on salmon catch and salmon bycatch reduction measures.[109]

Conclusion: The 2007 EIS analyzed impacts of the harvest strategy on salmon, salmon bycatch, directed salmon fisheries, and subsistence harvests, including in the context of salmon run failures and impacts on salmon harvests that had occurred. The 2007 EIS also analyzed impacts to mortality, spatial and temporal impacts to genetic structure of the population and reproductive success, prey for salmon, and habitat for salmon. NMFS has evaluated whether there is substantial new information that would alter the analysis of impacts in the 2007 EIS on salmon from the implementation of the preferred alternative harvest strategy. Based on the reports and data available for impacts to salmon and as summarized above, NMFS has determined that the implementation of the groundfish harvest specifications will not affect this resource component (salmon) in a significant manner or to a significant extent not already considered in the 2007 EIS.

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[106] NMFS. 2000. ESA Section 7 Biological Opinion: Authorization of BSAI groundfish fisheries based on the BSAI FMP; and Authorization of GOA groundfish fisheries based on the GOA FMP. Available from: https://repository.library.noaa.gov/view/noaa/17209

[107] NMFS. 2024. ESA Section 7(a)(2) Biological and Section 7(a)(4) Conference Opinion on the GOA FMP. Available from: https://repository.library.noaa.gov/view/noaa/66786

[108] Annual Report for the Alaska Groundfish Fisheries Chinook Salmon Incidental Catch and ESA Consultation. Available from: https://www.fisheries.noaa.gov/resource/document/annual-report-alaska-groundfish-fisheries-chinook-salmon-incidental-catch-and-esa

[109] Annual Report for the Alaska Groundfish Fisheries Chinook Salmon Coded Wire Tag and Recovery Data for ESA Consultations. https://www.fisheries.noaa.gov/resource/document/annual-report-alaska-groundfish-fisheries-chinook-salmon-coded-wire-tag-and

4.2.4.2.3. Crab bycatch management.

In June 2023, the Council tasked staff to prepare a discussion paper to inform potential GOA Tanner crab (*Chionoecetes bairdi*) protections.[110] At their February 2024 meeting, the Council reviewed and received a presentation on the discussion paper for GOA Tanner crab protections that examined catch and Tanner crab bycatch by target groundfish fisheries and gear types during 2019-2023 in ADF&G statistical areas 525630 and 525702, Tanner and king crab distributions, and options for observer monitoring in areas around Kodiak Island.[111] The Council reviewed an expanded discussion paper at the April 2025 Council meeting to further analyze the areas of highest Tanner crab abundance and distribution, modification of existing closure areas, and compare seasonal effort harvest, and value of Tanner crab and groundfish fisheries in ADF&G statistical areas 525702 and 525630 and the Central GOA.[112] The Council requested an initial review analysis analyzing groundfish area closures around Kodiak Island known to have consistently high densities and abundance of Tanner crab and evaluate effectiveness of current closure areas to determine whether modifications are necessary.

In the BSAI, PSC limits for crab are specified annually based on abundance and spawning biomass, specifically, the NMFS bottom trawl survey. There are PSC limits for red king crab, Tanner crab, and snow crab (50 CFR 679.21(e)). Regulations also require NMFS to specify an annual red king crab bycatch limit for the Red King Crab Savings Subarea if the State has established a GHL fishery for red king crab in the Bristol Bay area in the previous year, and this RKCSS red king crab bycatch limit cannot exceed 25 percent of the red king crab PSC limit. PSC limits for crab are also apportioned to sectors and seasons. There are no crab bycatch limits in the GOA. Reports are updated weekly on the number of incidentally caught crab in the BSAI and are available at Alaska Region website on the catch and landings page.[113] Reports indicate for 2024 and 2025 that no sector in the BSAI exceeded a crab bycatch limit.[114]

In October 2021, the SAFE for EBS snow crab provided assessment results on the stock and showed that mature male biomass was 50,600 mt, which is less than the minimum stock size threshold of 76,700 mt.[115] Therefore, the stock was declared overfished by NMFS. In 2023, NMFS announced approval of Amendment 53 to the Crab FMP to implement a rebuilding plan for snow crab (88 FR 61477, September 7, 2023). The objective of the amendment is to rebuild the snow crab stock consistent with the requirements of the Magnuson-Stevens Act. NMFS continues to monitor the status of the stock through regular stock assessments. The EBS snow crab stock has been at its lowest historical level following a catastrophic heatwave induced natural mortality event in 2019-2020. Snow crab continues to show signs of recovery with a 175 percent increase in abundance of mature females, 34 percent increase in industry-preferred males, and increases in all other male size classes relative to 2024. Despite these positive trends the biomass of snow crab still remains at historically low levels.

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[110] Council Motion on Kodiak Tanner Crab. June 2023. Available from: https://meetings.npfmc.org/CommentReview/DownloadFile?p=454ff62f-407c-40dc-9420-5195db441f7a.pdf&fileName=E%20Motion%20GOA%20Tanner%20crab.pdf

[111] Action Memo on GOA Tanner Crab Protections. February 2024. Available from: https://meetings.npfmc.org/CommentReview/DownloadFile?p=1bbd9eed-1da0-42ed-af47-cd52196deaa7.pdf&fileName=D2%20Action%20Memo.pdf

[112] NPFMC Council Motion on GOA Tanner Crab Protections. February 2024. Available from: https://meetings.npfmc.org/CommentReview/DownloadFile?p=bd2857c4-8dca-497c-a1f3-86eb64523616.pdf&fileName=D2%20Council%20Motion.pdf

[113] Crab bycatch found at: https://www.fisheries.noaa.gov/alaska/commercial-fishing/fisheries-catch-and-landings-reports-alaska

[114] Bycatch data from NMFS AKRO. Available from: https://www.fisheries.noaa.gov/sites/default/files/akro/car120_psc_bsai_with_cdq2025.html; https://www.fisheries.noaa.gov/sites/default/files/akro/car250_psc_crab2025.csv; https://www.fisheries.noaa.gov/sites/default/files/akro/car120_psc_bsai_with_cdq2024.html; https://www.fisheries.noaa.gov/sites/default/files/akro/car250_psc_crab2024.csv

[115] An Assessment for eastern Bering Sea Snow Crab. 2021. Eastern Bering Sea Snow Crab SAFE. Available from: https://meetings.npfmc.org/CommentReview/DownloadFile?p=5606e5d3-2fb3-4b3b-9094-5bd86298563a.pdf&fileName=1%20Eastern%20Bering%20Sea%20Snow%20Crab%20SAFE.pdf

The 2025 biomass indices for other commercial crab species include declines in the biomass of female and male Pribilof Islands blue king crab and St. Mathew blue king crab, increases in biomass of female and male Bristol Bay red king crab, and increases in the biomass of female and male Tanner crab. For all crab species, including snow crab, historical trends of commercial crab biomass and abundance are highly variable, environmental variability and exploitation affect trends in commercial crab biomass over time, and recent modeling analyses suggest that environmental variability is largely driving inter-annual variability in crab stock recruitment. Although it is unclear at what life stage crab stock variability is determined it is likely that environmental variability affecting larval survival and changes in predation affecting juvenile survival are important factors.

NMFS has evaluated whether there is substantial new information that would alter the analysis of impacts in the 2007 EIS on crab from the implementation of the preferred alternative harvest strategy. The updated analyses on the various crab bycatch actions, bycatch reports, and the information and circumstances in the Groundfish and Crab SAFE reports indicate the implementation of the groundfish harvest specifications will not affect this resource component (crab) in a significant manner or to a significant extent not already considered in the 2007 EIS, which analyzed impacts of the harvest strategy on crab and crab bycatch, including impacts to mortality, spatial and temporal impacts to genetic structure of the population and reproductive success, prey for crab, and habitat for crab.

4.2.5. Marine Mammals

4.2.5.1. What was analyzed in the 2007 EIS

The 2007 EIS used three questions to help frame consideration of effects from the harvest specification process on marine mammals:

(1) Do the proposed harvest levels result in increases in direct interactions with marine mammals (incidental take and entanglement in marine debris)?

(2) Do the proposed harvest levels remove prey species at levels or in areas that could compromise foraging success of marine mammals (harvest of prey species)?

(3) Do the proposed harvest levels modify marine mammal behavior (disturbance)?

The 2007 EIS examined the impacts of alternative harvest strategies on ESA-listed and unlisted marine mammals (Table 4-4) including the level of incidental take and entanglement (relative to the potential biological removal (PBR)), the harvest of prey species and impacts to prey availability and foraging success, and disturbance to marine mammals from fishing operations (vessel traffic and noise and use of gear). Impacts on marine mammals were examined relative to the level of total harvest under each alternative harvest strategy. For the preferred alternative harvest strategy (alternative 2), incidental take, harvest of prey species, and disturbance was determined to occur, but at levels that were not likely to cause population level declines.

Table 4-3. Marine mammals occurring in Alaska waters that were considered in the 2007 EIS, with updated stock information indicated with underlined (added) or ~~struckthrough~~ (no longer relevant) information.

Order/Family	Species Common Name	Stocks
NMFS Managed Species		
Pinnipedia	Steller sea lion	Eastern, Western*
	Northern fur seal	Eastern Pacific**

Order/Family	Species Common Name	Stocks
	Harbor seal	Aleutian Islands, Pribilof Island, Bristol Bay, N. Kodiak, S. Kodiak, Prince William Sound, Cook Inlet/Shelikof Strait, Glacier Bay/Icy Straight, Lynn Canal/Stephens Passage, Sitka/Chatham Strait, Dixon/Cape Decision, Clarence Strait ~~Southeast Alaska, Gulf of Alaska, Bering Sea~~
	Spotted seal	~~Alaska~~ Bering
	Bearded seal*	~~Alaska~~ Beringia
	Ringed seal*	~~Alaska~~ Arctic
	Ribbon seal	Alaska
	Northern elephant seal	California
Cetacea	Beluga Whale	Beaufort Sea, Eastern Chukchi Sea, Eastern Bering Sea, Bristol Bay, Cook Inlet*
	Killer whale	Eastern North Pacific Northern Resident, Eastern North Pacific Alaska Resident, Eastern North Pacific GOA, Aleutian Islands, and Bering Sea transient, AT1 transient**, West Coast Transient
	Pacific White-sided dolphin	North Pacific
	Harbor porpoise	~~Southeast Alaska~~ Northern Southeast Alaska Inland Waters, Southern Southeast Alaska Inland Waters, Yakutat/Southeast Alaska, Gulf of Alaska, and Bering Sea
	Dall's porpoise	Alaska
	Sperm whale*	North Pacific
	Baird's beaked whale	Alaska
	Sato's Beaked whale[a]	Alaska
	Cuvier's beaked whale	Alaska
	Stejneger's beaked whale	Alaska
	Gray whale	Eastern North Pacific
	Humpback whale	Western North Pacific*, ~~Central North Pacific~~ Hawaii, Mexico-North Pacific*

Order/Family	Species Common Name	Stocks
	Fin whale*	Northeast Pacific
	Minke whale	Alaska
	North Pacific right whale*	Eastern North Pacific
	Bowhead whale*	Western Arctic
	Blue whale*	North Pacific
	Sei whale*	North Pacific
USFWS Managed Species		
Ursidae	Polar bear*	Chukchi/Bering Seas, Southern Beaufort Sea
Mustelidae	Sea otter	Southeast Alaska, Southcentral Alaska, Southwest Alaska*
Pinnipedia	Pacific walrus	Alaska

*ESA-listed species.

**Listed as depleted under the MMPA.

[a] Sato's beaked whale, or black beaked whale, is a newly described species which inhabits the western and central North Pacific. Reports from Japanese whalers of a "black" beaked whale smaller than the more common Baird's beaked whale and measurements from stranded animals suggested the existence of a separate species. Strong genetic differences confirmed it to be distinct from the partly sympatric Baird's beaked whale (Young et al. 2024).

In determining the impact of the harvest specification process on marine mammals, the 2007 EIS used several existing processes and reports, specifically, ESA section 7 consultations, marine mammal stock assessment reports (SARs) and the calculation of PBR, and the list of fisheries (LOF).

In considering direct interactions with marine mammals, the 2007 EIS used information on incidental take from fisheries documented in the SARs and compared it to the PBR for each marine mammal stock. NMFS's management goal, as required by the MMPA, is to reduce the total incidental mortality and serious injury (M/SI) of marine mammals from commercial fishing to insignificant levels approaching a zero rate, known as the Zero Mortality Rate Goal (ZMRG) (16 U.S.C. 1387(b)). NMFS has defined ZMRG as 10 percent of the PBR (69 FR 43338, July 20, 2004) (50 CFR 229.2). When the total marine mammal mortality and serious injury for all fisheries is above 10 percent of PBR for a given marine mammal stock, an individual fishery that resulted in mortality or serious injury less than one percent of the PBR is considered to have met ZMRG for that marine mammal stock. NMFS annually categorizes all U.S. commercial fisheries under the MMPA LOF according to the levels of marine mammal mortality and serious injury. Each fishery is classified through a two-tiered analysis which assesses the potential cumulative impact of all fisheries, as well as individual fisheries impacts, on a marine mammal stock by comparing mortality and serious injury levels to the PBR of each marine mammal stock. Category III fisheries interact with marine mammal stocks with annual mortality and serious injury less than or equal to one percent of the marine mammal's PBR level and total fishery-related mortality less than 10 percent

of PBR. Any fishery in Category III is considered to have achieved the target levels of mortality and serious injury under the ZMRG. Category II fisheries have a level of mortality and serious injury that exceeds one percent but is less than 50 percent of the stock's PBR level, if total fishery related mortality is greater than or equal to 10 percent of the PBR. Category I fisheries have frequent mortality and serious injury of marine mammals resulting in annual mortality greater than or equal to 50 percent of PBR. No groundfish fisheries managed under the BSAI and GOA FMPs are designated Category I, three groundfish fisheries are designated Category II, and the remainder are designated Category III (89 FR 12257, February 16, 2024).

Marine debris entanglement is also a direct interaction. The 2007 EIS considered relevant marine mammal stocks and the impacts of marine debris. NMFS continues to examine marine debris interactions with marine mammals in SARs and biological opinions under Section 7 of the ESA (16 U.S.C. §1536 (a)(2)).

In considering prey competition between commercial fisheries and marine mammals, the 2007 EIS considered which marine mammal stocks had overlap with preferred prey species that were also the target of commercial groundfish fisheries, and whether the amount of prey removal would impact the foraging success of that stock. The level of prey removal for all marine mammal stocks with prey preference overlap was not considered to have significant detrimental effects on forage success for any marine mammal stock. This included Steller sea lions, given the Steller sea lion protection measures that were implemented at the time, and northern fur seals, given that increased fishing in fur seal habitat during the summer was not expected as a result of the preferred alternative.

In considering disturbance from fisheries to marine mammal stocks, the 2007 EIS considered stressors such as vessel traffic, nets moving through the water column, and underwater sound and their effect on marine mammal behavior. These stressors were considered to have the ability to affect foraging success, not only by interactions between vessels and species, but also by changes in fish schooling behavior, distributions, or densities, in response to harvesting activities. In other words, disturbance of the prey may be as important as disturbance of the predator itself. The 2007 EIS concluded that some level of prey disturbance may occur as a fisheries effect and that the total impact on marine mammals was a function of both the amount of fishing activity and its concentration in space and time; but that the impact from disturbance was not extreme enough under any alternative to represent population level concerns. To the extent that fishery management measures impose limits on fishing activities inside critical habitat (for Steller sea lions), the Pribilof Island Habitat Conservation Zone (for northern fur seals), and the Bristol Bay no trawl zone (for sea otters and other marine mammals), protection is provided from these disturbance effects under all alternatives proposed in the 2007 EIS.

4.2.5.2. Relevant New Information

As stated in the previous section, the 2007 EIS relied on ESA section 7 consultations, SARs (and associated PBRs), and the LOF to determine impact of the harvest specifications on marine mammals. Therefore, new information or conclusions reached in the most recent versions of these reports is used below to determine if any new information has occurred since the 2007 EIS that would alter the conclusions reached for marine mammals in that assessment. This section also considers reports created since the publication of the 2007 EIS (*i.e.*, ESRs) and any recent ESA or MMPA actions.

Links to Recent Reports

- Marine Mammal Stock Assessment Reports
- List of Fisheries
- Ecosystem Status Reports
- Fur Seal Conservation Plan

- 5-Year Status Reports
- ESA Section 7 Consultations (see below)

Since the 2007 EIS, NMFS and USFWS have taken a number of actions under the ESA and MMPA related to the status of marine mammal species in Alaska. Updates and changes under the MMPA can be found in the most recent SARs. ESA changes that have occurred since 2007 are as follows:

- March 2008: Revised Steller sea lion recovery plan finalized
- April 2008: North Pacific right whale critical habitat designated (73 FR 19000)
- October 2008: Cook Inlet Beluga Whale listed (*Endangered*) (73 FR 62919)
- October 2009: Critical habitat for Southwest Alaska sea otter DPS designated (74 FR 51988)
- May 2011: Cook Inlet beluga critical habitat designated (76 FR 20180)
- December 2012: Ringed seal (Arctic subspecies) listed (*Threatened*) (77 FR 76706)
- December 2012: Bearded seal (Beringia DPS) listed (*Threatened*) (77 FR 76740)
- June 2013: North Pacific right whale recovery plan finalized
- December 2013: Eastern DPS Steller sea lion delisted (no longer *Threatened*) (78 FR 66140)
- September 2016: Humpback whale listing revised into multiple DPSs (81 FR 62260)
- December 2016: Cook Inlet beluga whale recovery plan finalized
- April 2021: Humpback whale critical habitat designated (86 FR 21082)
- April 2022: Ringed seal critical habitat designated[116] (87 FR 19232)
- April 2022: Bearded seal critical habitat designated[117] (87 FR 19180)

ESA Consultations

As mentioned in the 2007 EIS, NMFS has determined that separate ESA consultation for the annual harvest specifications are not necessary for listed species due to the formal consultations completed on the groundfish fisheries at the FMP and regulatory levels. The most recent formal ESA consultations on record for impacts to listed marine mammals from groundfish fisheries are as follows:

2024 ESA Consultation with NMFS for the GOA Groundfish fisheries: NMFS reinitiated consultation on the GOA groundfish fisheries on July 15, 2024. NOAA NMFS Alaska Region PRD completed their Opinion and Conference Opinion on the effects of all groundfish fisheries managed under the GOA FMP and State parallel groundfish fisheries on ESA-listed species, species proposed to be listed, and designated critical habitat on December 23, 2024. NMFS concluded that the GOA groundfish fisheries analyzed in that opinion are not likely to jeopardize the continued existence of any threatened or endangered species under NMFS's jurisdiction. It was also NMFS's conference opinion that the GOA groundfish fisheries are not likely to jeopardize the continued existence of the proposed threatened sunflower sea star. The biological and conference opinion for the GOA groundfish fisheries is available

[116] On September 26, 2024, the U.S. District Court for the District of Alaska vacated the critical habitat designations for ringed seals and bearded seals under the ESA and remanded the rules to NMFS for further consideration (State of Alaska v. Nat'l Marine Fisheries Serv., Case No. 3:23-cv-00032-SLG, 2024 WL 4298114 (D. Alaska Sept. 26, 2024)). NMFS and the Center for Biological Diversity separately appealed that decision. Since that time, NMFS moved to dismiss both appeals, and the Ninth Circuit has dismissed NMFS's. In the interim, while the Center for Biological Diversity's appeal remains active, NMFS consultations under section 7(a)(2) of the ESA will continue to address effects to ringed seal and bearded seal critical habitat when requested so that action agencies have the benefit of NMFS's analysis of the consequences of proposed actions on the critical habitat in the event that the appeal is successful and the critical habitat designations are reinstated.

[117] See Previous Footnote

on the website.[118] The newly-completed 2024 GOA Opinion supersedes the portions of the biological opinions previously covering the GOA groundfish fisheries.

2021 ESA Consultation with USFWS for the GOA and BSAI Groundfish fisheries: NMFS reinitiated consultation on the GOA and BSAI groundfish fisheries on May 29, 2020. The USFWS completed their Opinion on the effects of all groundfish fisheries managed under the GOA FMP and BSAI FMP and State parallel groundfish fisheries on USFWS managed ESA-listed species and designated critical habitat on March 8, 2021. USFWS concluded that the GOA and BSAI groundfish fisheries analyzed in that opinion are not likely to jeopardize the continued existence of any threatened or endangered species under USFWS's jurisdiction. The 2021 Opinion for the GOA and BSAI groundfish fisheries is available upon request.

2014 ESA Consultation with NMFS for the groundfish fisheries in the Aleutian Islands under the proposed revised SSL Protection Measures: This consultation considered the effects from the federal groundfish fisheries and State parallel groundfish fisheries for Atka mackerel, Pacific cod, and pollock primarily in the Aleutian Islands subarea of the BSAI. This consultation also considered proposed research to better understand the potential effects of these fisheries on Steller sea lions and on the efficacy of conserving prey in areas closed to fishing. NMFS determined that the action, as proposed, was not likely to jeopardize the continued existence of the Western DPS Steller sea lion or destroy or adversely modify designated critical habitat.

2014 ESA Consultation with NMFS on groundfish fisheries under the BSAI FMP and issuance of an exempted fishing permit to test a salmon excluder device in the Bering Sea Pollock Fishery: As noted above, NMFS listed the Beringia and Okhotsk DPSs of the bearded seal (77 FR 76740, December 28, 2012) and the Arctic, Okhotsk, and Baltic subspecies of the ringed seal as threatened and the Ladoga subspecies of the ringed seal as endangered (77 FR 76706, December 28, 2012) under the ESA effective in February 2013. Of these taxa, only the Beringia DPS bearded seal and Arctic ringed seal occur in U.S. waters. As a result of this listing, NMFS conducted formal consultation and concluded that the BSAI groundfish fisheries and the issuance of EFPs to test salmon excluder devices in the Bering Sea pollock fishery are not likely to jeopardize the continued existence of the Beringia DPS bearded seal or Arctic ringed seal.

2010 ESA Consultation with NMFS for the GOA and BSAI Groundfish fisheries (*with the 2024 GOA groundfish Opinion, this opinion and the 2014 Opinions mentioned above are only valid for the BSAI fisheries)***:** The 2010 Opinion concluded that the groundfish fisheries were likely to jeopardize the continued existence of the Western DPS Steller sea lion and adversely modify designated critical habitat. The 2010 Opinion also concluded that the fisheries, as implemented, were not likely to jeopardize the continued existence of humpback, sperm, or fin whales. The jeopardy and adverse modification finding in the 2010 Opinion was based on potential connections between the continued decline of Western DPS Steller sea lion populations in the western and central Aleutians and the AI Atka mackerel and Pacific cod fisheries. NMFS subsequently modified SSL protection measures in the AI Atka mackerel and Pacific cod fisheries in 2011 (75 FR 77535, December 13, 2010; corrected 75 FR 81921, December 29, 2010) and 2015 (79 FR 70286, November 25, 2014) to ensure the fisheries were not likely to jeopardize the continued existence of the Western DPS Steller sea lion or adversely modify the designated critical habitat.

Review of Recent Reports

[118] NMFS 2024 ESA Section 7(a)(2) Biological and Section 7(a)(4) Conference Opinion for the Fishery Management Plan for the Groundfish Fisheries of the Gulf of Alaska. NMFS Consultation Number: AKRO-2024-01759. Available from: https://www.fisheries.noaa.gov/resource/document/biological-opinion-national-marine-fisheries-service-alaska-region-sustainable

NMFS reviewed available information on marine mammals from the most recent 2024 draft SARs (90 FR 13344; March 21, 2025), 2024 final LOF (89 FR 12257; February 16, 2024), the most recent ESRs for the GOA, EBS, and AI, and the relevant biological opinions.

Each SAR includes, when available, a description of the stock's geographic range; a minimum population estimate; current population trends; current and maximum net productivity rates; optimum sustainable population levels and allowable removal levels; estimates of annual human-caused mortality and serious injury through interactions with commercial, recreational, and subsistence fisheries, takes by subsistence hunters, and other human-caused events (*e.g.*, entanglement in marine debris, ship strikes); and habitat concerns. The MMPA requires SARs to be reviewed annually for stocks designated as strategic and within three years for all other marine mammal stocks.

For the 2024 SARs, the northern fur seal, Bristol Bay and Cook Inlet belugas, and GOA and BS harbor porpoise have new information. Updated take information from commercial fisheries in relation to the stock PBR for each of these stocks show that the minimum estimate of the mean annual U.S. commercial fishery-related mortality and serious injury rate for stocks with updated information (*i.e.*, the northern fur seal, Bristol Bay and Cook Inlet belugas, and GOA and BS harbor porpoise) is less than 10% of the calculated PBR for each stock. The exception is for the Bristol bay belugas and GOA and BS harbor porpoises for which there is either no reliable estimate of mortality and serious injury or a recent updated population estimate. Furthermore, the most recent final LOF states that there are no Category I groundfish fisheries managed under the BSAI and GOA FMPs (meaning no fishery takes more than 50% of the stocks PBR) and three Category II fisheries (fishery takes between 1 and 50% of stocks PBR), which are as follows:

- AK Bering Sea, Aleutian Islands flatfish trawl
- AK Bering Sea, Aleutian Islands pollock trawl
- AK Gulf of Alaska sablefish longline

For the Category II fisheries in the BSAI, marine mammal M/SI incidental to each commercial fishery (AK Bering Sea, Aleutian Islands flatfish trawl, and AK Bering Sea, Aleutian Islands pollock trawl) for the strategic stocks[119] taken in those fisheries is below 10 percent of each stock's PBR, which is below the insignificance threshold defined by NMFS as 10 percent of a stock's PBR level (50 CFR 229.2) and is therefore approaching a zero M/SI rate (the ZMRG goal) (89 FR 50270, June 13, 2024). For the Category II fishery in the GOA (AK Gulf of Alaska sablefish longline fishery), M/SI incidental to this fishery of strategic stocks taken in this fishery (North Pacific stock of Sperm whale and Western U.S. stock of Steller sea lion) is also below the insignificant threshold and is therefore approaching a zero M/SI rate (the ZMRG goal) (89 FR 50270, June 13, 2024). In addition, a take reduction plan for M/SI of the North Pacific stock of sperm whales in the AK Gulf of Alaska sablefish longline fishery is under development and will progress as information gaps are addressed (89 FR 50270, June 13, 2024). These levels of M/SI relative to the stock's PBR and in consideration of the insignificance threshold and ZMRG goal are consistent with the analysis in the 2007 EIS.

The rest of the commercial groundfish fisheries managed under the BSAI and GOA FMPs are listed as Category III fisheries, which means these fisheries are considered to have achieved the target levels of mortality and serious injury under the insignificance threshold and ZMRG goal.

The ESRs provide information on marine mammals and ecosystem conditions, as well as summaries of marine mammal strandings in the GOA, EBS, and AI and declared unusual mortality events (UME). Highlights of the marine mammal topics discussed in the reports are summarized below:

[119] Strategic stocks are stocks that are: listed under the ESA, listed as 'depleted' under the MMPA, or determined to be experiencing direct human-caused mortality that exceeds the stock's PBR.

- **EBS:** The main marine mammal indicator in the EBS is the marine mammal stranding network. In summary, the number of reported strandings in Alaska has increased over time. As of September 18, 2024, 80 stranded marine mammals have been reported for 2024 within the eastern Bering Sea region (see Table 1, page 201 in EBS ESR). The 2019 gray whale UME is highlighted in the report where there was an increase in gray whale strandings across the migration route between Mexico and Alaska that led to the declaration of an UME which continued until its closing on November 9, 2023. There were 146 stranded gray whales in Alaska during this UME (not just in the EBS). The UME Investigative Team concluded that the preliminary cause of this UME was localized ecosystem changes in the whale's subarctic and Arctic feeding areas that led to changes in food, malnutrition, decreased birth rates, and increased mortality.
- **AI:** Steller sea lion non-pup estimates are one of a suite of indicators used in the report cards that provide an overview of the status of the ecosystem across trophic levels and assess ecosystem function and structure across subregions. In the AI, trends vary across regions (decreasing in the Western Aleutians, stable in the Central, and increasing in the Eastern).
- **GOA:** Steller sea lion non-pup estimates are one of a suite of indicators used in report cards that provide an overview of the status of the ecosystem across trophic levels and assess ecosystem function and structure across subregions. The GOA ESR noted a recent decreasing trend in the Western and Eastern GOA based on non-pup model predicated counts. As of September 18, 2024, 93 stranded marine mammals have been reported for the year within the GOA region (see Table 4, page 170 in GOA ESR). Humpback whales are another indicator species for the GOA ESR and included is a summary of trends in humpback whale calving in Glacier Bay and Icy Strait and fall surveys of humpback whales in Prince William Sound. In examining trends in the GOA, the 2024 ESR noted: "The capelin populations were observed to continue rebounding in 2024 for a second year, and the crude birth rate of humpback whales increased to pre-2014 levels in southeast Alaska for the first time. While population dynamics of humpback whales may have contributed to their lagged recovery, the elevated herring and euphausiid populations (and reduced pink salmon predation on zooplankton) provided a good prey base for them in 2024."

In evaluating impacts from NMFS-managed fisheries, biological opinions consider the effects of all stressors (physical, chemical, or biological) from the fisheries that are the subject of that ESA Section 7 consultation. Stressors include, for example, vessel strike, seafloor disturbance, entanglement, bycatch, and competition for prey. To determine whether the fisheries will jeopardize the continued existence of ESA-listed species or destroy or adversely modify designated critical habitat, NMFS considers effects of the action in the context of the current status of the species and relative to the environmental baseline and cumulative effects. The environmental baseline refers to the condition of listed species and designated critical habitat in the action area and includes the past and present impacts of all Federal, State, or private actions and other human activities in the action area. Relevant considerations include anthropogenic impacts (*e.g.*, other fisheries, marine debris, vessel activity, coastal and marine development), as well as ecosystem dynamics, ocean noise, and environmental changes (*e.g.*, biotoxins, diseases, and unusual mortality events).

Northern fur seals are managed under the Fur Seal Act. Relevant information on northern fur seals includes the SAR and the Conservation Plan. NMFS recently completed an updated Conservation Plan for the Eastern Pacific Stock of Northern Fur Seal (Laaqudax̂) (dated November 6, 2024).[120] This Conservation Plan summarizes relevant, current information on northern fur seals, like reproduction, migration, habitat use, and diet, as well as current trends in abundance, pup production and mortality, vital rates, and foraging trips and assesses the optimum sustainable population for the stock. The Conservation Plan also outlines natural threats (trauma and starvation, disease and parasites, predation,

[120] Conservation Plan for the Eastern Pacific stock of Northern Fur Seal (Laaqudax̂). Available from: https://repository.library.noaa.gov/view/noaa/66442

and environmental changes) and human-related threats (commercial fishing; entanglement in marine debris; seafood processing; human presence and research; vessel, vehicle, and aircraft disturbance; construction and oil and gas activities; and contaminants).

Based on the above sources of information, direct interactions with the groundfish fisheries that result in M/SI of marine mammals have fluctuated but remain at levels below 10% of PBR. Entanglement and incidental take, as well as other stressors from commercial fishing, also continue to be assessed in ESA consultations that consider the current status of listed species in the context of the existing environmental baseline (*i.e.*, condition of listed species and designated critical habitat relative to past and present impacts of all Federal, State, or private actions and other human activities in the action area). NMFS is not aware of any substantial new information on nutritional insufficiencies at this time as a result of prey competition and foraging between marine mammals and Federal commercial groundfish fisheries. NMFS is also not aware of any substantial new information on disturbance to marine mammals from fishing operations that has significant population level effects (*i.e.*, in excess of PBR).

NMFS has evaluated whether there is substantial new information that would alter the analysis of impacts in the 2007 EIS on marine mammals from the implementation of the preferred alternative harvest strategy. NMFS has considered actions taken under the ESA and MMPA in the context of changed circumstances, as well as new information, about marine mammals. This evaluation was also done in consideration of the effects to marine mammals analyzed in the 2007 EIS, specifically the level of incidental take and entanglement (relative to the potential biological removal), the harvest of prey species and impacts to prey availability and foraging success, and disturbance to marine mammals from fishing operations (vessel traffic and noise and use of gear). NMFS has determined that the implementation of the groundfish harvest specifications will not affect this resource component (marine mammals) in a significant manner or to a significant extent not already considered in the 2007 EIS.

4.2.6. Seabirds

4.2.6.1. What was analyzed in the 2007 EIS

The 2007 EIS examined the impacts of the alternative harvest strategies on seabirds, including the incidental take of seabirds, impacts on prey availability for seabirds (both disturbance to prey and disturbance to seabird foraging), and impacts on benthic habitat that could indirectly impact seabirds and prey.

The 2007 EIS considered seabird populations that nest within, or that migrate into and spend time within, the action area (Table 4-5). When the 2007 EIS was assembled, three seabird species were listed under the ESA: short-tailed albatross (endangered), spectacled eider (threatened), and Steller's eider (threatened). All three species maintain the same status today and no other seabird species have been listed under the ESA.

Table 4-4. Seabird species and species groups in the Alaska region (EBS, AI, GOA).

Albatrosses	**Gulls**	**Northern Fulmar**
● Black-footed ● Short-tailed ● Laysan	● Glaucous-winged ● Glaucous ● Herring ● Mew ● Bonaparte's ● Sabine	

Auklets ● Cassin's ● Parakeet ● Least ● Whiskered ● Crested	**Jaegers** ● Long-tailed ● Parasitic ● Pomarine	**Puffins** ● Rhinoceros ● Horned ● Tufted
Cormorants ● Pelagic ● Red-faced ● Double-crested	**Kittiwakes** ● Black-legged ● Red-legged	**Shearwaters** ● Short-tailed ● Sooty
Eiders ● Common ● King ● Spectacled ● Steller's	**Murrelets** ● Marbled ● Kittlitz's ● Ancient	**Storm Petrel's** ● Leach's ● Fork-tailed
Guillemots ● Black ● Pigeon	**Murres** ● Common ● Thick-billed	**Terns** ● Arctic ● Aleutian

In determining the potential impacts of groundfish harvest strategies on seabird populations, the 2007 EIS considered three indicators of seabird resource health (with summaries of impacts from the 2007 EIS provided):

- **Take**: Seabirds can be directly killed or injured in a variety of ways including: attraction to baited hooks; entanglement in lines, cables, or net mesh; or collisions with vessels. Seabirds may be killed indirectly by ingesting or becoming entangled with marine plastics, coated by oil spills, or predation by incidentally introduced invasive species (*i.e.*, the Norway rat).
- **Prey availability:** Fisheries may affect the abundance and distribution of prey species available to seabird populations. Vessel activity may also displace or interfere with normal seabird foraging because groundfish and seabirds aggregate in similar areas of increased productivity (*e.g.*, shelf-breaks, upwelling zones, fronts) where plankton and forage fish prey are abundant. Vessels may also create feeding opportunities for seabirds through fish discard and fish processing wastes (offal).
- **Benthic habitat used by seabirds:** Fishing gear may disturb the seafloor in areas used by bottom-feeding seabirds which can reduce available prey.

In considering the impacts of NMFS groundfish harvest specifications to seabird takes, prey availability, and benthic habitat used by seabirds, during the 2007 EIS, NMFS reviewed available information and reports including seabird bycatch and population trends. NMFS determined that the impacts of groundfish TACs to Alaska seabird populations according to the three aforementioned indicators were as follows:

- **Takes:** Seabird takes in Alaska groundfish fisheries appear to be small compared to existing populations, though some sources of takes remain unknown. For example, seabird natural mortality rates are difficult to determine and are generally unknown.

- **Prey availability:** The impacts of Alaska groundfish fisheries to seabird prey availability (quality and abundance) appear to be small. Guillemots and cormorants have less ability to expand foraging ranges and may be susceptible to localized prey depletion.
- **Benthic habitat used by seabirds:** Impacts of Alaska groundfish fisheries to benthic habitat used by seabirds appear to be small. In some instances, there may be overlap between fishing activity and alcid, gull, and cormorant foraging areas.

4.2.6.2. Relevant New Information

NMFS has reviewed recent data and information, including the most recent ESRs[121], to evaluate whether the annual implementation of the groundfish harvest specifications will result in effects in a significant manner or to a significant extent not already considered in the 2007 EIS regarding impacts of groundfish harvest specifications to seabirds.

Since the 2007 EIS, NMFS and USFWS have taken a number of actions to mitigate the impacts of fisheries on seabirds. Actions that have occurred since 2007 are as follows:

Seabird Avoidance in Hook-and-Line Fisheries: In 2009, NMFS implemented regulations to revise seabird avoidance requirements for the hook-and-line groundfish and halibut fisheries in IPHC Area 4E (74 FR 13355, March 27, 2009). This action revised seabird avoidance measures based on the latest scientific information and reduced unnecessary regulatory burdens and associated costs by eliminating seabird avoidance requirements for hook-and-line vessels less than or equal to 55 ft (16.8 m) length overall in portions of Area 4E in the eastern Bering Sea. The EA and FONSI accompanying this action found that there were no significant environmental impacts.[122]

Memorandum of Understanding (MOU): In 2012, NMFS entered into an MOU with the USFWS to promote the conservation of migratory bird populations, as required by Executive Order 13186.[123] This MOU focuses on avoiding, or, where impacts cannot be avoided, minimizing to the extent practicable adverse impacts on migratory birds, and strengthening migratory bird conservation through enhanced collaboration between NMFS and USFWS by identifying general responsibilities of both agencies and specific areas of cooperation. Given NMFS's focus on marine resources and ecosystems, this MOU places an emphasis on seabirds, but does not exclude other taxonomic groups of migratory birds. Under this MOU, NMFS is responsible for considering seabird conservation during the development of relevant fishery management actions.

Technical Memorandums on Seabird Bycatch and Avoidance: A 2016 NMFS Alaska Region technical memorandum provides additional information on how seabird bycatch occurs, seabird avoidance requirements, and seabird bycatch estimates for the Alaska groundfish and halibut fisheries for 2007 through 2015.[124] Subsequent NMFS Alaska Region technical memoranda

[121] NMFS Ecosystem Status Reports by year and region (EBS, AI, GOA) are available on the NMFS website here: https://www.fisheries.noaa.gov/alaska/ecosystems/ecosystem-status-reports-gulf-alaska-bering-sea-and-aleutian-islands

[122] NMFS. 2009. Final Draft EA/RIR/IRFA for a Regulatory Amendment to Revise Regulations for Seabird Avoidance Measures in the Hook-and-line Fisheries off Alaska in International Pacific Halibut Commission Area 4E. Available from: https://www.fisheries.noaa.gov/resource/document/final-draft-ea-rir-irfa-regulatory-amendment-revise-regulations-seabird-avoidance

[123] Memorandum of Understanding between NMFS and USFWS. 2012. Available from: http://www.st.nmfs.noaa.gov/Assets/nationalseabirdprogram/eo13186_nmfs_fws_mou2012.pdf

[124] Eich, A.M., K.R. Mabry, S.K.Wright, and S.M. Fitzgerald. 2016. Seabird Bycatch and Mitigation Efforts in Alaska Fisheries Summary Report: 2007 through 2015. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-F/AKR-12, 47p. Available from: https://repository.library.noaa.gov/view/noaa/12695

provide updates to the seabird bycatch estimates for the Alaska groundfish and halibut fisheries through 2021.[125]

Similarly, since the 2007 EIS, NMFS and USFWS have taken a number of actions under the ESA related to the status of seabird species in Alaska. Importantly, none of these actions resulted in additional seabirds being listed under the ESA. ESA actions considered since 2007 are as follows:

Under the ESA, the short-tailed albatross remains endangered, and the Steller's eiders and spectacled eiders remain threatened.[126] The USFWS published its 12-month finding in the *Federal Register* on October 7, 2011, that listing the black-footed albatross under the ESA was not warranted (76 FR 62504). In October 2013, after a review of the best available scientific and commercial information, the USFWS found that listing the Kittlitz's murrelet (*Brachyramphus brevirostris*) under the ESA was not warranted (78 FR 61764, October 3, 2013). The USFWS published its 12-month finding in the *Federal Register* on October 1, 2014, that listing the yellow-billed loon (*Gavia adamsii*) under the ESA was not warranted (79 FR 59195).

Since the 2007 EIS, the USFWS has consulted with NMFS on a number of actions under the ESA related to the impacts of federally-managed groundfish fisheries, including State parallel groundfish fisheries, on ESA-listed seabirds in Alaska. The most current Opinion is described below.

> **2021 ESA Consultation on Alaska Groundfish Fisheries:** The USFWS issued an Opinion on the effects of the NMFS Federal and State parallel groundfish fisheries in the GOA, BS, and AI with exempted take by hook-and-line or trawl gear not to exceed 6 short-tailed albatrosses, 25 spectacled eiders, and 3 Steller's eiders in a 4-year period, consultation number 07CAAN00-2020-F-0349.[127]

ESRs are annual reports which synthesize information and observations from a variety of sources to provide an overview of environmental impacts to seabirds and what that may indicate for ecosystem productivity as it pertains to fisheries management. The ESRs recognize that shifts in seabird populations (*e.g.*, distribution, abundance, seasonality) may indicate ecosystem-level changes in prey availability that similarly affect commercial fish populations. The ESRs present updated information to examine the following parameters regarding seabird breeding in Alaska:

Seabird breeding parameters

- Phenology (time of year)
- Reproductive success
- Distribution
- Diet
- Unusual Mortality Events

Ecosystem parameters

- Environmental conditions (*e.g.*, temperature)
- Climate oscillations
- Phenomena (*e.g.*, heat waves)
- Prey availability (zooplankton, forage fish)

The most recent ESRs also examined seabird bycatch trends in Alaska groundfish fisheries based on data from the Observer Program and the NMFS catch accounting system. The total estimated seabird bycatch continues to be substantially lower than before the use of seabird avoidance measures. Hook-and-line fisheries continue to have the highest seabird bycatch among gear groups and are subject to seabird avoidance requirements.

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[125] Repository of Technical Memorandums from the NMFS Alaska Regional Office. Available from: https://www.fisheries.noaa.gov/resource/publication-database/alaska-regional-office-technical-memorandums

[126] ESA- listed species known to occur in Alaska. Available from: https://ecos.fws.gov/ecp/report/species-listings-by-state?stateAbbrev=AK&stateName=Alaska&statusCategory=Listed

[127] USFWS. 2021. Biological Opinion on effects of the fishery management plans for the Gulf of Alaska and Bering Sea/Aleutian Islands groundfish fisheries and the State of Alaska parallel groundfish fisheries. Consultation 07CAAN00-2020-F-0349. Anchorage Fish and Wildlife Conservation Office, Anchorage, Alaska. 82 pp.

The USFWS releases annual seabird report cards which summarize breeding success across monitoring sites. The report card also categorizes seabird species by preferred prey (forage fish species, squid, zooplankton). The 2025 seabird report card indicated that fish-eating seabirds generally had greater reproductive success than plankton-eating seabirds.[128] None of the ESA-listed seabird species in Alaska are included in the report.

In addition, ESA-listed seabird takes in Alaska groundfish fisheries remain below the incidental take limits established in the most recent ESA consultation (see above). Since 2021, two short-tailed albatross were taken in groundfish fisheries; both occurred during 2023 in the GOA.[129]

NMFS has evaluated whether there is substantial new information that would alter the analysis of impacts in the 2007 EIS on seabirds from the implementation of the preferred alternative harvest strategy. NMFS considered the actions taken under the ESA, if any, and the Magnuson-Stevens Act in the context of changed circumstances, as well as new information on seabirds. This evaluation was also done in consideration of the effects to seabirds analyzed in the 2007 EIS, specifically incidental take of seabirds, impacts on prey availability for seabirds (both disturbance to prey and disturbance to seabird foraging), and impacts on benthic habitat that could indirectly impact seabirds and prey. NMFS has determined that the implementation of the groundfish harvest specifications will not affect this resource component (seabirds) in a significant manner or to a significant extent not already considered in the 2007 EIS.

4.2.7. Habitat

4.2.7.1. What was analyzed in the 2007 EIS

Benthic habitat is the living and non-living seafloor habitat between the shoreline and the 200 mile outer limit of the U.S. EEZ. Benthic habitat is used synonymously with EFH in this analysis and the 2007 EIS because virtually all of the seafloor in the area of active groundfish fisheries off Alaska has been designated as EFH for at least one species. Therefore, EFH impacts are considered a proxy for overall habitat impacts. The EFH EIS evaluations indicate that the groundfish fisheries do not affect non-benthic EFH, so the focus of this assessment is on the EFH for benthic species. Managed species with EFH attributed with benthic habitat include crab, scallops, and groundfish, and those text definitions are found in the FMPs.

The 2007 EIS analyzed the effects of fishing on EFH for alternative harvest strategies. Analysis included the review of the EFH Descriptions (EFH EIS Appendix D.3) and associated Habitat Assessment Reports (EFH EIS Appendix F) to conclude whether or not an adverse effect on EFH will occur.[130] The 2007 EIS noted that fishing effort would decrease or increase to the level necessary to harvest the TAC, however, the general location of the fisheries, the fishing seasons, and the gear used in the fisheries are not likely to change under the alternatives. The EIS looked at the magnitude and duration of impacts. The EIS concluded that there would be minimal and persistent impacts to EFH, although the duration and degree of fishing effects (FE) on habitat features would depend on the intensity of fishing, the distribution of fishing with different gears across habitats, and the sensitivity and recovery rates of habitat features. In other words, some adverse effects may occur but they would not exceed the minimal and temporary limits established by 50 CFR 600.815(a)(2).

[128] Personal communication with USFWS staff.

[129] Personal communication with Alaska Region Catch Accounting. Contact information available from: https://www.fisheries.noaa.gov/contact/alaska-regional-office

[130] NMFS. 2005. Final EIS for EFH Identification and Conservation in Alaska (EFH EIS). NMFS Alaska Regional Office, Juneau, Alaska. Volume I: https://repository.library.noaa.gov/view/noaa/17391; Volume II: https://repository.library.noaa.gov/view/noaa/17392

4.2.7.2. Relevant New Information

The best way to analyze the impact of the harvest strategy on habitat remains through the EFH review process. Other habitat information and research is used to inform the EFH review process as well as habitat considerations in management decisions.

New Reports Available in 2025:

- Essential Fish Habitat 5-year Review Final Summary Report: North Pacific 2023 Essential Fish Habitat 5-year Review
- Synthesis Report: Advancing Model-Based Essential Fish Habitat Descriptions and Maps for North Pacific Species
- Deep Sea Coral Research and Technology Program: Alaska Coral and Sponge Initiative 2020-2024 Final Report

EFH Review Process Updates

An EFH review is an iterative process, completed every five years, that incorporates updated research and best available science into the ten EFH components of FMPs. NMFS completed an EIS in 2005 for a comprehensive EFH description and effects analysis.[131] The first EFH 5-year review was conducted in 2010 (amendment packages 77 FR 66564, November 6, 2012, and 77 FR 75570, December 2, 2012), and the next EFH review was initiated in 2015 (83 FR 31340, July 5, 2018). The most recent EFH review was completed in 2023 and the FMP amendments to incorporate new EFH information were finalized in 2024 (89 FR 58632, July 19, 2024).

New EFH information available in 2025, includes the 2023 EFH 5-year Review Final Summary Report and Synthesis Report: Advancing Model-Based EFH Descriptions and Maps for North Pacific Species.[132, 133] The final summary report describes the iterative process of the 2023 EFH 5-year Review and new information available to revise and amend the ten EFH components of FMPs. The synthesis report on EFH descriptions and maps presents the species distribution model-based EFH mapping methods and results, and reports the comprehensive review process that supported the production of this important resource.

The next iteration of this process is the 2028 EFH 5-year Review. NMFS and NPFMC launched the 2028 EFH review at the December 2025 NPFMC meeting. The 2028 EFH 5-year Review Plan is an overview of the process to evaluate and synthesize new information for the ten EFH components of FMPs, and advance the science supporting EFH information, which is applicable in management decisions with habitat impacts.[134]

Contributing Information to EFH and Habitat Impacts

There are 10 EFH components and EFH Component 2 is fishing activities that may adversely affect EFH. The requirements for EFH Component 2 are that each FMP must contain an evaluation of the potential adverse effects of fishing on EFH and minimize, mitigate, or prevent, to the extent practicable, adverse effects from fishing on EFH, if there is evidence that a fishing activity adversely affects EFH in a manner

[131] National Marine Fisheries Service (NMFS). 2005. Final Environmental Impact Statement for Essential Fish Habitat Identification and Conservation in Alaska. March 2005. https://repository.library.noaa.gov/view/noaa/17391; https://repository.library.noaa.gov/view/noaa/17392

[132] Pirtle, J.L., Harrington, G.A., Zaleski, M., Felkley, C., Gardiner, S., and Thorson, J.T. 2025. Essential Fish Habitat 5-year Review Final Summary Report: North Pacific 2023 Essential Fish Habitat 5-year Review. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-F/AKR-31, 134 p. https://doi.org/10.25923/ve1v-ns96

[133] Pirtle, J.L., Laman, E.A., Harris, J., Siple, M.C., Rooper, C.N., Hurst, T.P., Conrath, C.L., Thorson, J.T., Zaleski, M., Gardiner, S., and Harrington, G.A. 2025. Synthesis Report: Advancing Model-Based Essential Fish Habitat Descriptions and Maps for North Pacific Species. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-F/AKR-28, 310 p. https://doi.org/10.25923/jvpx-ck45

[134] Agenda item D2 2028 EFH 5-year Review Plan Discussion Paper: https://meetings.npfmc.org/Meeting/Details/3108

that is more than minimal and not temporary in nature (50 CFR 600.815(a)(2)). As part of the EFH 5-year reviews, Component 2 is reviewed for effects determinations to evaluate if fishing effects (FE) are more than minimal and not temporary. During the 2023 EFH Review, a FE evaluation was conducted by NMFS staff and stock assessment authors ("2022 FE evaluation").[135] In brief, a FE model developed in partnership by NMFS and the Fisheries, Aquatic Science & Technology Laboratory (FAST Lab) was run to estimate habitat disturbance across the BSAI and GOA regions using spatial fishery effort data, fishing gear parameters, sediment-based habitat categories, and susceptibility and recovery rates from gear interactions. The model results of monthly habitat disturbance estimates, reported across the regions in 5 km x 5 km grid cells, were overlaid on species core EFH areas from new species distribution models developed for the 2023 EFH Review, and the species-specific time series results were provided to stock authors for a quantitative or qualitative assessment. Stock assessment authors could perform correlation analyses of the disturbance time series with life history parameters and use their subject matter expertise and best available science to evaluate any possible adverse effects. None of the stock assessment authors concluded that FE on their species were more than minimal and not temporary, and therefore no stock assessment authors recommended elevating their species to the Plan Teams and the SSC for possible mitigation to reduce fishing effects to EFH. None of the authors recommended any change in management with regards to fishing within EFH concluding the 2022 FE evaluation for the 2023 EFH Review.

The Deep Sea Coral Research and Technology Program: Alaska Coral and Sponge Initiative 2020-2024 Final Report was published in 2025.[136] This report presents the results of several projects conducted from 2020 to 2024 under the NMFS Office of Habitat Protection's Deep-Sea Coral and Research and Technology Program's most recent Alaska initiative to promote the advancement of deep-sea coral and sponge research and information for the Alaska region. This information will be applicable as covariates and data layers in mapping EFH and the fishing effects evaluation for the 2028 EFH 5-year Review.

A relatively new resource that has been developed is the Fishing Gear Effects on Marine Habitats Database developed collaboratively by NOAA and staff from various regional Fishery Management Councils. The database is a compilation of literature on the impacts of fishing gear on marine fish habitats throughout the United States and U.S. Territories, but also includes relevant international research.[137]

[135] Zaleski, M., Smeltz, T.S., Gardiner, S., Pirtle, J.L., and Harrington, G.A. 2024. 2022 Evaluation of Fishing Effects on Essential Fish Habitat. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-F/AKR-29, 205 p. https://doi.org/10.25923/c2gh-0w03

[136] Conrath, C., P. Malecha, J. Hoff, P. Goddard, L. Sadorus, C. Rooper, R. Waller, S. Rooney, M. Everett, W. Larson, and J. Olson. 2025. 501Deep Sea Coral Research and Technology Program: Alaska Coral and Sponge Initiative 2020-2024 Final Report. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-AFSC-501, 96 p. https://doi.org/10.25923/4k40-3s21

[137] Fishing Effects Database: https://fishmaps.shinyapps.io/FishingEffectsDatabase/_w_a8abe826c06c4a15b7a9a017f0bfdc01/_w_75b710362ad24eb18fef9e079676e872/#!/

Habitat Protections Instituted Since 2007: There have been several area-based ecosystem conservation measures established since 2007.[138] These include:

- **2008**
    - Bering Sea Habitat Conservation Area (No federally permitted vessel may fish with nonpelagic trawl gear in the Bering Sea Habitat Conservation Area.)
    - Northern Bering Sea Research Area (No federally permitted vessel may fish with nonpelagic trawl gear in the Northern Bering Sea Research Area.)
    - Nunivak Island, Etolin Strait, and Kuskokwim Bay Habitat Conservation Area (No federally permitted vessel may fish with nonpelagic trawl gear in the Nunivak Island, Etolin Strait, and Kuskokwim Bay Habitat Conservation Area.)
    - St. Lawrence Island Habitat Conservation Area (No federally permitted vessel may fish with nonpelagic trawl gear in the St. Lawrence Island Habitat Conservation Area.)
    - St. Matthew Island Habitat Conservation Area (No federally permitted vessel may fish with nonpelagic trawl gear in the St. Matthew Island Habitat Conservation Area.)
- **2010**
    - Modified Trawl Gear Zone (No vessel required to be federally permitted may fish with nonpelagic trawl gear in the Modified Gear Trawl Zone except for federally permitted vessels that are directed fishing for groundfish using modified nonpelagic trawl gear that meets the standards set by Amendment 94 (75 FR 61642; October 6, 2010)).
- **2014**
    - Marmot Bay Tanner Crab Protection Area (No federally permitted vessel may fish with trawl gear in the Marmot Bay Tanner Crab Protection Area, except federally permitted vessels directed fishing for pollock using pelagic trawl gear.)
- **2015**
    - Skate Nursery Habitat Area of Particular Concern Areas (There are six areas designated as skate nursery HAPCs; there are no fishing restrictions associated with these designations.)
- **2018**
    - Pribilof Islands Habitat Conservation Zone (This Zone was established in 1995 but modified most recently in 2020; as modified, directed fishing for groundfish with trawl or pot gear, and fishing for halibut using pot gear, is prohibited at all times in the Pribilof Islands Habitat Conservation Zone.)

Additional information on habitat protections can be found on the NPFMC website.[139]

NMFS has evaluated whether there is substantial new information that would alter the analysis of impacts in the 2007 EIS on habitat/EFH from the implementation of the preferred alternative harvest strategy. Based on the reports and data available, NMFS concludes that the implementation of the groundfish harvest specifications will not affect this resource component (habitat/EFH) in a significant manner or to a significant extent not already considered in the 2007 EIS.

[138] North Pacific Conservation and Spatial Management Areas in Alaska's EEZ: https://files.npfmc.org/Publications/Conservation_Area_Summaries.pdf

[139] North Pacific habitat protections: https://www.npfmc.org/fisheries-issues/issues/habitat-protections/

4.2.8. Economic and Social Considerations

4.2.8.1. What was analyzed in the 2007 EIS

The 2007 EIS summarized economic and social considerations stemming from the effects of the harvest specification process. Socioeconomic areas considered were: persons that may be affected by the action, gross revenue impacts, cost impacts, net returns, safety and health impacts, impacts on related fisheries consumer effects, management and enforcement costs, excess capacity, bycatch and discards, subsistence hunting and fishing, changes in the value of other ecosystem services, communities, energy consumption, and historic places.

4.2.8.2. Relevant New Information

NEPA is focused on impacts to the physical environment such that substantial new information or circumstances about the significance of adverse effects on the physical environment could require the preparation of an SEIS.[140] NMFS has fully analyzed whether there is substantial new information or circumstances about the significance of adverse effects on the physical environment that could require the preparation of an SEIS in the above sections. In this section, we summarize relevant new socioeconomic information that informs the harvest specifications process. There are several sources of information relevant to economic and social considerations. This information is primarily informative for setting TACs. As defined in the BSAI and GOA FMPs and consistent with National Standard 1 guidelines, TAC is the annual catch target for a stock or stock complex, derived from the ABC by considering social and economic factors and management uncertainty (*i.e.*, uncertainty in the ability of managers to constrain catch so the ACL is not exceeded, and uncertainty in quantifying the true catch amount) (GOA FMP Section 3.2.1, BSAI FMP Section 3.2.1; § 600.310(f) and (g)(4)). Regulations implementing the BSAI and GOA FMPs further direct that TAC can be adjusted based on the biological condition of the stock and socioeconomic considerations that are consistent with the goals of the fishery management plans for the groundfish fisheries of the BSAI and the GOA (§ 679.20(a)(3))).

There are several sources of information on economic and social considerations that are referenced in the development of the annual groundfish harvest specifications, primarily the TACs. These include:

- Economic Status Reports (Economic SAFEs) for Groundfish
- Fisheries-dependent data (Section 3.2.1.3)
    - Data on catch, effort, etc. gathered from participants in the fisheries informs analyses of fishery performance and can relate to assessments of stock condition.
- ESPs (Section 3.2.3)
    - ESPs include socioeconomic indicators and linkages between ecosystems, population dynamics, and fisheries performance.
- Stock Assessment Reports (Section 3.2.5).
    - Stock assessments include information on the history for that specific stock and can include relevant fishery performance metrics, like catch per unit of effort (CPUE).
    - Risk tables include as one of the four types of considerations "fishery performance" to the extent those considerations provide context for stock and ecosystem status. Specific "fisheries considerations" include "fishery CPUE is showing a contrasting pattern from

[140] *Metro. Edison Co. v. People Against Nuclear Energy*, 460 U.S. 766, 772 (1983); *Ass'n of Pub. Agency Customers, Inc. v. Bonneville Power Admin.*, 126 F.3d 1158, 1186 (9th Cir. 1997).

the stock biomass trend, unusual spatial pattern of fishing, changes in the percent of TAC taken, changes in the duration of fishery openings."

- Reports on incidental catch and bycatch/PSC (Section 4.2.4)
    - Information on levels of incidental catch and bycatch is informative for TAC setting. TACs have been adjusted in some instances to reduce the amount of discards, to accommodate incidental catch in other fisheries, or to allow for increased harvest opportunities for some target species while conserving the PSC limit for use in other, more fully utilized fisheries.

In addition to the above reports, the harvest specifications process is informed by public comment that can be provided at every step. The public is invited to submit oral and written comments at Plan Team, SSC, AP, and Council meetings. Public comment can include a number of factors for the Council's and NMFS's consideration in recommending and setting TACs, respectively, such as socioeconomic impacts of setting TAC at particular levels. The AP also reviews and provides TAC recommendations to the Council. The Council appoints to the AP recognized experts from the fishing industry and related fields who represent a variety of gear types, industry, and related interests as well as a spread of geographic regions of Alaska and the Pacific Northwest having major interests in the fisheries off Alaska. The purpose of the AP is to represent and provide the perspectives of fishery participants and affected communities. Through its role, the AP also provides perspectives on the socioeconomic impacts of TAC recommendations on fishery participants and affected communities.

Finally, NMFS publishes the proposed specifications and invites public comment. This provides the public with another opportunity to offer NMFS information and input for consideration on the socioeconomic impacts of the proposed TACs for each stock. NMFS also prepares Initial and Final Regulatory Flexibility analyses (IRFA and FRFA, respectively) under the Regulatory Flexibility Act to describe the economic impact the rules to implement the harvest specifications would have on small entities. In these analyses, NMFS describes the action; the reasons why the rules are being proposed; and the objectives and legal basis for the rules. NMFS also describes the recordkeeping, reporting, and other compliance requirements of this proposed rule, and the relevant Federal rules that may duplicate, overlap, or conflict with this proposed rule. However, the key of the IRFA/FRFA analysis is for NMFS to estimate the number and types of the small entities that would be directly regulated by the rules and to describe significant alternatives that would accomplish the stated objectives of the Magnuson-Stevens Act, and any other applicable statutes, and minimize any significant economic impact of the rules on small entities. This informs NMFS analyses of whether the rules accomplish the stated objectives while also minimizing to the extent practicable adverse economic impacts on the universe of directly regulated small entities. In this analysis, NMFS estimates the number of small entities and describes those entities by reference to the applicable gear and operational type and amount of gross revenues, and these estimates are available in the proposed and final rules.

For every fishery action with implementing regulations, NMFS is required to prepare a Regulatory Impact Review (RIR) under Executive Order 12866. An RIR evaluates the economic impacts of a regulatory action and its alternatives on fishery participants, communities, and other affected sectors. In preparing proposed and final rules, NMFS also prepares IRFAs and FRFAs under the Regulatory Flexibility Act. Therefore, consideration of socioeconomic impacts have been covered in every fishery action that has occurred since the 2007 EIS (see Section 3.1.3 for a summary of Recent Council Actions).

The main sources of information used most often in RIRs are:

- Economic Status Reports (Economic SAFEs) for Groundfish and Crab
- Alaska Fisheries Information Network (AKFIN)
- NMFS Catch in Areas Database

- ADF&G Management Reports and Landings,
- NMFS Management Reports and Landings,
- Commercial Fisheries Entry Commission (CFEC) (permits and quartiles estimates),
- Alaska Department of Labor and Workforce Development (ADOLWD) (employment data when available),
- Alaska Department of Revenue (ADOR) (taxation information),
- Alaska Department of Commerce (ADOC) Corporations Database for company registration.

In addition, through the Council process and the public comment period on proposed rules, the public can weigh in on specific socioeconomic concerns of a particular action. Likewise, under the Magnuson-Stevens Act National Standards, socioeconomic concerns are weighed within the overarching conservation constraints that guide Council recommendations; while they cannot override the mandate to prevent overfishing, they play a significant role in shaping choices among alternatives that satisfy conservation requirements.

4.3. *Summary of New Circumstances and Information*

NMFS has evaluated whether there is substantial new information or circumstances about the significance of adverse effects that bear on the analysis in the 2007 EIS. NMFS conducted this evaluation for each physical resource component in the 2007 EIS by considering whether there is new information that would alter the conclusions on impacts to these resource components from the implementation of the harvest strategy (*i.e.*, the 2026 and 2027 harvest specifications) that were made in the 2007 EIS. Not all new information triggers the requirement for an SEIS; only substantial new information that the implementation of the harvest specifications will affect the physical environment in a significant manner or to a significant extent not considered in the 2007 EIS triggers the requirement for an SEIS.

NMFS has reviewed new information and circumstances relevant to the resource components, including information presented on stock abundance and condition, environmental and ecosystem factors, and socio-economic conditions used to set the 2026 and 2027 harvest specifications. For each physical resource component, NMFS determined that the implementation of the harvest specifications will not affect that component in a significant manner or to a significant extent not considered in the 2007 EIS. NMFS also determined that there is no additional or new information that falls outside the scope of the process contemplated in the 2007 EIS for the consideration of new information (*i.e.*, the new information is not of a scale or scope that it could not be incorporated and integrated into the SAFE reports and harvest specifications based on those reports through the process and implementation of the harvest strategy analyzed in the 2007 EIS).

Overall, the information detailed in this SIR does not present a seriously different picture of the likely environmental harms of the implementation of the 2026 and 2027 groundfish harvest specifications beyond what was considered in the 2007 EIS. NMFS concludes that the implementation of the harvest specifications will not affect the environment in a significant manner or to a significant extent not already considered in the 2007 EIS.

5. Relevant Actions by Other Agencies

5.1. *State-Managed Groundfish Fisheries*

The State has the authority to manage fisheries in waters 0 nm to 3 nm from shore either concurrent with the Federal fisheries (called parallel fisheries), with generally the same species, season, gear, and area restrictions, or separate from Federal fisheries (called State-waters fisheries). The Council and Alaska Board of Fisheries (BOF) coordinate management of groundfish fisheries through the Joint Protocol Committee made up of members of the Council and the BOF. The Joint Protocol Committee provides recommendations to the Council and the BOF on actions of mutual interest to each organization. This dialogue provides the Council and the BOF with an opportunity to consider potential impacts of future actions on Federal and State management of groundfish fisheries.

Parallel fisheries occur in State-waters but are opened at the same time as Federal fisheries in the EEZ. State parallel fisheries harvests are managed against the Federal TAC, and vessels with the required permits may move between State and Federal waters during concurrent parallel and Federal fisheries.

The State usually opens State-waters groundfish fisheries after Federal fisheries conclude in adjacent waters. State-waters fisheries are managed under guideline harvest levels (GHLs), which are specified in State regulations at Alaska Administrative Code (AAC) 5 AAC 28.001 through 28.975. Harvests in the State-waters fisheries are monitored by the State, which closes fisheries to ensure GHLs are not exceeded. State regulations for the BSAI and GOA specify a GHL as a percentage of the Federal ABC in most cases.

The Council recommends and NMFS implements TACs after considering State GHL fisheries and to ensure federal TAC plus State GHL does not exceed the ABC. State GHL fisheries the Council and NMFS take into account when setting federal TACs include the State's Prince William Sound (PWS) pollock fishery, PWS octopus fishery, AI sablefish fishery, and the South Alaska Peninsula, Kodiak, Chignik, PWS, Cook Inlet, AI, and Dutch Harbor Pacific cod fisheries. Accounting for the State-waters GHLs in specifying the TACs ensures that the combined harvests from the State-waters and Federal fisheries are managed within the ABCs derived from the Federal harvest specifications process for that species and area. The BOF may receive additional proposals from the public to increase harvests in State-waters groundfish fisheries. Increases in GHLs for the State-waters groundfish fisheries requires setting Federal groundfish TACs to ensure total harvests do not exceed ABCs.

Recent State Actions (2021-present)

In **October 2025**, the Alaska BOF modified the South Alaska Peninsula Area Pacific Cod Management Plan to increase the guideline harvest level for Pacific cod in the South Alaska Peninsula Area from 30 to 35 percent of the total allowable harvest of Pacific cod for State and Federal harvest. This action affects the available Pacific cod TAC in the Western GOA and subsequent sectors whose allocations are derived from the Western GOA TAC.

In **December 2024**, the Alaska BOF established a directed octopus fishery in State waters in Prince William Sound (PWS). NMFS set the TAC to account for this State fishery by subtracting the maximum guideline harvest range (GHR) of 16 mt (35,000 pounds rounded) from the ABC recommended by the SSC. The purpose of this change was to ensure that the sum of octopus removals from Federal and State waters do not exceed the GOA-wide ABC recommendation.

5.2. *International Pacific Halibut Commission*

Each year, the IPHC assesses the status of the Pacific halibut stock and sets the Total Constant Exploitation Yield (TCEY), which is the amount of halibut mortality that is determined to be allowable in a year. In making its recommendation, the IPHC considers stock status, uncertainties, the probability that the spawning biomass will decrease for given mortality levels, as well as the significant social and economic impacts of catch limits among areas.

In setting TCEY, the goal of the IPHC Harvest Strategy Policy is the long-term sustainable use (optimum yield) of Pacific halibut through the implementation of a harvest strategy that maintains the stock at sustainable levels while supporting healthy and accessible fisheries which includes maximizing economic returns in directed commercial fisheries. The Commission's current priority objectives to achieve this goal are:

1. Maintain the long-term coastwide Pacific halibut female relative spawning biomass above a biomass limit reference point where the risk to the stock is regarded as unacceptable (RSB20%) at least 95 percent of the time;

2. Maintain the long-term coastwide Pacific halibut female relative spawning biomass at or above a threshold reference point that optimizes fishing activities (RSB36%) at least 50 percent of the time;

3. Maximize the short-term coastwide yield while minimizing annual changes in the short-term coastwide mortality limit, given the constraints above to ensure a sustainable fishery.

The harvest strategy ensures fishing is conducted in a manner that does not lead to overfishing. Overfishing is defined as where the stock is subject to a level of fishing that would likely be greater than the level associated with maximum sustainable yield.

After deducting non-directed fishery removals (*i.e.*, incidental catch in the groundfish fisheries, wastage in halibut fisheries, recreational harvest, and subsistence use) from the TCEY, the remainder (referred to as the Fishery Constant Exploitation Yield) is allocated to the directed commercial and guided sport fisheries according to area-specific catch sharing plans.

The IPHC Commissioners and their advisors convened at the IPHC Annual Meeting January 19 through January 22, 2026, to consider the most recent stock assessment, catch limit recommendations, and stakeholder input, and to set the catch limits for 2026. Since 2013, the IPHC has utilized a management strategy evaluation (MSE) process to evaluate the consequences of alternative management options or harvest strategies for Pacific halibut.[141] The MSE process involves defining fishery and conservation objectives with the involvement of stakeholders and managers, identifying management procedures, population model simulation using those management procedures, evaluating trade-offs between objectives, implementing a chosen harvest strategy, and repeating the process for changes in the future.

Once the IPHC sets catch limits, NOAA publishes a notice of the effectiveness of the IPHC's annual management measures in the *Federal Register* for the commercial and recreational Pacific halibut fisheries, after approval by the Secretary of State and the concurrence of the Secretary of Commerce. The Council has recommended and NMFS has implemented additional domestic management measures for the halibut fisheries as well as for the management of halibut PSC that are not under the purview of the IPHC.

[141] IPHC MSE program details. Available from: https://www.iphc.int/research/management-strategy-evaluation/

Since 2015, total annual halibut mortality (including Pacific halibut removals for subsistence, recreational, commercial, non-directed discards, and commercial discards for all IPHC areas)[142], measured by weight, has declined (Table 5-1).

Table 5-1. Total annual halibut mortality, 2015 - 2025.

Year	Total Mortality (million pounds)
2015	42.31
2016	42.02
2017	42.21
2018	38.50
2019	39.97
2020	34.23
2021	38.18
2022	38.62
2023	34.56
2024	32.70
2025	28.80 (preliminary)

6. Determination

After reviewing relevant information and circumstances (as summarized in this SIR), I have determined that (1) the 2026 and 2027 harvest specifications, which were set according to the preferred alternative harvest strategy, do not constitute a substantial change in the action; and (2) there are no substantial new circumstances or information about the significance of adverse effects that bear on the analysis in the 2007 EIS. The 2026 and 2027 harvest specifications will result in environmental, social, and economic impacts within the scope of those analyzed and disclosed in the 2007 EIS. At this time, the available information does not indicate a need to prepare additional supplemental NEPA documentation for the 2026 and 2027 harvest specifications. Therefore, a supplemental EIS is not necessary to implement the 2026 and 2027 harvest specifications.

Regional Administrator Date

[142] IPHC. 2025. Annual mortality by IPHC Regulatory Area. Available from: https://www.iphc.int/uploads/2025/01/iphc-2025-tsd-008.xlsx

7. Preparers and Persons Consulted

7.1. *Preparers and Reviewers*

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Lewis Barnett, Research Fish Biologist

Patrick Barry, Research Geneticist, Genetics Program Biologist

Ned Laman, Supervisory Research Fish Biologist

Pacific States Marine Fisheries Commission

Jennifer Cahalan, Statistician

U.S. Fish and Wildlife Service

Heather Renner, Supervisory Wildlife Biologist, Alaska Maritime National Wildlife Refuge

7.2. *Persons consulted*

NOAA General Counsel, Alaska Region, Juneau, Alaska

Molly Watson, J.D., Section Deputy Chief and Attorney Advisor

Alex Hildebrand, J.D., Attorney Advisor

8. Resources

For further information about prior actions and documents and information relied on for this analysis please see the following links:

The 2007 EIS, Record of Decision and all prior years of SIRs can be found at this webpage here:

https://www.fisheries.noaa.gov/resource/document/alaska-groundfish-harvest-specifications-environmental-impact-statement-eis

SAFE reports for the current year can be found on the NPFMC website here:
https://www.npfmc.org/library/safe-reports/

Prior Groundfish stock assessments, ESRs, ESPs, and Economic Status Reports for Alaska groundfish stocks can be found on the NOAA Fisheries website here:
https://www.fisheries.noaa.gov/alaska/population-assessments/north-pacific-groundfish-stock-assessments-and-fishery-evaluation

Fishery management plans and fishery ecosystem plans can be found on the Council's website here:
https://www.npfmc.org/library/fmps-feps/