

# **Preliminary Draft**

Agenda Item F.5  
Supplemental Attachment 5  
April 2024

## **PRELIMINARY DRAFT**

### **Amendment 33 to the Pacific Coast Groundfish Fishery Management Plan, 2025-2026 Harvest Specifications, and Management Measures**

### **Environmental Assessment (EA) and Regulatory Impact Review (RIR)<sup>1</sup>**

**Prepared by:**

**National Marine Fisheries Service (NMFS) West Coast Region  
National Oceanic and Atmospheric Administration (NOAA)  
Department of Commerce (DOC)**

**And**

**Pacific Fishery Management Council (Council)**

**April 2024**

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<sup>1</sup> This preliminary draft does not contain the evaluation of regulatory actions required by Executive Order 12866 (Regulatory Planning and Review) and the Regulatory Flexibility Act. We will add these components to this integrated document at a later time to support decision making and the rulemaking process.

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## 1 Introduction

We, the Pacific Fishery Management Council (Council) and the National Marine Fisheries Service (NMFS), are analyzing the environmental effects anticipated from setting harvest specifications and management measures for the 2025-2026 groundfish fisheries managed under the [Pacific Coast Groundfish Fishery Management Plan \(Groundfish FMP\)](#).

We are preparing this preliminary draft Environmental Assessment (EA) using July 2020 (effective September 14, 2020) (2020 NEPA regulations) and April 2022 (effective May 20, 2022) Council on Environmental Quality (CEQ) National Environmental Policy Act (NEPA) regulations, taking into account provisions in the Fiscal Responsibility Act of 2023 (FRA) that amended NEPA. CEQ has proposed additional revisions to its regulations (88 FR 49924, July 31, 2023), but they were not final when this EA was initiated on **December 13, 2022**.

### 1.1 Proposed Action

In accordance with [Magnuson-Stevens Fishery Conservation and Management Act \(MSA\)](#), the principal legal basis for fishery management within the Exclusive Economic Zone (EEZ), the Proposed Action would implement the following:

1. Harvest control rules (HCRs), harvest specifications (overfishing limits [OFL], acceptable biological catches [ABC], annual catch limits [ACL], and allocations) for all groundfish stocks and stock complexes “in the fishery.”<sup>2</sup>
2. Management measures, to achieve, but not exceed, annual harvest specifications.

Some of these elements require an FMP amendment, which constitutes part of the Proposed Action as described in Chapter 2.

The management area for this action is the EEZ, defined as 3 nautical miles to 200 nautical miles from shore along the coasts of Washington, Oregon, and California and the communities that engage in fishing in waters off these states. Figure 1 in the [Groundfish FMP](#) (PFMC 2020) depicts this management area.

### 1.2 Purpose and Need

The purpose of this action is to prevent overfishing while achieving, on a continuing basis, the optimum yield from the fishery. (MSA § 301(a)(1)). This is referred to as “to optimize” or “optimizing” the fishery throughout this document.

We need to respond to new scientific data and information about the stocks and stock complexes and the needs of fishing communities, to provide additional tools to ensure catch limits are not exceeded, and to afford additional fishing opportunities where possible.

The action also must be consistent with the [National Standard Guidelines](#) (50 CFR 600.305) for fishery management.

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<sup>2</sup> Ecosystem Component (EC) species are not considered “in the fishery” and, OFLs, ABCs, and ACLs are not set for EC species (Section 1.2.1.2, 2015 FEIS)

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## 1.3 Tiering

We are tiering (40 CFR 1501.11) this document from the “Harvest Specifications and Management Measures for 2015-2016 and Bienniums Thereafter, Final Environmental Impact Statement” (hereafter, the 2015 EIS). The 2025-2026 biennium is the fifth period tiered from the 2015 EIS. As such, the 2015 EIS is incorporated by reference as are each biennial document (2017-2018, 2019-2020 2021-2022, and 2023-2024 EAs) as posted on our document [archive](#).

As discussed in the 2015 EIS and each subsequent tiered document, the adoption and adjustment of regulations for managing the groundfish fishery (including harvest specifications and management measures) are part of an ongoing, adaptive process. Changes in the type and intensity of environmental impacts tend not to differ substantially from one period to the next.

Section 5.1 of the Groundfish FMP describes the default harvest specifications process as the application of the best scientific information available (BSIA), as required by MSA National Standard 2, to the HCR. The alternatives we are analyzing in this preliminary draft EA are the No Action Alternative, which reflects the continued use of harvest specifications from the 2025-2026 biennium and two action alternatives under which we would apply either default or alternative HCRs.

## 1.4 Public Process

Section 5.4 of the Groundfish FMP describes the specific implementation procedures for specifications and management measures. The Council discussed the proposed 2025-2026 harvest specifications and management measures at five meetings between June 2023 and June 2024. We published draft documents and offered public comment opportunities at each meeting. We noticed the meetings in the *Federal Register* and on the Council’s website and broadcasted the meetings live on the Council’s [YouTube Channel](#). Recordings of each meeting are available on the same channel. Pacific Whiting treaty meetings and documents are available on our [website](#). Like the 2023-2024 EA, this NEPA document draws from the highly detailed analytical information provided to the Council and the public.

In addition to public comment on the proposed action and alternatives during Council meetings in 2023 and 2024, this draft EA will support Federal rulemaking after final Council action, which includes a public comment period noticed in the *Federal Register*. Public comment on this draft will inform the contents of the final EA and our decisions are based on its analysis. The *Joint Council Staff and National Marine Fisheries Service Report on Harvest Specifications and Management Measure Documentation* (Agenda Item F.7 Attachment 1, March 2024) detailed how we are documenting the NEPA process for this action.

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## 2 Alternatives

Fishery managers must adapt to constantly changing fishery and ecosystem conditions while respecting the goals, indicators, and triggers defined in the MSA, the National Standards enumerated in the MSA, and the Groundfish FMP. Within this context, we manage the fishery by constantly collecting, reviewing, and evaluating data before choosing appropriate framed management actions. The Proposed Action (Section 1.1) that we evaluate in this EA addresses multiple elements of our ongoing adaptive management framework.

### 2.1 Alternatives Design and Screening

Over the past 20 years, we have prepared 32 EAs and 10 Environmental Impact Statements (EISs) for these adaptive groundfish fishery management actions. Five EISs assessed harvest specifications and management measures prior to the 2015-2016 biennial cycle. With the stability of fishery management and rationalization of major components of the fishery (described in current SAFE document), and the development of a programmatic approach, the biennial harvest specifications process (described in Chapter 5 of the FMP), has evolved into a structured process with two components:

- (1) The Council determines catch limits using stock assessments, realized catch, and default HCRs for each biennial cycle. The discretionary action is the HCR; therefore, this component is referred to as the **Harvest Control Rule (HCR)** component throughout this document.
- (2) The Council makes additional adjustments as needed to optimize<sup>3</sup> the fishery, referred to as **Management Measures** component throughout this document.

Each new or revised management action is the outcome of a consultative process that usually begins with proposals from states, tribes, fishermen, industry, or environmental interest groups. The Groundfish Management Team (GMT) presents the Council and the public with analyses and options. The Council narrows the range of actions and alternatives and further guides the GMT's analysis. Upon completion of the analysis and the Council's adoption of a Preliminary Preferred Alternative, we prepare an environmental review under NEPA. We also prepare analyses under other applicable laws and executive orders, including the MSA, Executive Order 12866 (Regulatory Planning and Review), and the Regulatory Flexibility Act. This process ensures optimum fishery management while minimizing adverse economic, biological, and physical impacts. It also ensures that we focus the tiered NEPA EA on reasonable final alternatives only. The analytical documents describe options that the Council considered but eliminated in planning for this biennial cycle.<sup>4</sup>

The programmatic approach we introduced in the 2015-2016 cycle has allowed us to focus on key elements of the adaptive management system that are new or changed in a particular biennium and that may result in significant impacts to the human environment (40 CFR 1508.1(m)).

Therefore, our analysis in this tiered EA is focused on substantive changes that have not been analyzed in the past: (1) changes to default HCRs, and (2) new management measures.

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<sup>3</sup> Optimize means achieving OY and preventing overfishing, per statutory obligations and as described in Section 1.2, Purpose and Need.

<sup>4</sup> Two analytical documents were provided for Council decision making in April 2024, one for harvest specifications (hereafter, the HCR Analytical Document) and one for new management measures (hereafter, the Management Measures Analytical Document).

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## 2.2 Harvest Control Rules

In Amendment 24, supported by the 2015 EIS, we established default HCRs that apply the best available scientific information to set catch limits during each biennial cycle. Section 2.1 of the 2021-2022 EA defines the catch limit terms, how we apply rules to the latest estimates of biomass for each stock or stock complex, and how we account for uncertainty to determine the ACLs. We incorporate this section by reference. It describes a process by which we determine OFLs, ABCs, and ACLs for managed stocks and stock complexes.

Additional information on this process and on catch limits can be found in the following documents:

- Final rule for the 2015–2016 harvest specifications and management measures and Amendment 24 ([80 FR 12567, March 10, 2015](#))
- [Groundfish FMP](#) (Chapter 4)
- [Stock Assessment and Fishery Evaluation \(SAFE DOCUMENT\)](#)

These default HCRs and resulting harvest specifications (OFLs, ABCs, and ACLs) constitute the Action Alternative 1.

The Council may decide to diverge from a default HCR. Of approximately 100 fish species that we manage under the Groundfish FMP, we changed four HCRs in 2017-2018, four in 2019-2020, five in 2021-2022, and three in 2023-2024. In this 2025-2026 cycle, we are considering changes to HCRs affecting the calculation of ACLs for rex sole, shortspine thornyhead, quillback rockfish off California, and Dover sole. Harvest specifications based on these three alternative HCRs constitute Action Alternative 2.

### 2.2.1 No Action Alternative: 2023 Harvest Specifications

Unlike in previous biennial specification NEPA analyses, where the No Action Alternative constituted the application of default HCRs to BSIA, in this EA No Action represents harvest specifications that are in place in the previous (2023-2024) biennium. The purpose of this change is to provide a basis of comparison from the current biennium to the upcoming biennium (e.g., how much more or less fish will a fisherman be able to harvest of a species in the current vs. upcoming biennium). The NOAA NEPA Companion Manual (Section 6.B.i, p. 9) defines the no action alternative as “no change from current, ongoing management.” *CEQ’s Forty Most Asked Questions Concerning CEQ’s National Environmental Policy Act Regulations* (46 FR 18026, March 23, 1981) states that for management actions, “‘no action’ is ‘no change’ from current management direction or level of management intensity.” While the lack of Federal rulemaking would result in the continuation of harvest specifications found in regulations at the end of 2024, for analytical purposes we are using 2023 harvest specifications, because we have fishery data for that year, allowing comparison of catch and ex-vessel across the alternatives. Sufficient fishery data is not available for 2024, when this EA was prepared. Differences in harvest specifications in 2023 and 2024 are relatively small, meaning that the use of 2023 specifications in the analysis does not meaningfully affect the conclusions. Where appropriate, we use 2024 management measures that were not in place in 2023 as a basis of comparison for 2025-26 (e.g., opening the Cowcod Conservation Area, which was not effective until 2024).

### 2.2.2 HCR Action Alternative 1: Default Harvest Control Rules

The Groundfish FMP structure, as amended by Amendment 24, allows us to continue managing the fishery each biennium using the default HCRs. This represents a continuation of the current harvest policy without change, but by using BSIA (most recent information from stock assessments and other sources) the harvest specifications themselves do change. In general, this does not constitute a change in management direction or intensity. The resulting ABCs and ACLs aim to ensure that we do not exceed the OFL for any particular stock or stock complex.

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Groundfish FMP section 4.3 describes the harvest specifications framework, which is based on the use of  $F_{MSY}$  proxies. Using BSIA, these proxies are translated into OFL values. The ABC represents a precautionary reduction from the OFL to account for scientific and management uncertainty. FMP section 4.4 describes the methods used to determine these values. Additional details on the harvest specifications framework and the use of different types of assessments in this framework may be found in the most recent SAFE document. Table 1-2 in the HCR Analytical Document, shows the resulting default (this alternative) and alternative (Action Alternative 2) harvest specifications (OFLs, ABCs, ACLs, and where applicable, ACTs) being considered for the 2025-2026 biennium.

### 2.2.3 HCR Action Alternative 2: Alternative Harvest Control Rules

We may consider diverging from the default HCRs to address conservation objectives, socioeconomic concerns, management uncertainty, or other factors necessary to meet management objectives. Alternative HCRs are considered for four stocks, as shown in Table 2-1. The rationale for the alternative HCRs is as follows:

**California Quillback rockfish:** In 2023, through Groundfish FMP Amendment 31, the Council defined three quillback rockfish stocks for waters in the management area off California, Oregon, and Washington. Quillback rockfish is managed under two nearshore rockfish complexes north and south of 40°10' N. latitude (as described in the 2023-24 EA). Stock complexes are managed to a summed ACL for the component stocks. But beginning with the 2025-2026 biennium the California quillback stock will be managed according to its own rebuilding ACL. The most recent (2021) stock assessment found the quillback rockfish stock off California to be depleted. With the stock now defined and declared overfished by NMFS, the Council must develop and implement a rebuilding plan consistent with MSA §304(3). Development of the rebuilding plan is part of the proposed action, because its parameters will determine 2025-2026 harvest specifications for the stock and associated management measures to constrain total catch to the resulting ACL. The Council considered a range of rebuilding strategies and identified their preferred approach in April 2024, which is analyzed in this EA.

**Dover sole:** The default HCR sets the ACL equal to a constant catch level of 50,000 mt. However, projections of stock size in 2025-2026 indicate that a constant 50,000 mt ACL would exceed the ABC. So as not to exceed the ABC, the ACL set equal to the ABC or 47,424 mt in 2025 and 42,457 mt in 2026.

**Rex sole:** Increasing  $P^*$  from 0.40 to 0.45 results in a slightly more risk tolerant increase in the ACL, which would allow the trawl fleet greater flexibility in the event that participation and fishing effort increases.

**Shortspine thornyhead:** Increasing  $P^*$  from 0.40 to 0.45 for this stock would reduce the likelihood of this stock becoming a constraining species to the nonwhiting bottom trawl sector. As under Action Alternative 1, the 40-10 adjustment is applied, because the stock is in the precautionary zone (below the target biomass level but not overfished). Shortspine thornyhead could become more constraining in the 2025-2026 biennium, because of increases in co-occurring sablefish ACLs under the default HCR, due to increased abundance estimated in the most recent stock assessment [ref]. In a common seasonal harvest strategy, the bottom trawl fleet targets Dover sole, thornyheads, and sablefish together on the continental slope (referred to as the DTS strategy). Fishing effort could expand due to the increased availability of sablefish, resulting in increased catches of the other two stocks. The higher  $P^*$  of 0.45 is slightly more risk tolerant but would allow greater fishing opportunity for sablefish, a higher value species.



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**Table 1. Proposed alternative HCRs.**

Stock	Alternative 1 – Default HCR	Alternative 2 – Alternative HCR
California quillback rockfish stock	Contributed to the nearshore rockfish north and south complex ACLs with P*=0.45, SPR 0.55	Stock-specific management under rebuilding plan HCR
Dover sole	P* = 0.45 Constant catch ACL = 50,000 mt	P*=0.45 ACL=ABC
Rex Sole	P* = 0.40 ACL=ABC	P* = 0.45 ACL=ABC
Shortspine thornyhead	P* = 0.40 ACL=ABC, 40-10 adjustment	P* = 0.45 ACL=ABC, 40-10 adjustment

### 2.2.3.1 Quillback Rockfish Rebuilding Strategy

Groundfish FMP Amendment 31 incorporated stock definitions into the FMP for a portion of the species listed in the FMP including quillback rockfish.

## 2.3 Management Measures

Once we derive stock-specific ACLs based on default or alternative HCRs, we use management measures to allow fishermen to maximize fishing opportunity without exceeding these ACLs.

Groundfish FMP Chapter 6, Management Measures, describes “the procedures and methods that may be used to directly control fishing activities so that total catch of a given species or species group does not exceed specified harvest limits.” Management measures may also involve making downward adjustments to the ACL to account for certain fishing activities and allocating the resulting fishery harvest guideline to facilitate attainment or equitable harvest opportunities in specific fisheries or states. Groundfish FMP Section 6.2 describes the framework procedures that we use to establish, adjust, and implement management measures. We classify these as automatic actions, routine management measures, or new actions.

- **Automatic actions** are non-discretionary. NMFS may initiate them without prior public notice, opportunity to comment, or a Council meeting. The impacts must be reasonably accountable, based on previous application of the action or past analysis. We may apply these measures to a stock, stock complex, or to individual stocks in a complex. Examples include fishery, season, or gear type closures when a quota is projected to, or has been, attained.
- **Routine management measures** that the Council determines are likely to be adjusted on an annual or more frequent basis and that we have classified as routine through either the specifications and management measures or rulemaking processes. Section 6.2.1.1 of the Groundfish FMP and 50 CFR 660.60(c) describes all available routine management actions. We may apply these measures to a stock, stock complex, or to individual stocks in a complex.
- **New actions** require discussion at one to three Council meetings and public notice in two *Federal Register* notices depending on the type of management measure. An FMP amendment or regulatory amendment may be required.

Chapter 6 also inventories the range of management measures available to us. We use management measures to: account for set-asides, deductions, and targets (FMP Section 4.7); adjust or allocate the catch limits (Section 6.3); reduce bycatch and bycatch mortality (Section 6.5); authorize or prohibit gear, gear

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configurations, and deployment strategies (Section 6.6); restrict catch through landing, trip frequency, bag, and size limits (Section 6.7); establish fishing seasons and closed areas (Section 6.8); and limit fishing through permits, licenses, endorsements, and allocations (Section 6.9). Changing ecosystem or economic conditions, or other factors, may precipitate routine adjustments to this suite of management measures at the outset of the biennial period or within the period (“inseason actions”) if necessary to achieve conservation objectives.

### 2.3.1 No Action Alternative: 2023-2024 Management Measures

Under No Action we assume that management measures in place in the 2023-2024 biennium remain in place during the 2025-2026 biennium. Under this logic, catch control measures (trip limits, bag limits, seasons, etc.) could be adjusted during the biennium to achieve but not exceed 2023 ACLs (the HCR No Action Alternative).

### 2.3.2 Action Alternative 1: No Change in Management Intensity

Under this alternative, we will continue to manage the fishery with no change in management intensity, using the automatic actions (if needed during the fishing season) and routine management measures defined in Sections 6.6 to 6.9 of the FMP and at 50 CFR 660.60. Together, these actions help us ensure that catch of individual stocks, stock complexes, or stocks within a complex do not exceed ACLs set according to BSIA (HCR Action Alternative 2), while achieving, on a continuing basis, optimum yield consistent with MSA National Standard 1.

Most of the management measures the Council recommended for this biennium are minor variations to existing management measures (i.e., deductions or allocations of ACLs or adjusting ACTs, bag limits, trip limits, and recreational season structures). Given that they do not represent a change in intensity, we do not discuss their impacts in this tiered EA but summarize them here and incorporate by reference the relevant sections of the *analytical document* that support the Council’s decision-making process under the MSA. These adjustments include:

- Establishing **off-the-top deductions** for fisheries for which the Council does not exercise management authority: tribal fisheries, research, experimental fishing permits, incidental open access, bycatch in other fisheries, etc. We explained these deductions in Section 4.2.1.1 of the 2015 FEIS. Proportionally, these deductions do not substantively change from one management period to the next and are thus consistent with past deductions, although the actual amounts may vary (Section 2.2 *analytical document*).
- Establishing tribal, non-tribal, research, and bycatch **set-asides** to account for incidental catch of Pacific whiting in those sectors.<sup>5</sup> Although establishing these set asides is not part of the proposed action, we disclose the likely impacts in this tiered EA.
- Establishing **Annual Catch Targets (ACTs)** for yelloweye rockfish, quillback rockfish off California, and copper rockfish off California. As defined in Section 2.2 of the Groundfish FMP, an ACTs is “a management target set below the ACL and may be used as an [accountability measure] in cases where there is uncertainty in inseason catch monitoring to ensure against exceeding an ACL. Since the ACT is a target and not a limit it can be used in lieu of harvest guidelines or strategically to accomplish other management objectives in Section 4.7 of the Groundfish FMP.”

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<sup>5</sup> See for example the 2023 Pacific Whiting Final Rule at [89 FR 34783](#).

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- Making **various administrative updates and corrections** for various ongoing monitoring and management processes. The following administrative changes are proposed for implementation as part of the proposed action:
  - Develop an open access fishery registration or permit (see Agenda Item E.7.a, NMFS Report 1, November 2023)
  - Align the electronic monitoring discard species list in regulation with the list that was in the vessel monitoring plan for the exempted fishing permit
  - revisions to Federal sorting requirements to require that all rockfish be sorted to species by processors (see Agenda Item E.7.a, Supplemental WDFW Report 1)
  - Allowing recreational anglers to retrieve non-groundfish fishing gear (ex: crab pots, hoop nets, squid dip nets, etc.) with groundfish aboard.

This alternative also assumes that the proportional sector and/or state **allocations or distributions** do not vary substantially from the last biennial cycle. Section 2.2 of the 2021-2022 EA describes allocations for stocks or stock complexes while Section 6.3.2 of the Groundfish FMP defines the formal allocations for sablefish (north of 36° N latitude), non-tribal sector allocations for Pacific whiting, limited entry trawl allocations (Table 6-1), and Pacific halibut bycatch. For stocks where allocations are not specified in the Groundfish FMP short-term allocations among commercial and recreational groundfish fishery sectors may be adjusted as part of the biennial management process. These changes are meant to better match fishing opportunities with the needs of various groundfish fishery sectors.

Like the ACLs, the nominal value of these deductions and allocations changes but the overall management intensity remains the same under this alternative. (Section 2.4 and 2.5 Management Measures Analytical Document).

### **2.3.3 Action Alternative 2: New Management Measures**

This alternative incorporates all the routine adjustments to management measures described in Action Alternative 1 but adds additional management measures that represent a change in management intensity. These additional management measures are not time-limited and may be in place beyond the 2025-2026 biennium or until otherwise modified. Under this alternative we are considering the proposed new management measures necessary to rebuild the California quillback rockfish stock (TBD April Council meeting).

### **2.4 Alternatives Considered by the Council but not Further Analyzed**

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## 3 Methodology

In this section, we discuss our analytical approach for this tiered EA and explain why we are including new elements in this biennial cycle or excluding elements that we have addressed in previous cycles.

Our decisions are based on 40 years of experience managing the Pacific groundfish fishery. We carefully consider whether each proposal is justified by one or more of the [MSA's National Standards](#) and whether it improves the balance between three simultaneous purposes: (1) maximizing fair, equitable, and efficient attainment from the fishery, while considering the importance of fishery resources to fishing communities and the SAFE document of human life at sea, (2) protecting natural resources by preventing overfishing of groundfish and minimizing adverse effects on other species or habitat, and (3) ensuring that proposed modifications are legal, enforceable, and not overly burdensome on both regulators and fishery stakeholders.

### 3.1 Scope – Non Groundfish Fish

Managed fish include fish managed under other FMPs (i.e., Salmon, Highly Migratory Species, Coastal Pelagic Species) and those found in state waters. The species composition of non-groundfish species caught in groundfish fisheries is described in Section 3.6 of the 2015 EIS. We have not changed harvest policies or seen changes in fishery performance that have substantively changed the composition in incidentally caught non-groundfish. The most recent information about non-groundfish species caught in the groundfish fishery can be found in the 2021 groundfish discard and catch report (Somers et. al. 2023 <https://doi.org/10.25923/teda-x859>). Therefore, with no change in effects, we do not address impacts on non-groundfish species in this tiered EA.

### 3.2 Parallel Fishery Management Actions

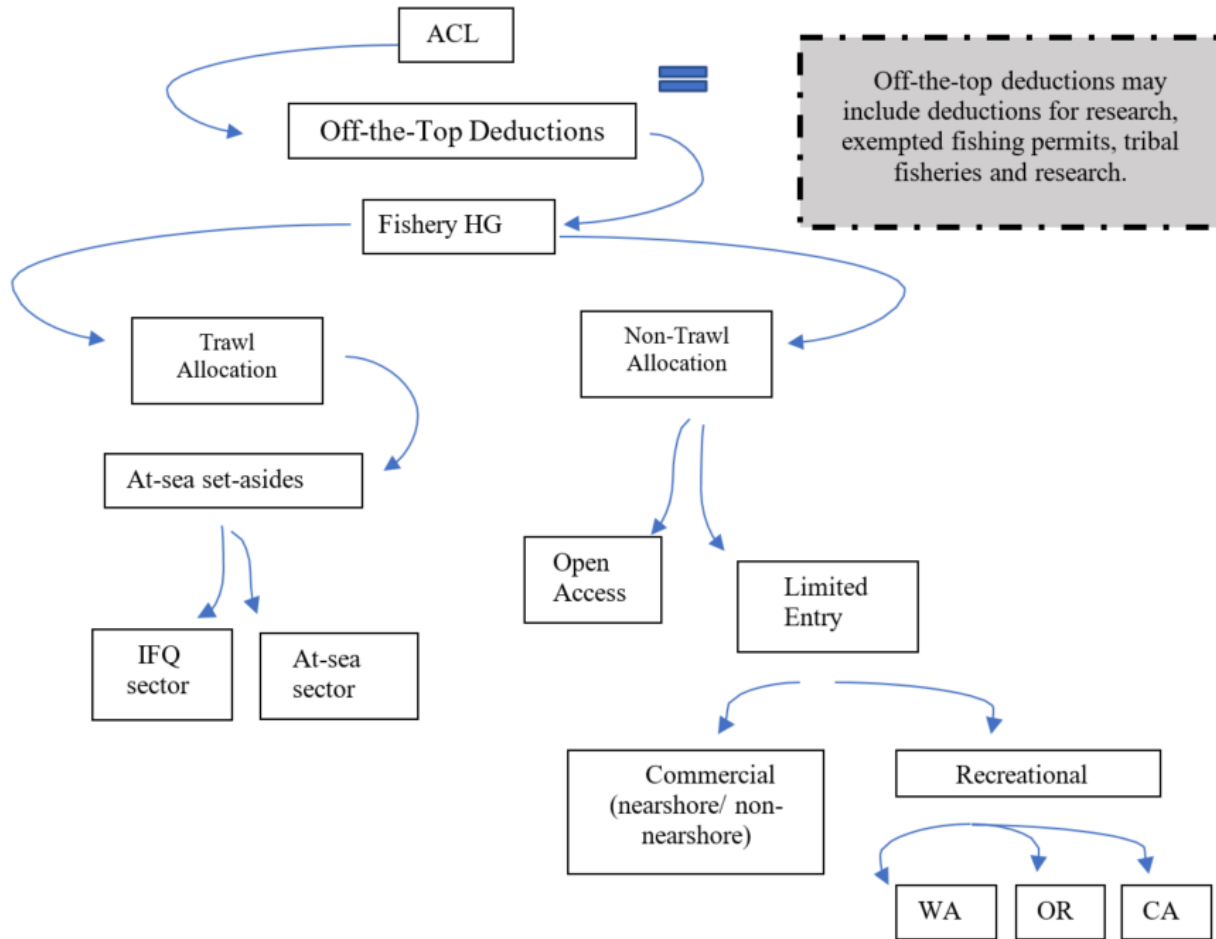
In Section 2.0, we introduced our adaptive management approach to groundfish fishery management, which the Groundfish FMP and most recent SAFE document detail. NEPA requires us to evaluate and disclose the environmental impacts of a proposed action and its alternatives; the components of the Proposed Action presented in Section 1.1 include all aspects of the proposed final rule that we need to publish to authorize a sustainable groundfish fishery in early 2025.

The management measures component of the Proposed Action consists of related corrections or changes needed to optimize the fishery. We have the discretion to implement other management measures that we may have discussed during the 2023 or 2024 Council meetings to subsequent rulemaking processes outside of the biennial harvest specifications and management measures process. We may implement measures that we determine constitute discrete actions that are not tied to the harvest specifications process and are therefore “unconnected single actions,” defined by the NEPA regulations at 40 CFR 1501.9(e)(1).

### 3.3 Allocations

As shown in Figure 3-1, the harvest guidelines may include allocations between fishery sectors, and applicable to most groundfish species.

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**Figure 1. Schematic showing distribution of an ACL across all West Coast Groundfish fishery sectors.**

Section 6.3.2 of the Groundfish FMP describes the history and process for these allocation decisions. There are two types of allocations:

1. FMP-specified allocations that require an FMP amendment for modifications. For example, [Table 1-6 of the most recent SAFE document](#) shows limited entry (LE) trawl and non-trawl sector allocations as defined in Amendments 21 and 29 and as analyzed under the respective NEPA documents (2005 EIS and 2020 EA).
2. Biennial Specifications Process allocations. For example, Big Skate in 2021-2022. [Table 1-6 of the most recent SAFE document shows the allocations that were in place for 2023](#) and constitute Management Measure Alternative 1 (No Change) in this NEPA document.

We may further allocate harvest guidelines to specific sectors and states. For example, in 2019-2020, we issued sector-specific harvest guidelines for yelloweye rockfish in the non-trawl sectors and in 2021-2022 we merged the non-nearshore and nearshore harvest guidelines to provide greater flexibility in managing co-occurring stocks such as lingcod as these two fisheries are subject to the same trip limits (NMFS 2020).

Under our adaptive management process for groundfish management, we may adjust allocations that are not defined in the FMP, such as allocations and sharing agreements to specific sectors or states. In doing so, we recognize that each stock is part of a mixed-stock fishery and that insufficient allocation of one stock impacts attainment of other stocks and stock complexes.

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In past biennial cycles, we found that we cannot determine the specific impacts of changes to the allocation percentages. Each individual fishing act may impact physical, biological, and socioeconomic resources. Each fisherman decides for themselves where, when, and how to fish based on external factors (e.g., markets) as well as the catch limits, management measures, and sector allocations. However, we cannot predict where, when, what gear, and what fish they will target. Nor can we predict, with any level of certainty, what percentage of the catch limit or allocation will be harvested (attainment).

For the two resources that we can assess quantitatively (managed fish and economics), we assume that the catch limits are fully attained in each analysis year. The stock assessments also assume full attainment of the ACLs, which may be set equal to the ABC depending on the applied HCR (see Section 2.7.2 of the most recent SAFE document).

However, for most stocks and stock complexes, catch has historically been less than the limits we establish. Section 1.4 of the most recent SAFE document describes attainment in the Pacific whiting sectors, which, as we have noted, accounts for the largest share of groundfish revenue. Therefore, the impacts on managed fish and economics are likely to be less than is forecast in this EA. Our analysis of impacts on the other resources (protected resources, habitat, and ecosystem) is not quantitative. Catch limits are not a predictable proxy for the rate of protected species and habitat interactions, and any incremental effect on the California Current Ecosystem.

Section 4.2.1.1 (Deductions from the ACL and Allocations) of the 2015 EIS describes allocations across all sectors, while Section 4.1.4.13 specifically addresses the Pacific whiting sector. We do not discuss the impacts of specific allocations or other allocative measures (e.g., sharing agreements, annual catch targets, and harvest guidelines) further in this tiered EA.

### **3.4 2015 EIS Analytical Approach and 2024 Forecasts**

In Section 4.8 of the 2015 EIS, we evaluated the biological impacts of alternative harvest specification policies over a 10-year period based on projections from stock assessments current at the time. Projections were run under three alternative “states of nature,” which captured the principal source of uncertainty in the relevant stock assessment.

Since 2015, the fishery and the affected environment have evolved (see Sections 12 and 1.3 of the 2022 SAFE DOCUMENT) with a mature fishery rationalization structure, rebuilt stocks, emerging fisheries responding to new opportunities and increased catch limits, and changes in gear (NMFS 2018) and adjustments to closed areas (NMFS and PFMC 2019). Out of 60 stocks listed in Table 2-4 of the 2022 SAFE DOCUMENT, 46 stock assessments (77%) have been updated since the 2015 EIS was published. In 2015, we had seven overfished stocks; all but one has been declared rebuilt but as discussed in Chapter 2, the California quillback stock was declared overfished in 2023.

Although we continue to use the harvest specification policies that we established in 2015, we modify these policies based on current conditions. The HCR component of the proposed action (Section 2.2) describes the modification process. In this biennial cycle, we are proposing to revise default HCRs for four stocks including those derived from the rebuilding plan for California quillback rockfish. We will continue, in future cycles and between those cycles, if necessary, in compliance with the MSA and NEPA, to revise harvest control rules based on environmental and economic conditions.

However, we base our decisions on BSIA (40 CFR 1502.23 Methodology and Scientific Accuracy). The 10-year projections (e.g. metric tonnage values like ACLs) that we made for the 2015 FEIS no longer inform our adaptive management decisions; we rely on more recent stock assessments to establish harvest

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specifications. In doing so aim to optimize the fishery consistent with the purpose and need for the proposed action described in Section 1.2.

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## 4 Environment / Environmental Consequences

### 4.1 Managed Fish

#### 4.1.1 Introduction

We tier this section from the 2015 FEIS (NMFS and PFMC 2015) with an emphasis on Section 2.1.1 (Harvest Specifications), Section 3.1 (Affected Environment-Groundfish), Section 4.1 (Biological Impacts of 2015-2016 Biennial Harvest Specifications on Groundfish Stocks), and Section 4.8 (Biological Impacts of Alternative Long-term Biennial Harvest Specifications on Groundfish Stocks) as updated by the biennial Environmental Assessments (2017-2018, 2019-2020, and 2021-2022).

The 2015 FEIS describes the process by which we establish harvest specifications (Section 2.1.1) and the species that we manage under the groundfish FMP (Section 3). Section 2.1.1 presents the latitudinal and depth distribution for each species (Table 3-1). Section 3.1.1 presents fishery stock assessments, a scientific and statistical process that assesses the population size, reproductive status, fishing mortality, and sustainability. We derive fishery specifications, including ACLs, from these assessments as guided by the default harvest control rules. Section 3.1.1 of the EIS also explains how we consider uncertainty in the stock assessments when setting these biennial harvest specifications. Section 4.1.2 describes our productivity and susceptibility assessment, which analyzes the vulnerability of stocks to overfishing).

#### 4.1.2 Status/Affected Environment

The *Status of the Pacific Coast Groundfish Fishery – Stock Assessment and Fishery Evaluation* (SAFE document) updates the information on groundfish stocks and fisheries in the 2015 FEIS sections listed above. The Council publishes the most recent SAFE document on its [website](#). An updated draft SAFE document will be provided for review when the Council takes final action in June 2024. The SAFE documents summarize the biological condition of managed stocks, stock complexes, and fisheries and the social and economic condition of the recreational and commercial fishing industries.

SAFE Document Table 2-1 presents the most recent latitudinal and depth distribution of managed groundfish species, Tables 2-2 and 2-3 present the most recent productivity and susceptibility assessment scores for healthy stocks and overfished or rebuilding stocks, and Table 2-4 lists the most recent stock assessments and associated management indicators including Maximum Sustainable Yield (MSY) from which we derive the harvest specifications. We incorporate these four tables by reference and summarize the changes since the 2023-2024 EA. While the fishery and underlying ecosystem conditions constantly evolve, we determine that the information below has the greatest influence on impacts of the proposed action and alternatives on managed fish for the 2025-2026 biennium.

1. In 2023 new benchmark stock assessments were completed for black rockfish (three model areas), canary rockfish, copper rockfish off California (one model area), Dover sole, petrale sole, rex sole, sablefish, and shortspine thornyhead. Stock assessment updates (catch only projections) were completed for widow rockfish and yelloweye rockfish. The most recent stock assessments are found on the Council's [website](#). Of these, copper rockfish is among the stocks with the highest vulnerability rating as presented in SAFE document Table 2-2. We will continue to focus upcoming stock assessments on these vulnerable stocks when time and resources permit.
2. Yelloweye rockfish is managed under a 2019 rebuilding plan with a target rebuilding year of 2029. Rebuilding measures and related impacts are discussed in the 2019-2020 EA.



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3. Quillback rockfish off California was declared overfished in 2023. The Council must develop a rebuilding plan to be implemented in the 2025-2026 biennium, which will dictate the harvest specifications for this stock.

Our management strategy seeks to maximize economic opportunity and operational flexibility within conservation constraints to benefit affected fishing communities continue. The proposed action includes consideration of alternative harvest control rule for the stocks listed in Table 2-1 to relieve restrictions to fisheries while keeping species healthy. These changes from default harvest control rules can reduce potentially disruptive fluctuations in harvest.

The most recent SAFE document summarizes the findings of the most recent stock assessments and the distribution, life history, stock status, management history, stock productivity, and fishing mortality for each of these stocks.

### 4.1.3 Effects of the Alternatives

The NEPA determination of significance is based on context and intensity (1978 NEPA Regulations) or affected environment and degree (2020 NEPA Regulations). The context is the groundfish fishery within the U.S. exclusive economic zone (EEZ) off the coasts of California, Oregon, and Washington. In Section 4.1 of the 2015 FEIS, we identified the following biological indicators of resource health that describe the intensity or degree of the effect on the groundfish species:

- Stock Productivity
  - Are fishing practices likely to change the reproductive success of groundfish stocks?
  - Are fishing operations likely to interfere with or disturb spawning and reproductive behavior or juvenile survival rates such that it raises concern about a stock's ability to maintain its biomass at or above the biomass level that produces the Maximum Sustainable Yield ( $B_{MSY}$ )?
- Fishing Mortality
  - Are harvest levels likely to result in overfishing?
  - For healthy and precautionary zone stocks are harvest levels likely to remove a portion of the spawning population from the stock such that the stock is likely to become overfished?
  - For overfished stocks, are harvest levels likely to rebuild the stock by  $T_{TARGET}$  ?
- Genetic structure
  - Are changes in the time and location of fishing likely to result in changes to the genetic structure of the groundfish populations?
  - Will fishing on particular sub stocks or targeting fish with certain characteristics (e.g., large size) alter the genetic structure of the population over time?

The 2015 FEIS identified prey availability as a fourth indicator of biological health. We discuss this as an ecosystem impact in Section 4.4 of this tiered EA.

The Council's *analytical document* assesses the total catch mortality of selected exploited groundfish stocks and stock complexes under the alternatives. The impact projection models are integrated because a variety of species are caught in groundfish fisheries both across and within sets. Section 1 of the *analytical document* presents detailed analyses on some of the indicators of biological health. We summarize it below.

The 2015 FEIS discussion of genetic structure impacts has not changed (Section 4.1.3) and is not further discussed in this document or the *analytical document*. The likelihood of adverse effects on genetic

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structure and reproductive success is reduced if fishing mortality is maintained below the OFL, which is the purpose of updating harvest specifications (based on default or alternative harvest control rules) and related management measures.

### *Impacts of Harvest Control Rule Alternatives*

The harvest control rule component of the proposed action would entail either the application of 2023 (No Action), default (HCR Action Alternative 1), or alternative HCRs (HCR Alternative 2). Note that under HCR Alternative 2, default harvest specifications are implemented except for those stocks for which alternative HCRs are used. The rationale for alternative HCRs is given in section 2.2.3 and the resulting harvest specifications under each alternative are detailed in the HCR Analytical Document, along with the forecasted impacts to managed fish. The impacts of Alternatives 1 and 2 are compared against the No Action alternative. These impacts are summarized below.

#### **HCR No Action Alternative**

The No Action Alternative HCRs would result in ACLs that are not based on BSIA. Some will be too high and fail to provide adequate conservation to the managed stocks and some will be too low and fail to fully realize potential socioeconomic benefits of the fishery. Furthermore, California quillback rockfish would continue to be managed as part of the nearshore stock complex and harvest specifications would not be set according to a rebuilding plan as required by the MSA when a stock is declared overfished.

#### **HCR Action Alternative 1**

In comparison to No Action, under this alternative harvest specifications would be set according to BSIA by applying default HCRs to information in the most recent stock assessments. For most stocks this is more likely to prevent overfishing while allowing greater realization of economic benefits in cases where BSIA indicates ACLs can be increased compared to No Action. However, the following stocks are called out, because alternative HCRs are considered under HCR Alternative 2 and conservation and socioeconomic goals may not be achieved:

**California quillback rockfish:** While as part of routine management California quillback rockfish would be removed from the nearshore stock complex and managed as a discrete stock under this alternative, as with the No Action HCR Alternative, because harvest specifications would not be set according to a rebuilding plan. This would result in adverse impacts to the California quillback rockfish stock to the degree the stock its target biomass consistent with MSA National Standard 1 and the Groundfish FMP.

**Dover sole:** The default Dover sole HCR, a constant catch ACL of 50,000 mt, exceeds the ABC determined from BSIA, which is 47,424 mt in 2025. The 2025 OFL is 51,214 mt so overfishing would not occur in 2025 unless that value is mis-specified or management error results in catch above the ACL This would result in elevated adverse impacts in terms of stock conservation.<sup>6</sup>

**Rex sole:** Based on the 2023 stock assessment, the rex sole ABC would increase from 1,437 mt under No Action to 3,767 mt under this alternative. The default HCR maintains the same level of overfishing risk tolerance ( $p^* = 0.40$ ) as under No Action. This will very likely to prevent overfishing while allowing greater realization of economic benefits compared to No Action.

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<sup>6</sup> 2025 harvest specification values are presented here for the sake of comparison. Depending on the dynamics of individuals stocks, the values in 2026 may be slightly higher or lower than the 2025 values. The 2026 Dover sole ABC is 4,967 mt lower than in 2025.

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**Shortspine thornyhead:** Based on the 2023 stock assessment, the shortspine thornyhead ABC is substantially reduced compared to the 2023 value (No Action), from 2,078 mt to 716 mt in 2015. (For management purposes, separate ACLs are established north and south of 34°27' N latitude.) The default HCR maintains the same level of overfishing risk tolerance ( $p^* = 0.40$ ) as under No Action. Constraining catch consistent with the results of the most recent stock assessment will have beneficial impacts on the stock in terms of maintaining it around the target biomass level with low ( $p^* < 0.5$ ) overfishing risk.

### HCR Action Alternative 2

Under this alternative, alternative HCRs would be adopted for all stocks based on BSIA (using the recent stock assessments conducted in 2023) to better achieve conservation and socioeconomic goals in comparison to No Action and Action Alternative 1. Under this alternative default HCRs, as in HCR Action Alternative 1, are used for all stocks except as discussed below. Except for California quillback rockfish and Dover sole these default HCRs reflect BSIA. Both default and alternative HCRs for rex sole and shortspine thornyhead represent BISA but the default HCRs may not accommodate fishing opportunity needs within conservation constraints.

**California quillback rockfish:** This stock would be managed according to a rebuilding plan. The rebuilding plan has been developed consistent with National Standard 1 guidelines and is intended to rebuild the stock in as short a time as possible “taking into account the status and biology [of the stock], the needs of fishing communities, ... and the interactions of the overfished stock ... with the marine ecosystem...” (MSA §304(e)(4)(A)(i)). The Council will adopt a rebuilding strategy at its April meeting, which will determine 2025-2026 harvest specifications. (The HCR Analytical Document describes rebuilding strategies under consideration.)

**Dover sole:** Under this alternative the ABC is set as a precautionary reduction from the OFL based on the information in the most recent stock assessment. At 47,424 mt in 2025 this is slightly lower than Action Alternative default HCR ABC based on a constant value of 50,000 mt but slightly reduces the risk of exceeding the OFL and is consistent National Standard 1 Guidelines and the Groundfish FMP management framework. (And as noted above, the 2026 ABC value under this alternative is lower still, emphasizing the conservation benefit of departing from the 50,000 mt constant value under No Action and Action Alternative 1.)

**Rex sole:** Under this alternative the risk tolerance would be increased ( $p^* = 0.45$ ) while still being risk averse ( $p^* < 0.5$ ). This increases the ABC from the default HCR value of 716 mt to 831 mt in 2025. This will reduce the likelihood of adverse socioeconomic impacts while achieving conservation goals pursuant to the MSA and the Groundfish FMP.

**Shortspine thornyhead:** The alternative HCR for shortspine thornyhead has a similar policy basis as rex sole, increasing the risk tolerance ( $p^* = 0.45$ ) to mitigate adverse socioeconomic impacts. The ABC in 2015 would be 821 mt in 2025 under this alternative HCR compared to 716 mt under the default HCR (Action Alternative 1). As discussed elsewhere, shortspine thornyhead co-occurs with sablefish and they are caught together in the DTS bottom trawl fishing strategy. As a result shortspine thornyhead could constrain catch of higher value sablefish. This socioeconomic benefit is achieved with only a small impact on conservation benefits.

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### ***4.1.1.1 Impacts of the Management Measures Alternatives***

#### **Management Measures No Action Alternative**

The No Action Alternative would result in adverse impacts, because management measures are insufficient to prevent overfishing.

#### **Management Measures Action Alternative 1**

Management Measure Alternative 1, continuing the same management intensity as in the 2023-2024 biennium through administrative and inseason actions, would not result in significant adverse impacts, because we assume implemented catch controls match HCR Alternative 3 including management measures consistent with a California quillback rockfish stock rebuilding plan. In addition, a variety of other routine adjustments, described in Section 2.3.2, would be implemented to increase monitoring, management efficiency, and socioeconomic benefits.

#### **Management Measures Action Alternative 2**

This alternative employs the same measures as Alternative 1 with the addition of what we deem new measures for the purposes of analysis, as described in Section 2.3.3.

This alternative would result in beneficial impacts to the California quillback rockfish stock by implementing measures necessary to rebuild the stock to its target biomass consistent with MSA National Standard 1 Guidelines and the framework described in the Groundfish FMP.

### **4.1.4 Synthesis**

The combination of HCRs and new management measures would allow groundfish fisheries to attain the annual ACLs during the 2025-2026 biennial period (noting for the sake of evaluation we assume that realized catch equals the ACL. As discussed in Chapter 2, the ACL represents a precautionary reduction from the OFL for each stock, making it unlikely that overfishing would occur.

Our management measures (catch controls, inseason monitoring and management, near-real time accounting, etc.) ensure that the fisheries do not exceed their allocated limits. Therefore, the combination of harvest control rules and management measures under this proposed action, when based on BSIA, will not result in significant impacts to managed fish.

Combining No Action harvest specifications and management measures could result in overfishing, because the harvest specifications are not based on BSIA and management measures would not be adjusted to address conservation concerns and optimize the fishery.

As with No Action, HCR Action Alternative 1, even when combined with either of the Management Measure action alternatives, could result in significant adverse impacts if overfishing resulted. The likelihood of this happening is less likely, compared to No Action harvest specifications and management measures, because only the default ABC for Dover sole exceeds the ABC determined from the most recent stock assessment and would still be below the OFL determined from the most recent stock assessment.

Combining either of the Management Measure action alternatives, with HCR Action Alternative 2, would achieve conservation objectives articulated by MSA National Standard 1 Guidelines and the Groundfish FMP while Management Measure Alternative 2 would have an additional modest beneficial effect on stock conservation by reducing recreational bycatch mortality for some rockfish due to the requirement to deploy descending devices.

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For most stocks and stock complexes catch has historically been less than the ACL. (The [GMT Scorecard](#) shows that in 2023 attainment was below ACLs, in many cases substantially, for all management units.) If similar patterns persist in the 2025-2026 biennium, the actual impact of fishing mortality on the future status of most stocks and stock complexes is likely to be less than forecasted in the assessment projections and disclosed in this tiered EA.

### 4.2 Protected Resources

#### 4.2.1 Status/Affected Environment

Several Federal laws protect mammals, reptiles, fish, and birds. These laws include the Endangered Species Act (ESA), the Marine Mammal Protection Act (MMPA), the Migratory Bird Treaty (MBTA), and Executive Order (EO) 13186—EO 13186, Responsibilities of Federal Agencies to Protect Migratory Birds.

The Services (NMFS and the Fish and Wildlife Service, FWS) have issued Biological Opinions and Incidental Take Statements (ITs) for ESA-listed species that the groundfish fishery may affect. The Services have concluded that the fishery is unlikely to jeopardize any of these species or their critical habitat. To track and report on impacts to these species, the Council established the Groundfish Endangered Species Workgroup (ESA Workgroup) in 2015. Appendix A of their most recent report ([Agenda Item H.6.a, GESW Report 1, June 2023](#)), which we incorporate by reference, identifies each Biological Opinion and presents the current incidental take allowances and the estimated take from the bycatch reports for **humpback whales, short-tailed albatross, eulachon, green sturgeon, and leatherback sea turtles.**

The ESA Workgroup confirmed that the fishery generally has minimal interactions with these ESA-listed species and that the fishery has not exceeded any of the current incidental take statement amounts. The workgroup continues to monitor the impacts of the fishery and recommend to us, where appropriate, refinements to reduce uncertainty and impacts.

The Services have determined the Groundfish fishery would not adversely affect **other ESA-listed species** (except for salmon discussed below) not presented in Appendix A of the ESA Workgroup report.<sup>7</sup> This tiered EA does not further address these unaffected species.

On August 2, 2021, NMFS issued a final rule revising the **southern resident killer whale** critical habitat designation by expanding it to include habitat along the U.S. West Coast. On September 28, 2022, NMFS initiated consultation on the Pacific coast groundfish fishery for southern resident killer whales. As there is no documented take of southern resident killer whales in the Pacific coast groundfish fishery (see List of Fisheries below), the primary potential for impacts to newly designated critical habitat are indirect effects from the take of Chinook salmon, a prey species. On December 7, 2022, NMFS concluded the on-going operation of the Pacific Coast groundfish fishery is not likely to adversely affect southern resident killer whales.

Historically, **salmon** bycatch in groundfish fisheries has mostly comprised Chinook salmon with small amounts of coho salmon. This bycatch has been subject to ESA consultations since 1990. In the 2017 Biological Opinion ([NOAA 2017](#)), incidental take is described in numbers of both listed and non-listed salmon. Incidental take of Chinook may not exceed 11,000 in the whiting sector and 5,500 in the non-whiting sector, in addition to a reserve of 3,500 Chinook salmon per year in the event that bycatch increases unexpectedly. The coho salmon bycatch will not exceed 474 coho (whiting) or 560 (non-whiting) coho per year. On February 23, 2021, NMFS published a final rule implementing salmon bycatch minimization

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<sup>7</sup> For example, in their May 2, 2017, Biological Opinion, FWS confirmed that the fishery is not likely to adversely affect marbled murrelet, California least tern, southern sea otter, bull trout, nor bull trout critical habitat.

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measures to keep fishery sectors within these guidelines, to allow industry to access the Chinook salmon bycatch reserve, and to create Chinook salmon bycatch closure thresholds for the trawl fishery ([86 FR 10857](#)).

The GMT regularly presents the Council with a Chinook Salmon Scorecard under groundfish inseason management agenda items (for example [E.63a, Supplemental GMT Report 1, November 2023, pp. 8-9](#)), which allows tracking of estimated or assumed bycatch against ITS limits. The Northwest Fishery Science Center's most recent report ([Observed and Estimated Bycatch of Salmon in the U.S. West Coast Fisheries, 2002-2022](#)) was presented to the Council in November 2021. The fishery has not exceeded the limits defined in the 2017 Opinion since its publication.

While the ESA protects threatened or endangered marine mammals, the MMPA protects all **marine mammals**. Under the MMPA, all commercial fisheries must be categorized based on the estimated incidental mortality and serious injury (M/SI) resulting from their operations relative to the potential biological removal (PBR) level for each marine mammal stock. NMFS annually publishes the List of Fisheries, which classifies fisheries according to their impact on marine mammal stocks: Category I: Annual (M/SI greater than or equal to 50 percent of the PBR level; Category II: M/SI greater than 1 percent and less than 50 percent of the PBR level; Category III: M/SI less than or equal to 1 percent of the PBR level.

The 2023 List of Fisheries ([88 FR 16899](#))<sup>8</sup> classifies Groundfish FMP fisheries and lists marine mammal stocks taken in the fisheries as follows:

- WA/OR/CA sablefish pot (Category II): Humpback whale, CA/OR/WA
- WA/OR/CA groundfish, bottomfish longline/set line fishery (Category III): bottlenose dolphin (CA/OR/WA offshore), California sea lion (U.S.), Northern elephant seal (California breeding), Sperm whale, Stellar sea lion (Eastern U.S.).
- WA/OR/CA groundfish trawl (Category III): California sea lion (U.S.), Dall's porpoise (CA/OR/WA), harbor seal (OR/WA coast), northern fur seal (Eastern Pacific), white-sided dolphin (CA/OR/WA), and Steller sea lion (Eastern U.S.). The List of Fisheries

Section 3.5 of the 2015 EIS describes the fishery's impacts on these stocks.

NMFS [publishes](#) annual marine mammal stock assessment reports (SARs) by region. Each assessment describes the status and biology of the stock along with sources of human-caused and fishery-caused M/SI. Appendix 2 in the report summarizes population status indicators and total/fishery M/SI. The 2023 Pacific SAR (Caretta et al., 2023) includes a reevaluation of stock structure to reconcile ESA distinct population segments (DPSs) with MMPA stocks. It identified two demographically independent populations (DIPs) that the sablefish pot fishery interacts with: the Central America/Southern Mexico-CA/OR/WA and Mainland Mexico-CA/OR/WA DIPs. It includes updated assessments for these two humpback whale stocks (pp. 177-200). It notes that these stocks are designated as strategic under the MMPA, because they are listed as endangered under the ESA. In addition, total commercial fishery M/SI is greater than the calculated PBR for the Mainland Mexico-CA/OR/WA DIP and both DIPs are not achieving the zero M/SI rate goal (ZMRG), which is defined as 10 percent of PBR.

The West Coast Groundfish Observer Program (WCGOP) estimates and periodically reports bycatch of protected species, including marine mammals and seabirds, compiled from observer, landings, and electronic monitoring data. These reports are published on the NOAA Fisheries website: [West Coast](#)

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<sup>8</sup> The 2024 proposed List of Fisheries has the same classification (88 FR 62748).

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[Fishery Observer Bycatch and Mortality Reports](#). The most recent marine mammal report (Jannot et al. 2018) covers 2002 to 2016.

On September 29, 2023 ([88 FR 67254](#)), NMFS announced it is establishing, pursuant to the MMPA, a Take Reduction Team (TRT) to address humpback whale M/SI in the sablefish pot fishery (its remit could be expanded to consider other fisheries). The TRT will develop a Take Reduction Plan (TRP) as required under the MMPA §118(f)(1) to assist in the recovery or prevent the depletion of the aforementioned DIPs. NMFS initiated formation of the TRT pursuant to litigation. Under the settlement agreement, NMFS must establish this TRT by October 31, 2025, and convene the first TRT meeting by November 30, 2025. The TRT would then develop the TRP. A draft TRP must be submitted within 6 or 11 months of establishment of the TRT, depending on the level of M/SI compared to a stock's PBR. TRT recommendations are aimed at reducing fishery M/SI below PBR within six months of plan implementation and achieving ZMRG within five years of implementation. Given these timelines, it is uncertain whether mitigation measures identified in the TRP would be implemented during the 2025-2026 biennium.

The Council is currently considering gear marking and other entanglement risk reduction measures for vessels that operate under the Groundfish Fishery Management Plan that use pot and longline gear, which may be implemented during the 2025-2026 biennium.

Section 3.5.4 and Table 3-42 of the 2015 FEIS describes the fishery's impacts on non-ESA-listed seabirds and estimates future mortality estimates.

The most recent WCGOP seabird bycatch report (Jannot et. al. 2021) covers seabird interactions from the groundfish and Pacific halibut fisheries as well as selected state fisheries from 2002 to 2018. The report finds that:

Hook-and-line fisheries account for the largest number of albatrosses taken among the three gear categories (hook-and-line, trawl, pot). Over the last six years, hook-and-line fisheries accounted for 50–63% of seabird mortality, followed by trawl fisheries at 31–45%, and pot fisheries at 2–6% of bycatch (Table 1.) The largest number of albatross taken comes from limited entry (LE) sablefish vessels fishing hook-and-line gears. This prompted regulations requiring streamer lines on hook-and-line vessels fishing in U.S. West Coast groundfish fisheries; these were implemented in December 2015 for vessels 55 ft or longer.

In 2019, based on a Council proposal, NMFS extended the streamer line requirement to vessels 26-55 feet LOA ([84 FR 67674](#)).

No short-tailed albatross (ESA-listed) has been observed caught in the groundfish fishery since we published the 2015 EIS.

Pages 19-33 of WCGOP seabird bycatch report present albatross and non-albatross bycatch data for selected groundfish fixed gear and trawl fisheries, summarized by sector:

- Black-footed albatross were the main species caught in the **limited entry (LE) sablefish endorsed fishery**, which uses longlines. Since 2015, estimated annual mortality in this fishery exceeds five for three non-albatross species (sooty shearwaters, northern fulmars, and western gulls) (Table 6) with all annual estimates for each species being less than 10 birds, except sooty shearwater (20.75 in 2018).
- **Limited entry daily trip limits (DTL) longline vessels** target groundfish, primarily sablefish and thornyheads. These vessels have attained their annual sablefish quota limit and fish outside

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the normal LE sablefish season. On average, 3-4 pink-footed shearwaters are estimated caught each year in this fishery (Table 7).

- **Open access fixed gears** use a variety of fixed gear with hooks, including longlines, fishing poles, and stick gear to target non-nearshore groundfish. Two bird taxa have been reported and estimated (Table 8): black-footed albatross (estimate 6-11) and unidentified gulls (estimate 3-5).
- **Catch share longline fisheries** that hold individual fishing quotas (IFQs) primarily target groundfish species, mainly sablefish. This fishery has 100% observer coverage; therefore, the observed bycatch is a complete census of these vessels. Since the 2015 EIS, 0-2 black-footed albatross have been caught and estimated for 2015-2018 (Table 9).

The report also provides mortality data for pot gear and trawl fisheries, which are generally lower than those listed above.

### 4.2.2 Effects of the Alternatives

NMFS continues to monitor and report on impacts as described in the previous section and to ensure that the fishery minimizes impacts to protected resources and operates within the incidental take parameters for each applicable species. The Council will continue to explore, test, and implement, where appropriate, management measures that reduce impacts on protected resources. Although we are not proposing any new related measures in this biennial cycle, in recent years, we have adopted tools for mitigating impacts to salmon, including in 2021 adaptive block area closures and selective flatfish trawl gear requirements ([86 FR 10857](#)). As noted above, we adopted recommendations for seabird bycatch mitigation in 2015 and 2019 ([80 FR 71975](#), [84 FR 67674](#)), requiring streamer lines be deployed during setting operations on certain vessels. Trawl fisheries are 100 percent monitored through observers or electronic monitoring, any take of protected and prohibited species will be known quickly and accountability measures, including block area closures for the groundfish bottom trawl fishery, could be implemented to reduce interactions with protected species.

The effects of the proposed action on these resources are difficult to assess; they cannot be predicted quantitatively. In past NEPA documents, we have explained that fishery management actions may have positive or negative impacts based on changes in the spatial distribution of fishing effort and the occurrence and abundance of protected resource populations. Management-induced changes in the distribution and intensity of groundfish fishing are unlikely to discernably affect food web dynamics (see Section 4.3), indirectly impacting protected species.

Within this analytical context, we find that the proposed harvest control rules and management measures will not change interactions with protected resources. Management-induced changes in the intensity and distribution of fishing effort are far outweighed by ecosystem and other external factors:

- 4 **Ecosystem factors** include ocean conditions and trophic relations. The most recent California Current Ecosystem Status Report ([Agenda Item H.1.a, CCIEA Team Report 1, March 2024](#)) summarizes climate and ocean drivers, indicators related to the abundance and condition of key species and the dynamics of ecological interactions, protected resources, and a habitat compression index as a way of understanding food web dynamics, species distribution, and conditions that can lead to whale entanglement. However, as previously emphasized, we cannot predict how these conditions will play out during the 2025-2026 biennium.
- 5 **External factors** include markets and fishermen's decisions as to where, when, and how to fish. This includes decisions on what gear to use and where to land or sell their fish. The risks to protected species differ across fishery sectors and gear types. For example, the midwater trawl fishery has a higher risk of salmon interactions while the fixed gear fishery has a higher risk of whale



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entanglements. We do not directly regulate the behavior of fishery participants; we only set catch limits and catch controls for the fishery and sectors, which together indirectly affects such behavior.

Based on the 2015 EIS and the 1978 NEPA Regulations, we determine significance under NEPA by looking at the context and intensity of interactions with protected species. Based on the 2020 NEPA Regulations at 40 CFR 1501.3(b), we define significance by the affected environment and degree of effects on protected species. For this tiered EA, we interpret the context as the affected environment, which is the groundfish fishery across multiple sectors and in Federal waters off three states. The intensity or degree of impacts on protected resources will vary based on the ecosystem and external factors listed above and are not a foreseeable consequence of the proposed action.

We note that impacts on protected resources from fisheries subject to the proposed action are constrained by discretionary and non-discretionary measures enumerated in the relevant ITSs such as those for Chinook salmon and short-tailed albatross. As described above, other statutory mandates, like the MMPA, may trigger the implementation of mitigation measures outside of the proposed action. Adaptive management, fishery monitoring and periodic adjustment, indirectly supports the objectives of protected species mandates. In the NEPA context, this combination aims to avoid significant impacts to protected species.

[New management measures]

### 4.3 Essential Fish Habitat

#### 4.3.1 Status/Affected Environment

We tier this section from the 2015 EIS Section 3.3 and 4.11. Essential fish habitat (EFH), protected by the MSA (§3(10), §303(a)(7)), includes the waters and substrate necessary to support a population to maintain both a sustainable fishery and a healthy ecosystem. We have defined waters to include aquatic areas and their associated physical, chemical, and biological properties that fish use. Substrate includes sediment, hard bottom, structures underlying the waters, and associated biological communities (50 CFR 600.10).

The FMP (Chapter 7), as amended by [Amendment 19](#) (2006) and [Amendment 28](#) (2019), defines groundfish EFH and identifies Habitat Areas of Particular Concern. The FEISs (NMFS 2019) evaluating these amendments describe the relative impact of trawl and fixed gear on habitat types. This impact depends on a variety of factors and is difficult to predict. The factors include substrate type, features (e.g., seamounts and canyons), key benthic organisms (e.g., canopy kelp and seagrass), benthic macro invertebrates (e.g., corals and sponges), gear type and configuration, frequency and duration of bottom contact, and the frequency of fishing in a particular area.

We use management measures to mitigate the adverse impacts of fishing on groundfish EFH as mandated by the MSA (§Sec. 303(a)(7)) and elaborated in regulatory guidance (50 CFR 600 Subpart J). Groundfish FMP Chapter 6 describes related measures: gear restrictions (Section 6.6), time/area closures (Section 6.8), and measures to control fishing capacity (Section 6.9). For example:

- We implemented prohibitions on the dredge and beam trawl gear. We also prohibit bottom trawl gear with footropes larger than eight inches in diameter shoreward of a line approximating the 100 fm depth contour to protect habitat (Section 6.6.1).
- We established EFH Conservation Areas to protect habitats, especially those that are important, rare, or vulnerable, from the adverse effects of bottom-contacting fishing gears (Section 6.8.6).
- Because bottom trawl and other bottom contact fishing gear have similar adverse habitat effects regardless of the target stock, all bottom trawl and bottom contact gear closures apply to some fisheries occurring in the management area that are not federally-managed (but have a Federal

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nexus due to incidental catch of federally-managed species). For example, we prohibit bottom trawling for pink shrimp (a state-managed species) in EFH Conservation Areas and pot gear fishing in the areas that are closed to bottom contact gear (FMP, Section 7.4).

We are required to periodically review EFH provisions based on BSIA (Groundfish FMP Section 7.6). In doing so, we continue to adjust the management measures in response to changing circumstances or new information. Measures implemented pursuant to Amendment 28 resulted in a net increase in habitat closed to bottom trawl activities. We added dozens of new and revised EFH Conservation Areas, including the large closure of the Southern California Bight, which closed most Federal waters in the area, except some areas closest to state waters where non-groundfish bottom trawling occurs. We also closed waters deeper than 3,500m to bottom contact gear. We will continue to refine the definition of EFH as needed; for example, under Amendment 28, we determined that methane seeps should be identified as EFH for groundfish. We will continue these efforts outside of the Proposed Action.

### 4.3.2 Effects of the Alternatives

None of the HCR alternatives will result in a significant impact on EFH because they will not:

- Change the definition and designation groundfish EFH,
- Authorize any new gear that may impact bottom substrate, or
- Change the extent or efficacy of EFH Conservation Areas.

While we cannot predict fishing behavior, we do not expect any of the HCR alternatives in combination with the management measure alternatives to substantially change the intensity or location of fishing-gear related impacts to EFH. For the same reason, we do not expect any of the proposed new management measures (Management Measures Alternative 3) to adversely impact EFH.

## 4.3 California Current Ecosystem and Climate

### 4.3.3 Status/Affected Environment

#### 1.1.1 Ecosystem

We tier this section from the 2015 EIS Sections 3.4 and 4.12 as updated by Section 3.2 of the 2021-2022 EA. The Pacific Coast Fishery Ecosystem Plan (FEP) discusses the impacts that fisheries and other human activities have on ecosystem dynamics and marine habitat within the California Current Ecosystem (CCE) (PFMC 2022, Pacific Coast FEP). Section 3.4 of the 2015 EIS characterizes the ecosystem as a web of trophic relationships within the system and indicates how the harvest specifications and management measures impact the relative abundance of organisms within this web.

Because the flow of energy is more of a food web than a food chain, the species in the ecosystem do not neatly divide into clearly delineated trophic levels (for example, an organism may eat a prey item and also eat items that its prey eats), except at the highest and lowest levels. Groundfish, therefore, may occupy multiple trophic levels when considering changes that occur over the course of their life as they change both their size and feeding preferences. (See Figure 3.2.1 for an example of the complexity of the food web). Groundfish are also the prey of several species (2015 EIS Section 3.4.2) including marine mammals, seabirds, and high trophic level fish such as Chinook salmon and large demersal sharks.

The FEP discusses the three major factors that drive changes in the abundance and distribution of fished species in ecosystems: removals by fishing (and consequent changes in community structure and energy flow/predation within ecosystems), removals or habitat loss unrelated to fishing (typically such impacts are greater in freshwater, estuarine, and nearshore systems), and shifts in climate that lead to both direct and

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indirect changes in productivity (including indirect effects such as changes in the abundance of prey or predators). Any and all of these effects can have cascading and cumulative impacts on ecosystem structure and energy flow in marine ecosystems that could lead to unexpected changes or surprises with respect to marine resource and fisheries management activities.

### 1.1.2 Climate

Both the 2015 EIS (Section 3.4.5) and the Fishery Ecosystem Plan (Section 4.1) detail the effects of climate change on the ecosystem. Climate change is expected to lead to substantial changes in physical characteristics and dynamics within the marine environment, with complex and interacting impacts on marine populations, fisheries, and other ecosystem services (Doney et al. 2012; Harley et al. 2006; Scavia et al. 2002). Three major aspects of future climate change that will have direct effects on the CCE are ocean temperature, pH (acidity versus alkalinity) of ocean surface waters, and deepwater oxygen (NMFS, 2015).

### 4.3.4 Effects of the Alternatives

#### 1.1.3 Ecosystem

Section 3.4.3 of the 2015 FEIS, which we incorporate by reference, presents the fishery's impacts on the ecosystem. For example, the reduction of a predator population may allow a prey population to increase. Density-dependent interactions such as competition for habitat may decrease as the population of one or both interacting species declines. The analysis was based on ecosystem simulation modelling of fleets, catch, ecosystem components, and ecosystem health, demonstrated the complexities of these effects. For example,

- Bottom trawl indirectly affected small shallow rockfish and zooplankton (krill), with their populations increasing due to the reduction in predation.
- Fixed gear indirectly affected mesozooplankton (copepods), which increased.
- Pacific whiting trawl indirectly resulted in increases of small planktivores, large piscivorous flatfish, Dover sole, shortbelly rockfish, and shrimp.

The analysis explored the effect on ecosystem attributes of successively adding fleets, finding that forage fish increases with each fleet addition. We take proactive measures when possible. For example, in 2016, we published an environmental assessment for comprehensive ecosystem-based Amendment 1 to protect unfished and unmanaged forage fish species. We amended all of the Council's FMPs to "bring Shared [ecosystem component] Species into the FMPs as EC species and to prohibit new directed commercial fishing in Federal waters on them until the Council has had adequate opportunity to both assess the scientific information relating to any proposed directed fishery and consider potential impacts to existing fisheries, fishing communities, and the greater marine ecosystem." (NMFS, 2016).

None of the **harvest specifications** or **management measures alternatives** will result in a significant impact on the California Current Ecosystem, because the Proposed Action is part of the adaptive management system that continuously optimizes fishery and ecosystem protections through stock and stock complex management, rebuilding plans, harvest specifications, and management measures.

#### 1.1.4 Climate

NMFS "should consider (1) the potential effects of proposed actions on climate change as indicated by assessing the estimated greenhouse gas (GHG) emissions of the proposed action, and (2) the effects of climate change on proposed actions and their environmental impacts." (NOAA, 2017). The Proposed Action does not regulate individual fishermen's decisions as to how far to travel and what engines to use.

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However, continued management of the fishery at the same level of intensity (**Management Measure Alternative 2**) or the implementation of new measures (**Management Measure Alternative 3**) do not entail measures substantially affecting GHG emissions due to fishing, because we do not expect the Proposed Action to substantially change the scale, intensity, degree, or location of fishing. External factors (fuel price, market conditions, oceanographic changes affecting the location of the target groundfish, etc.) are likely to have much greater influence on GHG emissions. Therefore, we do not discuss further the effects of emissions on climate change.

The 2023-2024 California Current Ecosystem Status Report notes mixed conditions occurred in 2023 (Figure 3). A strong El Niño began developing in late 2023, but the region is likely to return to neutral conditions before the next biennial management period.

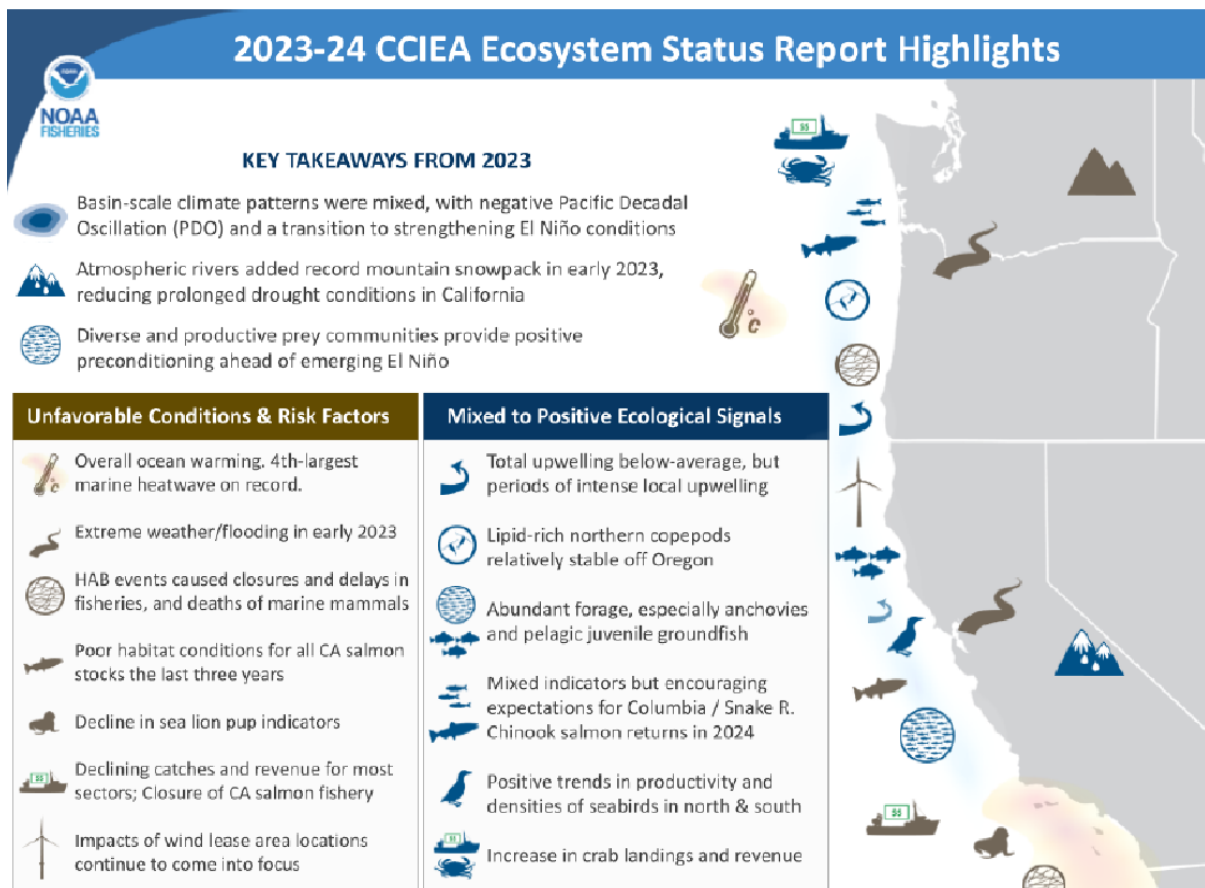


Figure 3. Highlights from the 2023-2024 California Current Ecosystem Status Report.

These annual ecosystem status reports, regular stock assessments, and the most recent SAFE DOCUMENT report identify likely or plausible groundfish responses to a constantly evolving context that includes climate change. For example, the growth of splitnose rockfish was found to correlate with climate and environmental variables, oxygen thresholds throughout the slope waters that impacts the vertical distribution of populations and the species composition of ecosystems, and climate change-driven distributional shift and/or the effect of large recruitments of shortbelly rockfish. (SAFE DOCUMENT 2022).

With this information, we adjust our **harvest control rules** and **management measures** to optimize the fishery while protecting stocks and stock complexes in response to BSIA. The biennial process allows us

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to consistently ensure that our fishery management decisions are adaptively managing for possible climate change impacts. While we do not know the cause of the current status of overfished species, the continuation of harvest specifications based on rebuilding plans are examples of this adaptive management process.

We do not anticipate any synthesis ecosystem impacts in addition to the individual effects described above.

## 4.5 Socioeconomics

### 4.5.1 Status/Affected Environment

We tier this section from the 2015 FEIS Section 3.2 (Affected Environment), 4.10 (Long-term impacts) as updated by the 2021-2022 EA Section 4.2 (Effects of the Proposed Action on the Socioeconomic Environment). The Harvest Specifications and Management Measures Analytical Documents provide the most recent description of the landings and revenue in the commercial, tribal, and recreational groundfish fisheries.

According to the [Fisheries of the United States, 2020 report](#), all west coast commercial fisheries landings were valued at \$582.1 million<sup>9</sup> while recreational anglers made 1.8 million trips under all federal and state fisheries.

Section 1.3 of the Socioeconomic portion of the *analytical document* presents details the groundfish commercial sector's landings and revenue (including whiting and tribal sectors), as well as the recreational sector trips. It details the most recent available information:

The following two tables present a high-level snapshot of revenue in groundfish shoreside (Table 2) and at-sea (Table 3) fishery sectors.

**Table 2. Inflation-adjusted ex-vessel revenue and count of vessels making landings, 2022-2023, for selected shoreside groundfish fishery sectors. (PacFIN comprehensive\_ft, 2/14/2024, non-confidential data only)**

Fishery Sector	2022		2023	
	Revenue	No. Vessels	Revenue	No. Vessels
Catch Shares	\$17,112,437	45	\$16,005,758	42
Catch Shares EM	\$5,668,346	20	\$3,549,151	16
LE Fixed Gear DTL	\$4,030,396	86	\$3,367,050	63
Limited Entry Sablefish	\$8,522,135	76	\$8,044,281	74
Midwater Hake EM	\$24,302,746	24	\$18,507,138	26
Midwater Rockfish	\$3,460,120	8	\$2,689,426	8
Midwater Rockfish EM	\$4,879,380	20	\$4,559,562	18
Nearshore	\$6,034,367	256	\$4,872,509	289
OA Fixed Gear	\$4,178,069	384	\$4,374,383	388
Tribal	\$8,272,637	75	\$5,606,089	78
Total	\$86,460,633		\$71,575,347	

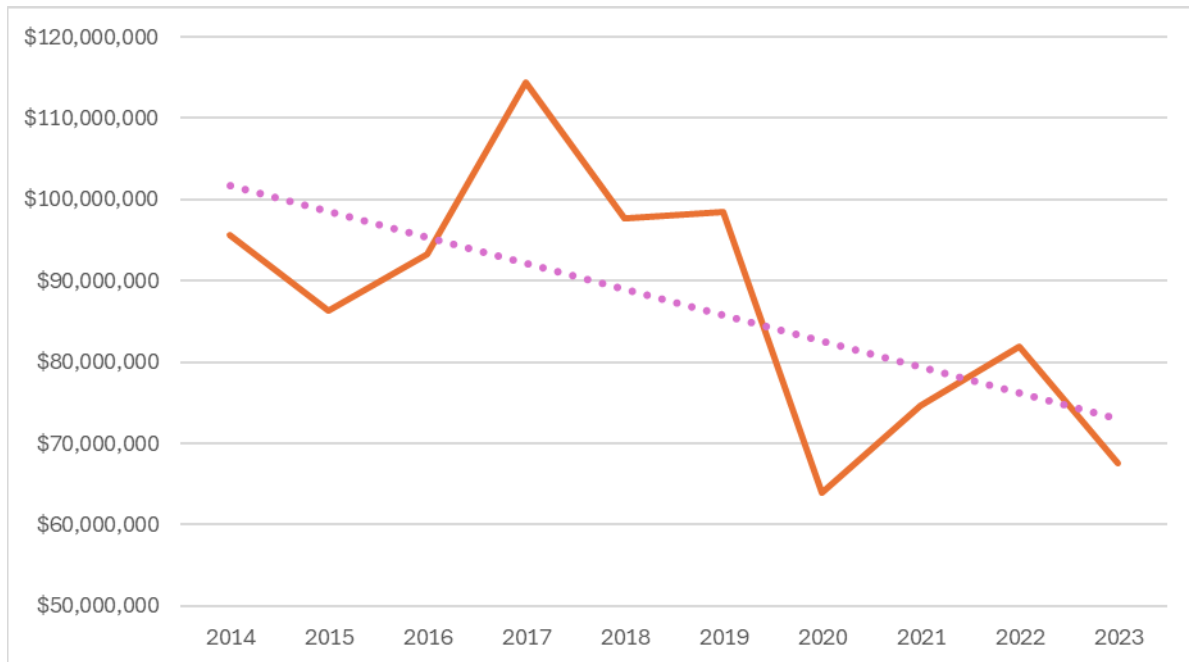
<sup>9</sup> Landings include at-sea processors.

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**Table 3. Inflation-adjusted ex-vessel revenue and count of vessels making landings, 2022-2023, for at-sea whiting sectors (PacFIN comprehensive\_npac, 2/214/2024, non-confidential data only)**

Fishery Sector	2022		2023	
	Revenue	No. Vessels	Revenue	No. Vessels
Whiting Catcher Processor	\$30,981,231	9	\$21,445,793	10
Whiting Mothership	\$14,165,611	6	\$6,426,217	4

Section 4.1 in the 2023-2024 Annual California Current Ecosystem Status Report presents graphs showing trends in fishery revenue. As shown in the figure below there is a long-term secular decline in shoreside groundfish inflation-adjusted revenue. These trends are likely independent of management interventions.



**Figure 2. Total shoreside groundfish inflation-adjusted revenue, 2014-2023. (PacFIN comprehensive\_ft, 3/22/2024)**

Recreational fisheries are managed by the coastal states with Federal limits and management measures decided in the PFMC process. States cannot manage their recreational fisheries to exceed Federal limits (ACLs, harvest guidelines (HGs), etc.); however, the states can specify more conservative management measures than specified in Federal regulations.

Recreational fisheries primarily target groundfish using hook and line angling gears, although groundfish are also targeted by divers using spears. Recreational fisheries extend from shorebased modes (fishing off the beach or man-made structures, such as wharves and jetties) to boat-based modes, including private boats and charter/commercial passenger fishing vessels (CPFVs). Each state manages their respective recreational fisheries to federally-specified state HGs for select stocks (e.g., HGs for rockfish species managed in the Nearshore Rockfish complex north of 40°10' N. lat., yelloweye rockfish, canary rockfish). Total recreational catch (landings plus estimated discard mortalities) counts against any specified non-trawl allocations.

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## 4.5.2 Effects of the Alternatives

In addition to NEPA and other applicable laws and executive orders, we have to comply with Executive Order 12866 *Regulatory Planning and Review*, which requires that we determine whether the action could be considered a significant regulatory action. Our Regulatory Impact Review (RIR) provides an analysis of the costs and benefits of the action and alternatives (see Chapter 7 of this EA).

Under the E.O. 12866, an action may be considered significant if it has an annual effect on the economy of \$100 million or more, or “adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or SAFE documentty, or State, local or tribal governments or communities.”

NEPA does not have a federal-wide economic threshold of significance, nor has NMFS established one. The NEPA determination of significance is based on context and intensity (1978 NEPA Regulations) or affected environment and degree (2020 NEPA Regulations). For this EA, we have established the context as the groundfish fishery within the larger west coast fisheries and evaluate the intensity or degree by determining the change in economic impacts across the alternatives described in Chapter 2.

We first address the changes in economic impact resulting from each component (harvest specifications and management measures) before looking at the total anticipated change. In this tiered EA, for NEPA, we rely on metric tonnage of harvest specifications and directional influence of management measures as proxy indicators of all socioeconomic indicators to determine whether the impacts may be significant. The *analytical document* presents all other relevant economic indicators, including ex-vessel revenue, angler trips, net revenue, income impacts, and employment impacts that we rely on for decision-making under the MSA and other applicable laws, regulations, and executive orders.

### *HCR Alternatives*

#### **No Action Alternative**

#### **Action Alternative 1**

#### **Action Alternative 2**

### *Management Measure Alternatives]*

#### **No Action Alternative**

#### **Action Alternative 1**

#### **Action Alternative 2**

## 4.5.3 Synthesis

As described in Section 4.1.4 – Synthesis Impacts to Fish Resources, the combination of **Harvest Control Rules** and new **Management Measures** is complex. HCR Action Alternative 2 would result in increased fishery stability compared to HCR Action Alternative 1 with both positive and negative socioeconomic effects. When combined, we assume that harvest is optimized under each alternative and that harvest is maximized while preventing overharvest of weaker stocks in the mixed stock fishery.

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Our management measures (catch controls, inseason monitoring and management, near-real time accounting) ensure that the fisheries harvest available surplus but do not exceed their allocated limits. Therefore, the combination of **harvest control rules** and **management measures** under this proposed action will not result in significant socioeconomic impacts.

For most stocks and stock complexes, catch has historically been less than the ACL. If similar patterns persist in the 2025-2026 biennium, the actual impact of landings and ex-vessel revenues of most stocks and stock complexes is likely to be less than forecasted in the *analytical document* and disclosed in this NEPA document.



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## 5 Cumulative Effects

### 5.1 Analysis Approach

This biennial analysis, tiered from the 2015 EIS (Section 4.15), uses the same parameters as the cumulative effects analysis in the 2021-2022 EA. The EEZ constitutes the geographic scope, the temporal scope for past and present actions begins with the 1982 implementation of the Groundfish FMP, and future actions are limited to the 2025-2026 period, because we will evaluate the effects of proposed actions for each future biennium as they are developed through Council decision making.

As in previous cycles, this analysis does not identify the specific effects of past actions because we cannot attribute biological, physical, or socioeconomic effects to a specific fishery or non-fishery action across the entire EEZ. We continuously manage the fishery to optimize harvest while minimizing adverse effects on environmental resources. Collectively, the impacts of past actions within our adaptive management system have contributed to the rebuilding of species, management within harvest guidelines, and continued compliance with ESA incidental take statements while accounting for climate change, other environmental trends, and other anthropogenic actions within the EEZ.

### 5.2 Reasonably Foreseeable Future Actions

As part of our adaptive management system, we are continuously considering and analyzing potential improvements to the fishery. Section 4.15.4 of the 2015 EIS describes the broad range of fishery management and non-fishery management actions that we consider. The most recent Groundfish Workload Planning report lists possible upcoming actions. As appropriate, NEPA analyses associated with each of these actions will take into account the effects of harvest specifications and management measures for the 2025-2026 biennium.

### 5.3 Incremental Cumulative Impact

We describe the incremental contribution of the proposed action to these cumulative impacts on each resource will be minor as described below.

#### 5.3.1 Managed Fish

As we discussed in Section 4.1, we adaptively manage all stocks and stock complexes with a system that periodically assesses stocks, monitors catch, adjusts management measures (catch controls) to keep projected catch within the catch limits, and adjusts management measures to maximize attainment within the catch limits. This adaptive management system does not operate within a vacuum; it accounts for all other effects on the managed fish stocks and stock complexes, including, but not limited to, climate change effects, bycatch in other fisheries, effects on groundfish essential fish habitat, and other sources of mortality.

#### [Possible discussion of the alternatives]

Therefore, for the period 2025-2026, when combined with the effects of past, present, and reasonably foreseeable future actions, there will not be a significant cumulative impact on the managed fish.

#### 5.3.2 Protected Resources

As described in Section 4.2, several species (e.g., humpback whales and some stocks of Pacific salmon) that interact with the groundfish fisheries are listed under the Endangered Species Act. The Proposed Action, when combined with the effects of past, present, and reasonably foreseeable future actions will not

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change the trajectory of any of these protected species and the incremental effect of the action, given the Incidental Take Statement constraints and constant monitoring discussed in Section 4.2, will be minimal. We do not anticipate any difference in the incremental contribution or the cumulative impacts across the alternatives.

### 5.3.3 Essential Fish Habitat

Section 4.15.4.3 of the 2015 EIS summarizes past, present, and reasonably foreseeable future actions that may impact groundfish EFH. The 2020-2021 EA (Sections 5.2.2 and 5.4.1) summarized the impact of the Pacific Coast Groundfish Trawl Changes and Amendment 28. Those impacts, both beneficial and adverse, are expected to continue into the future.

The Proposed Action and alternatives, when coupled with ongoing and reasonably foreseeable future actions that are not speculative, will not result in any cumulative significant impacts to EFH. The incremental contribution of the alternatives will be negligible and not discernable across the alternatives.

### 5.3.4 Ecosystem

The incremental contribution to cumulative impacts is negligible. Overall impacts from the Proposed Action and alternatives, when combined with the effects of past, present, and reasonably foreseeable future actions, the incremental effect of the action will not result in significant cumulative impacts on the ecosystem.

### 5.3.5 Socioeconomics

As we discussed in Section 4.1, and above for Managed Fish, we adaptively manage all stocks and stock complexes with a system that, among other things, adjusts management measures to maximize attainment within the catch limits. This adaptive management system does not operate within a vacuum; it accounts for other effects on the socioeconomic environment, including market interruptions and stability, available harvest and mortality of target and non-target stocks, dynamics with and status of other fisheries (such as salmon, etc.), and other social and economic factors.

Therefore, for 2025-2026 and beyond, when combined with the effects of past, present, and reasonably foreseeable future actions that are not speculative, there will not be a significant cumulative socioeconomic impact.