# PACIFIC FISHERY MANAGEMENT COUNCIL STAFF REPORT ON COUNCIL SPECIAL PROJECT 1: ADAPTIVE MANAGEMENT AND FLEXIBILITY

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## Executive Summary

The Pacific Fishery Management Council's (Council) jurisdiction falls within the California Current Ecosystem (CCE), one of the world's major Eastern Boundary Upwelling Systems. The CCE is defined by strong seasonal upwelling that supports highly productive fisheries but also creates inherent variability in biological productivity. In the CCE, this variability is amplified by the basin-scale processes such as El Niño and La Niña events, which can shift ocean conditions on a range of time scales, and by climate change, which increasingly triggers disturbances, anomalies, and longer-term impacts.

The CCE's dynamic oceanographic conditions can lead to large swings in stock productivity, distribution, and survival, sometimes making it difficult for fishery managers to accurately forecast abundance or maintain stability in management measures. One result of this is a mismatch between iterative, deliberative Council processes and rapid, often unpredictable changes in the ecosystem.

Management Problem

Because management decisions in the Council process often unfold over years, Council actions can lag behind changes in the marine environment as well as other unexpected events. A multi-year decision timeline may be suitable for a complex regulatory amendment, but it is poorly aligned with events like:

- Basin-scale processes, such as the Pacific Decadal Oscillation (PDO) and El Niño and La Niña events, that can alter productivity across multiple stocks.
- Marine heatwaves that restructure species distributions or trophic relationships.
- Sudden recruitment failures or population swings in key fisheries such as sardine, salmon, or groundfish.

This mismatch can lead to ecological risk (e.g., overfishing or delayed conservation action) and socioeconomic instability (e.g., lost fishing opportunity, unanticipated closures). These potential harms may be mitigated or avoided by improving the Council's ability to act faster or course correct as needed, either by accelerating decision timelines or by embedding pre-analyzed flexibility that allows timely responses without reopening the full Council process.

Adaptive Response in the CCE Context

The Adaptive Management and Flexibility Project seeks to facilitate this kind of nimbleness by building more flexibility and adaptation into the management of Council-managed fisheries. In the CCE context, flexibility and adaptive capacity are critical for increasing resilience.

This scoping paper identifies two major challenges that cut across Council-managed fisheries and processes, and suggests a number of potential actions the Council could consider to address those challenges:

1. Responsiveness to Rapid or Unexpected Change
    - Challenge: The CCE can shift within months, while Council actions can take years.
    - Potential actions: Leverage fishery management plant (FMP) frameworks to expand use of previously analyzed actions; increase procedural efficiencies during different phases of Council actions; improve timeliness of data streams.
2. Innovation to Match Climate Variability
    - Challenge: Tools exist to test and develop climate-ready fishing methods, but current Council processes can limit their timely use and application.
    - Potential actions: Improve timeliness, responsiveness, and efficiency of the Council's Exempted Fishing Permit (EFP) processes; accelerate Council decision-making timelines to better accommodate the use by fishermen of highly responsive and near-real-time tools such as Dynamic Ocean Management (DOM).

Potential Tools for Flexibility and Adaptive Capacity in the CCE

To better align management with ecosystem variability, the Council could consider one or more of these tools and approaches:

- Continuous Improvement Framework: A structured approach to prioritize actions in need of greater flexibility or responsiveness, select tools for increasing flexibility or responsiveness, and evaluate outcomes.
- If-Then Statements: Pre-analyzed, predetermined management responses, coupled with defined triggers (e.g., bycatch thresholds, basin-scale index changes), that can be implemented without a Council meeting.
- EFP Process Improvements: Faster or streamlined processes for piloting adaptive gears and strategies suited to a changing CCE.
- Procedural Efficiencies: Avoiding slowdowns during the initial stages of Council actions; expanded use of National Environmental Policy Act (NEPA) frontloading to facilitate greater coordination between the Council and National Marine Fisheries Service (NMFS) and faster implementation timelines.
- Integration of Local and Indigenous Knowledge: Diversifying knowledge systems and capturing signals of change earlier than conventional stock assessments.

Project Overview and Objective

The Adaptive Management and Flexibility project seeks to identify innovations to Council processes that help West Coast fisheries management keep pace with ecological conditions. By considering the use or expansion of if-then rules, more flexible frameworks, and innovation pathways in its decision-making processes, the Council could improve its responsiveness to rapid or unexpected changes, allowing for management that is better adapted to the dynamics of the CCE.

During scoping for this project at the September 2025 Council meeting, Advisory Bodies, the public, and the Council may identify additional actions, tools, or approaches that improve flexibility, responsiveness, and adaptive capacity in Council decision-making.

## 1. Overview and Assessment of the Problem

The Adaptive Management and Flexibility project (Adaptive Management project) is one of three special projects for which the Pacific Fishery Management Council (Council) has received dedicated funding from the National Marine Fisheries Service (NMFS) under the Inflation Reduction Act (IRA). This project's objective is to identify innovations to Council decision-making processes and operating procedures that will allow the Council to develop, analyze, and adopt management actions and recommendations on timeframes that are more responsive to rapidly changing conditions. These innovations and efficiencies could be focused both on decreasing the length of time required to finalize key Council actions and on increasing the Council's ability to develop management responses tailored to and commensurate with the scope and speed of observed and predicted changes in the marine environment, as well as other unexpected and unintended events.[1]

[1] The Council's original proposal to NMFS under the Inflation Reduction Act focused on improving Council responsiveness to changes in the ocean environment. In a motion adopted by the Council in April 2025, the Council provided additional guidance to Council staff that an action plan for the Adaptive Management project be developed which is responsive to both "environmental changes and unexpected and unintended events."

The Adaptive Management project supports both nationwide and West Coast calls from the fishing public for improvements to Council efficiency, and supports Goal 6 of the Council's Fishery Ecosystem Plan (FEP): *Promote fishery management that is sufficiently adaptive to account for the effects of climate variability and change, ocean acidification, marine heat waves, harmful algal blooms, and hypoxia.*[2]

*1.1 Project Background*

The Adaptive Management project has its origins in the Council's FEP Climate and Communities Initiative (CCI) scenario planning exercise. The scenario planning effort, which took place between 2019 and 2021, was a strategic planning exercise where the Council explored and considered alternative plausible descriptions for how climate change might impact Council-managed resources over the next 20 years. A core theme that emerged from the scenario planning effort was interest in building more flexibility into the fishery management process; this theme is also reflected in the CCI's overarching goal to consider, develop, and implement strategies for improving management flexibility and responsiveness.

In response to both this CCI goal and the scenario planning results and recommendations, the Council added Potential Future FEP Initiative 2.8 (*Assess Flexibility in Fisheries Management Process Initiative*) to its Ecosystem Initiatives Appendix to the FEP in September 2022. Potential Future Initiative 2.8 asks whether Council decision-making and NMFS review and regulatory processes should be made more dynamic in order to respond to rapidly changing environmental conditions, and serves as the foundation for the Adaptive Management project.

During the development of project proposals in late 2023 and 2024, iteration between Council staff and NMFS headquarters made clear that NMFS desired the implementation of a management measure or change in Council process as part of these projects. As such, the Council's Adaptive Management project calls for the implementation of a to-be-determined action or actions, to be substantially completed by the end of the funding period (officially late 2026, but possibly 2027 with a no-cost extension). At the April 2025 Council meeting, staff presented and the Council discussed several tools and approaches that could be further developed under this project; some of these tools are tailored to specific FMPs under the Council's purview, while others are more cross-cutting in nature.

As part of the Council's April discussion, the Council adopted a motion that provided guidance to Council staff to develop "an action plan for exploring and implementing the general tools for increasing flexibility and adaptive management identified in Agenda Item C.4.a, Supplemental Attachment 1, as well as other tools, in all of the Council's FMPs." This document responds to the motion's guidance and is intended to spur further discussion in and among the Council's Advisory Bodies and the public in September 2025 and beyond. In order to include a more detailed review of possible tools and approaches that the Council may wish to further evaluate, we attempted to focus on items that have previously emerged in Council discussion, Advisory Body recommendations, communication with Council and NMFS staff, and in the literature that

[2] Pacific Fishery Management Council, Pacific Coast Fishery Ecosystem Plan, March 2022.

are especially applicable to the objectives of the Adaptive Management project proposal and Potential Future FEP Initiative 2.8.

While this document seeks to inform scoping of a broad framework or suite of actions that the Council could consider advancing in support of the Adaptive Management project, the April 2025 motion also offered guidance to prioritize the Groundfish FMP for an evaluation of tools that increase flexibility and adaptive capacity. That work is currently being taken up under the Groundfish Harvest Specifications Flexibility action, for which the Council established the scope at its June 2025 meeting. These two actions – development of an action plan to explore tools that increase flexibility and adaptive capacity across all of the Council's FMPs, and the development of specific measures that increase flexibility and adaptive capacity in the Groundfish FMP – are moving forward on separate but parallel tracks and are intended to inform and benefit one another as they progress.

*1.2 Exploration of the Problem*

The need for flexibility in management stems from the presence of uncertainty, variability, and the occurrence of unexpected events. This need is acutely important for fisheries within the CCE. As an Eastern Boundary Upwelling System, the CCE is characterized by coastal upwelling that drives variability in ecosystem productivity on seasonal scales. The CCE is also influenced by basin-scale climate processes such as El Niño and La Niña, which alter productivity on interannual scales, as well as longer-term patterns like the Pacific Decadal Oscillation that shift ecosystem conditions over decadal timescales. This variability in productivity within the CCE leads directly to changes in productivity of Council-managed stocks, affecting the growth and survival of adults, spawning and recruitment success, and other factors that influence the availability, abundance, and distribution of harvested species – as well as habitat-forming species like kelp or eelgrass.

In addition to these patterns, the increasing effects of climate change contribute to uncertainty, variability, and the occurrence of unexpected events throughout the CCE. Anomalous conditions such as longer and more frequent marine heat waves, changes in upwelling strength and timing, larger and longer-lasting hypoxic areas, more frequent and more spatially distributed domoic acid outbreaks, and fluctuations in mountain snowpack impacting freshwater flows can all lead to changes in Council-managed resources. For example, the "warm blob" marine heat wave of 2013-2016 led to increased mortality of many managed species, shifted species' location and distribution, and left predictions regarding stock abundance and location with greater uncertainty and forecast error than previously seen.[3] Underlying the complexity of the CCE, recruitment was high for several species, and anchovy and some rockfishes in particular have risen to near-record highs, during and subsequent to the warm blob.

It's in this context of variability and uncertainty that the Council develops its policy and management recommendations. This means that Council actions may sometimes fail to meet stated objectives, either because projections or expectations differ from actual outcomes, or

[3] Starko, S. and Baum, J., The world's longest marine heat wave upended ocean life across the Pacific. Phys.org, August 6, 2025.

conditions shift during an action's development – in turn leading to conservation or socioeconomic concerns.

Flexibility designed around the larger context of the CCE effectively means the ability to respond quickly to change, or in many cases, the ability to course correct if a completed or in-progress action requires reevaluation due to changing conditions. This could mean course correcting in the middle of a management cycle, accelerating the speed at which the Council works through an action, or applying pre-approved and timely responses. In all such cases, the Council would need to make decisions more rapidly and sometimes with incomplete information, balancing risks and opportunities while doing so.

We note here that indicators of climate change and variability – in the form of both short-term forecasts and longer-term projections – are presented to the Council annually by NMFS's California Current Integrated Ecosystem Assessment through its Ecosystem Status Report. These indicators provide important context about recent, current, and anticipated conditions affecting the status of fish stocks and other marine resources in the CCE, helping to inform Council management. The performance of these indicators improves with each year, yet uncertainty remains a key challenge for managers, scientists, and fishery participants.

### *1.2.1 Proposed Problem Statement*

In the CCE, variability is the norm. Upwelling cycles, shifts in basin-scale processes, and accelerating climate change combine to generate unpredictable swings in stock productivity and distribution. These dynamics highlight the importance of a management system designed for flexibility, speed, and innovation.

The need for fishery management systems to become more flexible or nimble in the face of rapidly changing conditions was a dominant theme in the Council's climate scenario planning exercise, mentioned above; it has also emerged more broadly in semi-structured interviews with fishery management practitioners from across the U.S.[4] Flexibility – which, as noted in Potential Future FEP Initiative 2.8, encompasses both the potential scope of an action and the speed at which it occurs[5] – is one element of adaptive capacity, and has been cited by fishery managers and other participants in the fishery management system as being especially critical to "effective adaptation."[6] In short, flexibility is a key aspect of adaptive capacity, which is in turn a core component of resilience, or the capacity of a system to absorb and recover from disturbances while maintaining functionality and adapting to changing conditions.[7, 8]

[4] See Abigail S. Golden, Marissa L. Baskett, Dan Holland, Arielle Levine, Kathy Mills, Timothy Essington, Climate adaptation depends on rebalancing flexibility and rigidity in US fisheries management, *ICES Journal of Marine Science*, Volume 81, Issue 2, March 2024, Pages 252–259.
[5] Pacific Fishery Management Council, Ecosystem Initiatives: Appendix to the Pacific Coast Fishery Ecosystem Plan, September 2022.
[6] Golden et al., 2024.
[7] *Ibid*.
[8] Bahri T., Vasconcellos M., Welch D. J., Johnson J., Perry R. I., Ma X., et al. 2021. Adaptive Management of Fisheries in Response to Climate Change: FAO Fisheries and Aquaculture Technical Paper No. 667 (Rome: FAO).

While the concept of flexibility can be applied broadly to both the management system and the capacity for fisheries and fishing communities to adapt, the Council's Adaptive Management project (and therefore this document) focuses on the former application. To that end, we have identified two key cross-FMP challenges regarding the need for greater flexibility, efficiency, and responsiveness in the Council process, as articulated in Council documents, plans, initiatives, and discussions. We also include a brief discussion of FMP-specific challenges below, as identified in informal discussion with Council and NMFS staff.

### *1.2.2 Cross-FMP Challenge #1: Responsiveness to Rapidly Changing Conditions*

Changes in the marine environment and other unexpected or unintended events often happen rapidly and/or unpredictably and as such require management responses that can be developed and implemented quickly and nimbly. At the same time, Council decision-making processes generally move at slower paces that may not align well with the speed and scope of rapidly changing conditions – though we note that the drivers of these slower timelines are often connected to important components of the decision-making process, such as public involvement and stakeholder engagement, scientific and other forms of analysis, and transparent and rigorous deliberation by the Council and its Advisory Bodies. Any efforts to shorten or streamline Council processes in support of additional flexibility should be considered in the context of these components, which are in many cases statutorily required and are generally a hallmark of the Council's participatory and science-driven approach to decision making. Further, while it would be difficult to quantify, the public input and engagement facilitated by the Council process may also have the effect of reducing the number and/or complexity of comments on proposed rules, potentially mitigating NMFS's workload in preparing final rules.

An analysis by Council staff of select, representative Council actions (see Tables 1a and 1b in Appendix A) shows that the total time from initiation of an action to the effective date of associated regulations varies widely (with the annual salmon fishery season setting process serving as something of an outlier since it must be completed within just a few months). These intervals vary from 18 months (550 days) to more than seven years (2,641 days), and the average (excluding salmon season setting as an outlier) is just over three years. The proportion of the total time spent on the action taken up by the Council process (i.e., scoping to final action) ranges from 45 to 74 percent with an average of approximately 60 percent, indicating that the time needed for the Council to reach a decision on a given action is a significant factor in the fishery management process.

We note that the shortest timeframes in this analysis are attached to annual or biennial harvest specifications processes (i.e., 64 days for salmon and 550 days for groundfish). These processes are specified in regulation and therefore generally unfold along the same timelines during each cycle; in short, we know what to expect in terms of both Council actions and timeframes for these processes. For actions other than harvest specifications, a closer look at the longest Council actions analyzed suggests that their associated timeframes were largely impacted by one or more of the following factors:

- Overall complexity of the action (e.g., Groundfish FMP Amendment 28 [Essential Fish Habitat] and Highly Migratory Species [HMS] FMP Amendment 6 [Deep-set Buoy Gear Authorization]).
- Shifting or expanded scopes that necessitated changes to the Range of Alternatives (ROA) and/or analysis of alternatives.
- Revisiting and reconfirmation of ROAs.
- The development of NEPA documents sequentially rather than concurrently with the development of the action.
- Personnel changes during the course of complex actions.
- Covid-related delays.

While some of these factors are difficult to plan for (e.g., personnel changes and major disruptions like covid) or are less relevant now due to updates to Council processes (e.g., for many actions, NEPA documents are now developed as the action is moving through the Council process), others – especially those related to scoping and the adoption of ROAs – may be easier to anticipate and manage. Section 6 below includes a discussion of potential approaches the Council could consider as it explores ways to shorten timelines associated with certain classes of actions.

The interval between Council final action and formal transmittal to NMFS is also flagged in Table 1a and 1b and accounted for between 12 and 45 percent of the total process, averaging 22 percent. In general, the need to complete statutorily mandated analyses during this interval may lead to delays so that analytical timelines can be aligned, but there may still be opportunities to address the potential for lag time between final action and transmittal, for example through a review of analytical packages or via improved procedural efficiencies.

Another factor impacting Council timelines is the meeting requirements for establishing and adjusting management measures. These requirements differ slightly across the Council's FMPs, and are summarized in Appendix B for reference. Most management measures and actions can be established in either one or two Council meetings, though there appears to be some flexibility here insofar that the Coastal Pelagic Species (CPS), Groundfish, and HMS FMPs each modify one or more of their meeting requirements with the phrase "normally require."[9] This may provide an opportunity for the Council to consider whether a framework could be developed that would allow for faster consideration of non-controversial measures.

In sum, several categories of actions may only require one to two meetings to complete, while others – namely FMP amendments and associated regulatory measures – can stretch out for years. Depending on the nature of the external change to which the Council seeks to respond, some Council decision timelines may be sufficiently fast while others may present an obstacle to developing management actions that are appropriately responsive. We note that this dynamic flows both ways: in situations involving a sudden shift or disruption, a two- or even one-meeting

[9] For CPS, both abbreviated and full rulemaking actions "normally require at least two Council meetings." For Groundfish, full rulemaking actions "normally require two Council meetings." For HMS, abbreviated rulemaking actions "normally require at least two Council meetings."

process may be too slow, while for broader, more complex, or controversial actions, a three-year FMP amendment development process may be warranted or needed.

In all cases, and as the Council evaluates potential solutions to the challenge of responding nimbly to rapidly changing conditions, it may wish to consider ways to address the primary sources of slowdowns and bottlenecks for more complex actions (namely the initial stages of initiating, scoping, and developing alternatives for an action, along with the need to revisit scoping or ROAs) as well as opportunities to accelerate decision timelines for management measures and inseason adjustments. Several ideas are discussed below in Sections 4-7.

#### *1.2.3 Cross-FMP Challenge #2: Innovation in Support of Adaptive Capacity*

Innovation within the Council process can be a way to identify, develop, and apply management strategies and approaches that are more responsive to climate-driven uncertainties and other changes. As with the concern associated with Council action timelines described above, efforts to innovate in response to rapidly changing conditions and emerging management challenges may be constrained by a lack of flexibility and speed in the Council process. As noted in the Council's proposal for the Adaptive Management project, such innovations could include changes to management or fishing behavior via the expanded use of dynamic ocean management (DOM), which is defined as "management that changes in space and time in response to the shifting nature of the ocean and its users based on the integration of new biological, oceanographic, social, or economic data."[10] Innovation may also be fostered through the issuance of EFPs, which can be used by fishermen or researchers to explore climate-ready fishery adaptations and other novel approaches to developing new gears or fishing methods.

In both cases, current procedures may present challenges to timely and responsive implementation. For example, supporting the expanded uptake of DOM tools by fishermen will rely heavily on the Council's ability to implement rapidly changing time-area closures and other short-turnaround management adjustments, something that existing decision-making processes and timelines will likely be unable to accommodate. Similar constraints can also apply to the issuance of EFPs, which while fully supported via the Council's FMPs and operating procedures,[11] frequently encounter process-related obstacles and slowdowns. Under another Council special project, New Fishing Opportunities within Bycatch Allowances, the Ad Hoc HMS Fisheries Innovation Workgroup (FIW) is exploring changes to the Council's HMS EFP process in support of efforts to accelerate the development of new, low-bycatch HMS gears. The Adaptive Management project provides an opportunity to conduct a similar exploration across all of the Council's FMPs and may be a way to identify improvements to EFP processes more broadly, as called for in the Council Operations and Priorities work.[12]

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[10] Rebecca Lewison, Alistair J. Hobday, Sara Maxwell, Elliott Hazen, Jason R. Hartog, Daniel C. Dunn, Dana Briscoe, Sabrina Fossette, Catherine E. O'Keefe, Michele Barnes, Melanie Abecassis, Steven Bograd, N. David Bethoney, Helen Bailey, David Wiley, Samantha Andrews, Lucie Hazen, Larry B. Crowder, Dynamic Ocean Management: Identifying the Critical Ingredients of Dynamic Approaches to Ocean Resource Management, *BioScience*, Volume 65, Issue 5, May 2015, Pages 486–498.

[11] COP 19 covers groundfish fisheries, COP 20 covers highly migratory species, COP 23 covers coastal pelagic species, and COP 24 covers shared ecosystem component species. COP 18 covers salmon test fishery proposals.

[12] Pacific Fishery Management Council, Agenda Item C.2, Attachment 1 and associated Council guidance, June 2024.

### *1.2.4 FMP-Specific Challenges*

Coastal Pelagic Species

Coastal pelagic species (CPS) stocks are characterized by boom-and-bust cycles of abundance, even in the absence of fishing, with climate and other environmental fluctuations being a significant driver. These variations can occur on an intra- or inter-annual basis or on decadal scales and can result in distributional shifts. Currently, some aspects of CPS management are fairly static, which runs counter to the dynamic nature of CPS stocks. Overly prescriptive assessment schedules for Pacific mackerel, an underutilized stock, may benefit from a more framework-style management approach (similar to the central subpopulation of northern anchovy), thereby freeing up resources for other work. Additionally, more dynamic harvest control rules, rather than static formulas as currently prescribed in the FMP, may be better able to reflect current conditions through factors such as DISTRIBUTION or $E_{msy}$.

Several issues related to flexibility and adaptive management in CPS fisheries are identified and discussed in the April 2025 Coastal Pelagic Species Science and Management Priorities discussion paper. Three in particular have been prioritized by the Council:[13] Pacific sardine stock structure (including consideration of the harvest control rule parameters DISTRIBUTION and $E_{msy}$), stock assessment frequency, and managing annual opportunity (including through the consideration of added flexibility in certain currently static limits and increasing the responsiveness of harvest control rules). Work on the first of these, sardine stock structure, has already been initiated.

One challenge that could be explored concurrently with these science and management priorities is that of inseason catch accounting. The proportion of Pacific sardine catch comprised of the southern subpopulation can change from month to month and year to year, but the catch accounting process is not flexible to these intra-annual changes. While the sardine stock structure effort is underway, there may be an opportunity in the interim to consider some form of inseason catch accounting, such as through the addition of an inseason management agenda item for CPS, to prevent premature closures. The increased flexibility that a new inseason process might allow for would need to be evaluated alongside possible tradeoffs associated with workload and Council floor time. Also of interest is the opportunity to build more flexibility into the Council's EFP process for CPS as well as consideration of new methods to bolster CPS surveys, particularly in nearshore areas where the majority of sardine biomass was determined to be in 2024.

Groundfish

The Groundfish FMP includes a highly diverse assemblage of species with complex management needs and harvest specifications. While some flexibility is built into the FMP via frameworks and inseason management, fishery participants struggle with the ability to respond to changing conditions in a timely manner. As mentioned earlier, the Council has initiated an evaluation of tools and measures to increase flexibility and adaptive capacity in the Groundfish FMP under its Groundfish Harvest Specifications Flexibility action. Several priority issues around flexibility

[13] Pacific Fishery Management Council, Agenda Item G.5, preliminary draft motion in writing, April 2025.

are now being explored via this separate but parallel effort. In addition to these measures (and the challenges they seek to address), a key and overarching challenge that's been identified is the amount of time the Council spends on developing harvest specifications, changes to specifications, and analysis of actions.

Some ideas for addressing this challenge may include the improved use of FMP frameworks and the associated application of pre-analyzed, prescriptive determinations (such as if-then statements), allowing for more inseason actions and actions between Council meetings; possible expansion of the list of routine management measures; and consideration of additional flexibility-focused items from the 2025 Groundfish Workload and New Management Measures list, such as allowing vessels to switch declarations at sea.

Highly Migratory Species

As the HMS fishery undergoes significant changes with the phase-out of the drift gillnet fishery and the rebuilding of Pacific bluefin tuna, new and more adaptive opportunities are needed for fishery participants. One of the primary flexibility challenges that's been identified in the HMS fishery – and one that also connects to the role of innovation in supporting adaptive capacity – concerns the HMS EFP process. Focused efforts to address this challenge are currently underway via the Council's Ad Hoc HMS FIW, which is exploring improvements to the Council EFP process as part of its charge to help achieve the goals of the HMS Roadmap. Because this is an issue that's emerged for at least two FMPs, the broader topic of Council EFP process improvements is also ripe for consideration as a cross-FMP action, and is discussed at greater length in Section 5 below.

Regarding adaptability more broadly in the HMS FMP, the NEPA framework offers the potential to analyze a broad range of alternatives for accomplishing a purpose and need for management change. In this way, NEPA can be a useful tool for frontloading future management options and reducing the necessary workload to consider and analyze each FMP/regulatory change. Additionally, NEPA documents also set the stage for consulting with other federal agencies. In this way, effective use of NEPA could not only help to increase the adaptability and responsiveness of MSA processes, but also compliance with other statutes relevant to federal review/action. Similar to the Council EFP process challenge described above, opportunities to use NEPA as a tool for streamlining analysis and frontloading management options may exist across multiple FMPs, and is discussed in more detail in Section 6 below.

Salmon

The Salmon Fishery Management Plan (FMP) and its implementing regulations are generally regarded as the most flexible among the Council's FMPs and NMFS's regulations. As outlined in the April 2025 staff report for the Adaptive Management project, this flexibility is evident in several areas, including the collaborative pre-season planning process, catch monitoring, in-season management, and quota exchanges.

To further enhance this flexibility, incorporating if-then management strategies could offer an additional tool for adaptive salmon management. One potential application is within the

preseason modeling forecasts, using an approach that would allow modelers to make pre-reviewed adjustments if certain criteria are triggered. This concept is further discussed in Section 4.

## 2. Scoping of Tools, Approaches, and Actions

This document is intended to inform scoping of a broad framework or suite of actions that the Council could consider advancing in support of the Adaptive Management project; it is also meant to support the development of an action plan that explores and describes pathways for implementing these actions across all of the Council's FMPs, as articulated in the Council's April 2025 motion.

The potential actions included for consideration in this document include:

- Continuous improvement framework
- If-then statements
- Council EFP process improvements
- Increasing procedural efficiencies during different phases of Council actions
- Improving timeliness of data streams, including through the use of local and traditional knowledge

For each of these items, we have provided an overview as well as an assessment of potential next steps. Additionally, we have included a section with other items for consideration or discussion that may be of interest to the Council but which would likely fall outside the timeframe for completion of the Adaptive Management project, or are being implemented under separate Council initiatives.

Finally, we note that both the Adaptive Management project proposal and the Council's April 2025 motion and guidance on this project emphasize evaluating approaches and tools that specifically address the *speed* of the Council process, as a means of increasing the Council's ability to respond to rapidly changing conditions. The project proposal calls for an exploration of "existing and potential methods for speeding up the Council process,"[14] while the April motion states, "The focus [of the action plan] should be on increasing the Council's ability to quickly respond to environmental changes and unexpected and unintended events."[15] To this end, we have attempted to include tools and approaches here that are intended to contribute to shorter timelines and faster processes, though many of the items below may increase flexibility in other ways as well.

## 3. Framework for Increasing Flexibility and Adaptive Capacity Across All Four FMPs

### *3.1 Overview*

[14] Pacific Fishery Management Council, Agenda Item C.3, Attachment 1, September 2024.
[15] Pacific Fishery Management Council, Agenda Item C.4, motion in writing, April 2025.

The proposal for the Council's Adaptive Management project calls for the identification of tools and methods that support faster, more responsive Council processes and procedures, and the application of those tools to the implementation of a specific management action or actions prior to the end of the grant period. It also articulates a goal of applying the selected tools to the implementation of other Council actions in the future, something that would be carried out "within a continuous improvement framework." As it considers a suite of potential tools to explore further, the Council may also wish to situate those tools in such a framework, to better inform the selection of appropriate adaptive management approaches across FMPs and to assist with evaluation of how those approaches performed.

*3.2 Potential approach to developing a framework*

A working definition of *flexibility* is the ability to adjust management measures and regulations in response to changing conditions and new information. In their 2021 white paper on flexibility in the Council's FMPs, Bell et al. expand on this definition by suggesting that flexibility should also entail:

- A management system that integrates a range of potential scenarios.
- Indicator tracking that allows recognition of these scenarios when they occur.
- The ability to formulate and apply appropriate, preapproved, and timely responses.[16]

A starting point for developing a continuous improvement framework could include a series of questions that help to operationalize the above components by supporting the Council in doing at least three things: (1) prioritizing actions or categories of actions that would benefit most from additional flexibility or adaptive approaches; (2) identifying tools that are likely to increase the speed at which those actions can be completed by the Council or that allow for greater responsiveness once an action has been finalized; and (3) reviewing performance of tools and approaches as they are applied to Council actions. To this end, below are several suggested framing questions for each component of a potential framework.

| Category | Primary Questions | Supporting Questions |
|---|---|---|
| *Prioritizing Council actions* | What criteria should the Council use to determine which actions or categories of actions would benefit most from faster Council timelines? | Does the Council have the authority to undertake the action or change in question? |
| | | Under what circumstances does the Council need to be able to act faster? Are there varying levels of urgency or speed that should be described or defined? |
| | | What kinds of rapid or unanticipated external changes warrant a faster management response? |
| | | How can the Council best determine if an action should be deemed non-controversial? |

[16] Bell et al. 2021

| | | |
|---|---|---|
| | | What currently non-routine actions should be considered candidates to become routine management measures? |
| | When completed, is the action expected to create more or less flexibility for fishery participants? | |
| | When completed, is the action expected to create more or less resilience for fishery participants and/or Council-managed resources? | |
| *Identifying and selecting tools* | Does the tool fit within existing management and statutory requirements? | |
| | Does the tool allow the Council to act quickly, for example in a single meeting or between meetings? | |
| | Does the tool allow for consideration of a range of potential scenarios? | |
| | Does the tool include indicators that alert managers when a scenario occurs? | |
| | Does the tool accommodate the development and/or application of a pre-analyzed, preapproved, and timely response? | |
| | Does the tool ensure public and stakeholder input and engagement? | |
| | What kind of information is needed to support the development and/or application of the tool? | |
| | Is the tool grounded in best scientific information available (BSIA)? | Does the tool integrate social, ecological, and economic information? |
| | Does the tool and resulting management response account for risk and uncertainty? | |
| *Evaluation of tools and approaches* | How quickly was the Council able to complete the management action? | |
| | Did this timeframe allow the Council to respond appropriately or as desired to the external change? | Was the scale of the management response deemed appropriate? Were there additional desired actions that could not be implemented due to the timeframe? |
| | Did the approach taken negatively affect other fisheries, sectors, or entities, or otherwise generate unintended outcomes? | |
| | When completed, did the action create more or less flexibility for fishery participants? | How are changes in flexibility being measured or captured? |

| | |
|---|---|
| When completed, did the action create more or less resilience for fishery participants and/or Council-managed resources? | How are changes in resilience being measured or captured? |

In addition to the above framing questions, the Council could also consider a rubric for matching tools to management needs and opportunities. Below is a table populated with sample entries, summarizing the linkages between drivers of change and possible management responses.

| Driver/External Change | Challenge | Impact | Timeframe | Management Need | Management Response/Tool |
|---|---|---|---|---|---|
| Eastern Boundary Upwelling System | Highly variable species productivity and distribution | Stock assessments may quickly become outdated | Within year or year-to-year | Ability to adjust assessments or projections and associated harvest specifications in response to new information | If-then statements; improved data timeliness; inseason actions; automatic actions; notice actions |
| Pacific Decadal Oscillation, El Niño/La Niña events, marine heatwaves | Unpredictable recruitment and range shifts | Change in target or bycatch species interactions | Decadal or year-to-year | Closing/opening areas; changing management measures such as trip or bag limits | If-then statements; automatic actions; notice actions; EFPs; climate-ready reference points |
| Climate change impacts (ocean warming, acidification, hypoxia) | Short-term changes to habitat, water quality; long-term shifts in habitat, species growth, survival | Harmful algal blooms, domoic acid may affect food web dynamics, cause fishery closures; longer term, changes in stock structure, productivity, and other factors may affect stock growth and abundance | Short-term, year-to-year; long term, years or decades | Ability to better predict and respond to changes and trends; management approaches that incorporate climate and ecosystem information | Forecasting tools; ecosystem and habitat modeling; ecosystem-level reference points; climate-informed stock assessments; dynamic spatial management; risk tables |
| Uncertainty, variability stemming from CCE dynamics + climate change | Socioeconomic resilience of fishing industry, coastal communities | Sectors and fisheries may experience quota cuts, closures | Short-term, year-to-year; long term, years or decades | Ability to respond to new information; ability to assess and measure community resilience | Improved data timeliness; inseason actions; decision support tools tailored to community resilience |

*3.3 Potential next steps*

We note that this potential action is more of a "meta" action insofar that it would support the Council in its efforts to prioritize, implement, and evaluate other actions aimed at increasing flexibility and responsiveness while reducing decision-making timelines. Despite the bigger picture nature of this potential action, it could likely be developed quickly and, if needed, concurrently with other potential actions within an established scope for the Adaptive Management project. If desired, Council staff, working with Advisory Bodies, could build out a structured framework based on the above examples, and then use it to develop a draft Range of Alternatives for the Council's consideration.

## 4. If-Then Statements

*4.1 Overview*

Strategies that facilitate quicker decision-making as conditions change have long been cited as a key pathway to improving management flexibility and responsiveness. One such strategy is the development of "if-then" rules. A key recommendation coming out of the Council's CCI scenario planning exercise[17] and subsequent Council Climate Core Team and Ecosystem Workgroup reports,[18] if-then statements pre-define specific actions that will be taken when certain conditions are met. They consist of predetermined, generalized responses (and the thresholds that trigger them) to different scenarios, where analysis and review of those responses are completed in advance. As such, if-then statements are designed to anticipate a range of potential scenarios and allow for much faster management responses – usually without a Council meeting or a regulatory change.

Several examples of if-then statements currently exist in Council-managed fisheries. Perhaps the most prevalent application is that of harvest control rules, which in many cases serve as a kind of if-then statement: "if" a stock falls below a predetermined level, "then" a given management action occurs. Other West Coast examples include:

- The Halibut Catch Sharing Plan (CSP), where if-then statements facilitate management of season structure, inseason adjustments, and sub-allocations without necessitating a Council meeting. For example, the Area 2A 2025 Halibut CSP states, "The season may be open up to three days per week…in May if the Area 2A FCEY is at least 1.3 million pounds and if the Area 2A FCEY is less than 1.3 million pounds, then the season may be open in May up to two days per week…."[19] This level of flexibility is required in part because the halibut season is set by November in a given year, but a quota isn't available until January.
- Bluefin tuna trip limit regulations, which adjust seasonally "with the intent to ensure a portion of the annual catch limit remains available to smaller-volume gear types

[17] deReynier, Y., C. Dahl, C. Braby, G. Kirchner, R. Lincoln, T. Moore, C. Niles, C. Ridings, J. Samhouri, J. Star, S. Stohs, and J. Ugoretz. 2023. U.S. Pacific Coast Federal Fisheries Scenario Planning Summary Report. NOAA Tech. Memo. NMFS-OSF-12, 157 p.
[18] Pacific Fishery Management Council, Agenda Item H.3.a, EWG Report 1, March 2024.
[19] Pacific Fishery Management Council, Area 2A 2025 Pacific Halibut Catch Sharing Plan.

throughout the year."[20] For example, the 2025-2026 bluefin trip limit regulations state that between January and June, the trip limit decreases to 40 mt if the total catch is within 400 mt of the annual limit; the trip limit decreases to 5 mt if the total catch is within 225 mt of the annual limit.

- Regulations implementing the Pacific Loggerhead Conservation Area, which closes to drift gillnet fishing when El Niño conditions are present in the Southern California Bight during the summer months, as indicated by sea surface temperature anomalies. For example, NMFS regulations state, "No person may fish with, set, or haul back drift gillnet gear in U.S. waters of the Pacific Ocean east of the 120° W meridian from June 1 through August 31 during a forecasted, or occurring, El Niño event off the coast of southern California (50 CFR 660.713(c)(2)."

Examples from other regions around the U.S. include:

- Federal regulations for groundfish fisheries off Alaska developed by the North Pacific Fishery Management Council provide numerous if/then conditions that authorize the NMFS Regional Administrator to take automatic action via Federal Register notice to open and close fisheries, shift in-season allocation, adjust incidental catch, and other measures without prior Council in-season coordination, but with subsequent Federal Register notice via in-season action (see 50 CFR §679.20 and §680.22).
- Federal regulations for red snapper authorize the NMFS Regional Administrator to set recreational fisheries management measures in federal waters via Federal Register notice and at the request of state fishery managers with delegated management authority for red snapper (see 50 CFR §622.23), or to close Gulf shrimp fisheries via Federal Register notice if a closure is needed to reduce red snapper bycatch.
- Federal regulations for precious coral taken off American Samoa authorizes the NMFS Regional Administrator to determine whether harvest quota for a coral bed has been reached before the end of the fishing year and to close that coral bed for fishing via Federal Register notice (50 CFR §665.166).

Because if-then statements can build additional flexibility, responsiveness, and speed into management, the Council may wish to consider expanding its use of this tool, while also evaluating the considerations and tradeoffs discussed below.

*4.2 Potential approach to developing if-then statements*

If-then statements should allow for decisions to be made much faster than through the regular Council process, but they generally require a significant amount of upfront analytical work and strategic thinking in order to anticipate and plan for a range of viable scenarios. This effort should be broad enough to include scenarios that reflect a variety of conditions, including ones that may be difficult to predict, but still be specific enough so that these scenarios can be fully analyzed. To this end, the development of if-then statements would necessitate a high degree of collaboration between the Council and NMFS; they would also likely benefit from close

[20] 2025-2026 Commercial Fishing Restrictions for Pacific Bluefin Tuna in the Eastern Pacific Ocean

coordination among managers, scientists, and fishermen to ensure that factors influencing stock status and fishery performance are appropriately incorporated.

A potential approach to considering the development of new or expanded if-then statements in the Council process could include some or all of these elements:

a. Identify FMP-specific challenges arising from short-term variability (within-year and year-to-year).
b. Conduct an evaluation of the use of if-then statements in both NMFS regulations and the Council process; identify any lessons learned from the implementation of these in regulation as well as in the Council process.
c. Consider establishing goals that new if-then statements should meet, such as:
    - Streamline and facilitate management decisions;
    - Set clear, distinct targets or limits;
    - Be grounded in BSIA; and
    - Improve transparency by clearly defining the intended responses when targets/limits are met.
d. Review FMPs and consult with NMFS and Council staff and Council Advisory Bodies to identify areas or issues where if-then statements could be beneficial.
e. Describe existing or, if needed, additional procedures to ensure close collaboration between and among the Council, NMFS, and stakeholders.
f. Establish criteria for evaluating whether a threshold has been met which then triggers a management response/action.
g. Establish criteria for identifying the boundaries of an if-then statement, allowing the Council to determine when to reevaluate the statement in the event of significant changes to underlying conditions (e.g., when the analysis underpinning the statement may no longer be sufficient).
h. Specify a process for periodic review of if-then statements to incorporate new information and feedback on their effectiveness.

While a full review of if-then opportunities would be a vital part of any next steps, some initial ideas that have been identified include:

*Groundfish and/or Halibut*:

- Potential application: Incidental sablefish landing limits. This would entail setting incidental sablefish limits for the tier fishery based on the halibut allocation in a given year. For example, if the allocation or Fishery Constant Exploitation Yield (FCEY) is above X, then the sablefish landing limit would be Y. If FCEY is below X, then the sablefish landing limit would be Z.

*Groundfish:*

- Potential application: Catch in groundfish fisheries. This would involve a rule that effectively states if catch reaches X or is below Y, then NMFS will implement Z block area closures (BAC) or remove/reduce the BAC. A similar approach could be used for trip limit and bag limit adjustments for selected species. While BACs and trip/bag limits can already be modified inseason via the routine management measures process (usually

in a single Council meeting), developing an if-then statement would allow NMFS to take action outside of a Council meeting if needed.

*Salmon:*

- Potential application: Preseason modeling forecasts. This approach would allow modelers to make pre-reviewed adjustments if certain criteria are triggered. For example, if a model diagnostic behaves unexpectedly or a variable is determined to be performing outside of acceptable parameters, modelers could refer to a predetermined set of alternative responses. A sample rule might be, "If diagnostic X deviates by Y amount, then modelers should explore adjustment Z." This structured flexibility would maintain scientific rigor while allowing timely and appropriate model adaptations by the modelers. The need for and benefit of any such rules could be raised by the Salmon Technical Team, and pre-approved response rules may require a formal methodology review to ensure they are scientifically rigorous and valid for use in management.

*4.3 Potential Next Steps*

As part of the Council's evaluation of this potential action, it may be helpful to consider tradeoffs associated with the development of if-then statements. As mentioned above, the initial workload for developing a single if-then statement could be substantial, likely requiring an FMP amendment. While it would depend on the topic/issue selected and the type of analysis needed to develop an adequately robust rule that anticipates a realistic range of scenarios, as well as criteria for identifying thresholds that trigger a management response, such a process may take at least a year. Once implemented in regulation, however, the if-then statement(s) could yield significant time savings and greater nimbleness via faster management response times, without the need for a Council meeting. Finally, we note that any assessment of the value and viability of developing if-then statements for specific applications should be conducted in full collaboration with NMFS, as workload considerations would impact both Council and NMFS staff.

To further explore this potential action, the Council could consider:

- Tasking the relevant Management Team to collaborate with the relevant Advisory Subpanel, in coordination with Council staff, to refine/expand upon and begin implementing the proposed approach described above (Elements a-h).
- Specifying a process for identifying and selecting pilot if-then statements, including how best to leverage Advisory Bodies' expertise and stakeholder input.

**5. EFP Process Improvements**

*5.1 Overview*

An Exempted Fishing Permit (EFP) is a federal permit issued by NMFS that authorizes a vessel to engage in an activity that is otherwise prohibited by regulations. An EFP exempts a vessel only from specific regulations in the permit, while all other regulations remain in effect. NMFS can issue EFPs to federal and state agencies, marine fisheries commissions, groups (including

nonprofit organizations), and individuals for a variety of purposes including data collection, conservation engineering, and exploratory fishing.[21]

The specific purposes of EFPs often correspond with the goals and objectives of FMPs and may seek to address challenges in the respective fishery. On the West Coast, fishermen, fishing organizations, nonprofit organizations, state agencies, and others have used EFPs to collect data, pilot new innovations in gear and technology, and test the performance of different management strategies, among other activities. For example, EFPs have been critical in the development of a new gear type (deep-set buoy gear) targeting HMS with reduced bycatch that has now become an authorized fishery. For CPS, EFPs have allowed for enhanced biological sampling and the testing of alternative survey methods to support accurate biomass estimates, fishing opportunity, and a rebuilding plan for Pacific sardine. Through groundfish EFPs, fishermen have tested gear modifications to mitigate impacts to habitat and reduce bycatch while accessing healthy stocks.

As illustrated by these examples, the use of EFPs is one way the Council can help foster innovation, support flexibility, and increase responsiveness to changing conditions. Yet at the same time, several challenges have been identified by EFP applicants, holders, and others which may hinder the potential for EFPs to facilitate innovation. The Adaptive Management project could provide an opportunity to address some of those challenges within the Council process, as discussed further below.

We note here that the Ad Hoc HMS FIW is charged with identifying improvements in the Council's HMS EFP process, as part of the HMS Roadmap, and has already initiated work on several facets of HMS-specific EFP process modifications. Improvements and efficiencies identified in that effort could potentially be applied to or inform other Council EFP processes.

Review and issuance of EFPs

NMFS has the authority to issue or deny EFPs and specifies the application, review, and issuance requirements and process through nationwide federal regulations (50 CFR 600.745.) An EFP application is submitted to and considered by the NMFS Regional Administrator (RA); the NMFS RA reviews each application and makes a preliminary determination as to whether it contains all the required information and constitutes an appropriate activity. If the RA determines that the application warrants further consideration, NMFS will prepare a Federal Register Notice and accept public comment on the application. The regulations also allow NMFS to share applications and related information with the Council and other federal and state agencies, consult with the Council, and take comments at a Council meeting. NMFS may assist in preparing the necessary documentation to satisfy compliance with other applicable federal laws, such as the National Environmental Policy Act, the Endangered Species Act, and the Marine Mammal Protection Act. Once federal review is complete, NMFS makes a determination to issue or deny the EFP.

[21] 50 CFR 600.745 includes the following description of authorized activities for exempted fishing: "limited testing, public display, data collection, exploratory fishing, compensation fishing, conservation engineering, health and safety surveys, environmental cleanup, and/or hazard removal purposes."

Although regulations do not specify a Council role in issuing EFPs, the Council conducts its own EFP review process and then provides its recommendations to NMFS. Council procedures for accepting and reviewing EFPs are detailed in Council Operating Procedures (COPs) 19, 20, 23, and 24 and in an EFP section in the FMPs for HMS, CPS, and Groundfish. While the specific timing for submission and review can vary depending on the fishery, most of the Council procedures and requirements are the same or very similar across FMPs. For groundfish and CPS, EFP consideration is synchronized with the decision-making process for harvest specifications in order to allow for set asides for harvest under EFPs. The Council's Advisory Bodies review an EFP prior to review by the Council, including the Science and Statistical Committee (SSC) if there is a significant scientific component. The Council will review, comment, and make recommendations on the EFP application and may request changes and/or additional information. Council recommendations are provided to NMFS for action under its process.

Current challenges within the EFP process

Many of the current challenges in the EFP process relate to timeliness, responsiveness, and efficiency. In a June 2024 Council-hosted workshop that focused on EFPs in HMS fisheries, fishery participants described long timelines from application to issuance, affecting applicants' ability to fish in a given season or when conditions are more favorable. Fishery participants also expressed a lack of understanding about how to navigate the process. While both NMFS and Council EFP materials may reference each other's procedures, applicants could benefit from resources that clearly and holistically lay out NMFS and Council roles, the full process for both (including how they intersect and relate), and a clear timeline. On the NMFS and Council side, the biggest challenges include not receiving necessary information both in the application phase (causing delays in the review process) and in the reporting phases (hindering evaluation of EFPs more broadly and renewal of specific EFPs due to the lack of information on set asides for the next biennium in some cases). Across FMPs, determining how much data is needed to move forward with a regulation change, including authorization of a new fishery, also represents a key challenge.

*5.2 Potential approaches to improving the Council's EFP process*

To address these challenges and to increase the responsiveness, flexibility, and timeliness of the EFP process, potential areas to explore include:

*Standardized, streamlined, timely, and optimized Council process:* One key potential improvement to explore is the development of a user-friendly simplified online EFP application that could be used across FMPs and include both NMFS's required elements and Council requested content. Council staff could also review the opportunity to standardize and streamline COPs 19, 20, 23, and 24 and the related EFP section in each respective FMP. One important aspect to evaluate is how to optimize the submission and review windows for the specific fishing seasons and other key timing considerations. Other potential modifications could include allowing for an EFP to be reviewed and recommended in one meeting, establishing criteria to allow for immediate consideration of EFPs (i.e., outside of designated EFP submission windows), forgoing Council review of EFPs solely seeking renewal without major changes, and

assessing whether a programmatic approach that covers multiple similar EFPs could be used to pool those EFPs for concurrent review.[22]

*Efficient and effective coordination between the Council and NMFS:* Given that NMFS and the Council run largely concurrent review processes, the Council could look at how to best harmonize its procedures with those of NMFS. By mapping out both processes and key intersection points, Council staff can identify the most efficient and effective points for coordination. Potential ideas to explore in this category include beginning the Council review process after NMFS has conducted its initial screening for complete information and appropriateness of the activity. The Council could also consider how to align Council recommendations and input on EFPs received during Council meetings with NMFS's public comment period.

*Clear communications, guidance, and technical assistance for applicants:* Fishery participants have identified the need for focused EFP application and review process instructions and guidance in multiple formats (e.g., handbook, short video, webpages including FAQ sections, etc.). The Council could partner with NMFS to create resources to walk applicants through the development of an EFP application, provide an overview of the entire process and details on each step, and lay out a timeline. Fishery participants have also noted the value of technical assistance for applicants, suggesting that NMFS and Council liaisons could be designated to answer questions and provide support throughout the process. Technical support through pre-submission consultations by NMFS and Council staff to provide initial feedback on projects could benefit applicants but would represent an additional workload burden. Designated liaisons could potentially also work with consortia of fishermen to facilitate a group application or multiple applicants interested in similar projects.

*Testing more dynamic fishing methods and management through EFPs:* In addition to making the process more efficient, EFPs are an important tool for testing more dynamic and responsive fishing methods and management. Currently, EFP holders testing new gear types targeting HMS are evaluating and validating EcoCast predictions (a dynamic ocean management tool), which aims to help fishermen identify areas in real time where they can minimize bycatch of non-target and protected species and maximize catch of target species. For relevant FMPs, the Council could collaborate with NMFS and stakeholders to explore the most promising adaptive approaches in order to develop focused EFPs and evaluate their performance under specified criteria. Similarly, the Council could encourage more EFPs that address shifting stocks or emerging fisheries, as recommended by stakeholders during the CCI scenario planning effort.[23]

*5.3 Potential next steps*

[22] Several of these ideas also align with recommendations articulated in the Council Efficiencies process; see EFP recommendation from June 2024 staff report (Agenda Item C.2, Attachment 1, June 2024) and associated Council guidance: "Examine how to streamline the Exempted Fishing Permit Process across all FMPs, such as only accepting new EFPs once per year, approving in one meeting, and having only NMFS review and approve/disapprove renewals while keeping the Council informed of those EFPs."

[23] Pacific Fishery Management Council, Agenda Item H.3.a, EWG Report 1, March 2024

Council staff could develop a list of potential action items and an assessment of their level of impact for creating a more timely, responsive, and flexible EFP submission, review, and recommendation process. Staff could then present the key findings at a future Council meeting. In developing the list of potential action items, Council staff could undertake the following:

- Review the number and type of EFPs submitted to the Council over the past decade to assess workload and timing issues and identify optimization and efficiency improvement opportunities.
- Conduct interviews with prior/existing EFP applicants/holders and NMFS and Council leads on EFPs for each FMP to garner insights from various perspectives.
- Map the NMFS and Council EFP processes and identify key coordination points and opportunities to harmonize the timelines and actions on the Council side.
- Assess COPs 19, 20, 23, and 24 and EFP sections in FMPs to identify potential revisions.
- Explore how the Council can work with NMFS and fishery participants to develop EFPs that test more dynamic fishing methods and management.

We note that a tradeoff in improving the responsiveness, timeliness, and flexibility of the EFP process is the need to provide sufficient opportunities for application review while not consuming significant Council staff bandwidth and Council meeting time. In addition, while creating effective instructional information and guidance materials could help to create a more efficient process down the line, staff time and resources will be needed up front to produce materials. The ability for NMFS and Council staff to also provide ongoing technical support to applicants would depend on overall workload and would likely require this effort to be prioritized, potentially in lieu of other activities.

Lastly, this effort focuses on the Council EFP process, and as mentioned above, the Council provides recommendations related to EFPs to NMFS but does not have the authority to issue or deny the permits itself. In order to make improvements that increase flexibility, responsiveness and timeliness throughout the entire EFP process, a holistic assessment of both NMFS and Council processes is needed, which would also require NMFS staff time and collaboration.

## 6. Other Potential Changes to Council Processes

### *6.1 Overview*

In reviewing Council documents and in consultation with Council and NMFS staff, several process-focused ideas emerged in addition to the EFP recommendations detailed above. Of the three discussed below, two are intended to shorten Council decision-making timelines, particularly with regard to more complex actions, and one is focused on helping the Council gauge whether its management process is becoming more or less flexible over time.

### *6.2 Improving procedural efficiency during the initial stages of Council actions*

As discussed above in Section 1.2.2 (Cross FMP Challenge #1: Responsiveness to Rapidly Changing Conditions), timelines for many Council actions that are not routine management measures, inseason actions, or harvest specifications can sometimes take multiple years to reach

Council final action. While the length of these timelines is often at least partially a function of the complexity of the action being considered, the primary slowdowns appear to be clustered around the scoping and ROA development phases of the timeline – where changes to the scope of an action have necessitated modifications to ROAs, or where the Council has revisited/reconfirmed ROAs for other reasons during the course of an action. This suggests that there may be a need to better define the problem being addressed by the action in question, which could in turn help point to a clearer purpose and need statement or more focused ROA.

To this end, the Council could consider exploring a process to ensure scoping and ROA development continue to receive rigorous consideration with ample opportunities for public engagement and input while also avoiding multiple rounds of reconsideration. In a 2024 Program Review for the Mid-Atlantic Fishery Management Council (MAFMC), the authors identify a number of steps that may help to limit the timeline associated with these initial stages of an action:

- Ensure that the problem being addressed by the action is well-defined and clearly articulated, including through specific guidance from the Council during the development of a purpose and need statement.
- At regular intervals, conduct check-ins at Council meetings to:
    - Confirm the purpose and need statements for management actions;
    - Ensure an issue is still relevant; and
    - Communicate the status of information gathered (e.g., what information is needed to further consider an action, timelines to complete an action, potential repackaging of certain issues to save time).[24]

The MAFMC Program Review notes that by carefully defining the problem and conducting regular status updates, the MAFMC may be better able to avoid scope expansion while limiting the number of revisions to a purpose and need statement and/or an ROA. A similar approach could benefit the Council as well, given that process pinch points show up in similar places for both Councils (during scoping and ROA development). An important consideration with such an approach would be whether these check-ins end up extending the time needed to reach final action. As an immediate next step, the Council could perform a more granular analysis of a broader selection of representative actions to better pinpoint the exact sources and causes of slowdowns.

*6.3 Increasing procedural efficiency through frontloading*

As also discussed in Section 1.2.2, another source of slowdowns in Council decision-making processes appears to be the lag time between Council final action and transmittal to NMFS. While several of the actions analyzed in Table 1a and 1b in Appendix A show relatively short intervals between final action and transmittal, more complex actions experienced significant lag time, including one where the interval accounted for 45% of the action's overall timeline. While many circumstances contribute to such lengthy intervals, it's possible that the Council may be

[24] The Parnin Group, Mid Atlantic Fishery Management Council Program Review, July 2024.

able to make more efficient use of frontloading procedures to shorten the time between final action and transmittal.

NMFS's Operational Guidelines promote frontloading, which they define as follows:

> Frontloading is the practice of involving relevant reviewers and contributors, and identifying legal and policy considerations, as early in the process as possible. Frontloading may require more investment of time upfront, but should help identify potential problems early and prevent them from becoming bigger problems in later stages of review and implementation.

NMFS's additional guidance on complying with other individual laws, such as the Endangered Species Act and NEPA, carry forward this concept and likewise promote frontloading. In fact, the Draft Procedural Directive on NEPA (PD 09-103-01) discusses frontloading and integrated analyses to promote procedural efficiency. The Council regularly uses both. COP 11 specifies the process for developing an FMP amendment proposal over at least three Council meetings that generally aligns with NEPA procedures. At the first of these meetings the Council scopes the issue and sets a decision-making schedule taking into account how statutory mandates will be addressed. At the second of these meetings it "decides on the issues and the range of alternatives to be included in the amendment, [and] selects preferred alternatives, if possible."[25] At the third of these meetings the Council "adopts the final amendment for implementation by the Secretary of Commerce." This is often construed as selecting the "final preferred alternative" with a "preliminary preferred alternative" selected at an earlier meeting. While this COP suggests that statutory mandates should be addressed during the Council decision-making process, it does not clearly incorporate the idea of frontloading. A future revision of COP 11 could better align it with the language in NMFS's guidance on complying with other applicable laws in this regard.

While frontloading is often used in the Council process, there may be opportunities to make it more effective if, as suggested, addressing statutory mandates is a factor in why transmittal lags final action. More generally, closer coordination between the Council and NMFS on implementation capacity may help shorten this lag time. The Council could approach its decision-making more strategically so that NMFS is able to embark on the implementation process (Secretarial review and rulemaking) more expeditiously. The Council and NMFS already do this to some degree for actions related to the Groundfish FMP. The Council schedules a recurring item on its March meeting agenda entitled "Workload and New Management Priorities." Council advisors and the public have an opportunity to propose fishery management changes and the Council may prioritize the resulting list. This mechanism could be evaluated to see if it results in greater coordination and speeds up implementation, perhaps including a review of how problems are initially defined. Depending on the results of such an evaluation, a broader strategic look at all Council workload could be considered.

[25] NEPA, at section 102(2)(C)(iii) requires consideration of "a reasonable range of alternatives to the proposed agency action" and requires analysis of potential negative effects of the no action alternative. Section V.B in draft Procedural Directive 09-103-01 provides further guidance on selecting reasonable alternatives and defining the no action alternative.

*6.4 Assessing Council actions for flexibility*

Because the CCI serves as the foundation for Potential Future FEP Initiative 2.8 and therefore the Adaptive Management project, it may be constructive for the Council to revisit the recommendations that emerged from the CCI with an eye toward identifying actions that would be suitable for further advancement under this project. Some of these recommendations appear elsewhere in this paper, such as the development of if-then statements (see Section 4). Another CCI recommendation that could potentially support the Council in its effort to build more flexibility into management is:

- During potential Council actions to select preliminary preferred or final preferred Council alternatives, staff analyses of alternatives presented to the Council should evaluate and discuss whether alternatives would create more or less flexibility for fishery participants.[26]

This potential action could assist the Council in proactively assessing whether its management actions and decisions are contributing to or reducing flexibility in management. In conducting this evaluation at the level of individual actions and decisions, the Council may be better able to determine if its overall management process is becoming more or less flexible over time, particularly if results are tracked and reported on across FMPs to detect trends. Such an assessment would very likely lead to instances where the Council selects an alternative that reduces flexibility in order to meet other objectives, but this tradeoff could be explicitly considered when the Council is weighing the benefits and impacts of the policy options being proposed. In this respect, a flexibility assessment could mirror the work being undertaken in another of the Council's special projects, Decision Making for Stronger Fishing Communities, which calls for the development of tools that allow the Council to determine if an action increases or decreases resilience in West Coast fishing communities.

As a possible next step, Council staff could propose a simple rubric for conducting flexibility assessments while considering an appropriate vehicle for formalizing an associated process. A key question would likely be the amount of time such an analysis would add to Council staff workload and to the decision-making timeline; it will be important to ensure that any additional process steps are straightforward and streamlined, perhaps relying on a simple questionnaire or similar tool. Another consideration is the relationship between flexibility and stability. While the ability to be responsive to change is clearly important, it can also lead to more frequent changes to management advice; the Council may wish to identify a means of assessing when and whether a specific need for flexibility exists, or if stability in a given situation is preferred.

*6.5 Potential next steps*

For the above three potential actions, the Council could consider bundling them as a consolidated action focused on Council processes, or select one or two that may be ripe for near-term review and further exploration. In each case, it's possible that the action in question could be

[26] Pacific Fishery Management Council, Agenda Item H.3.a, EWG Report 1, March 2024.

implemented through a COP revision, perhaps allowing for relatively quick implementation over the course of several months.

## 7. Improving Timeliness of Data Streams and Uptake of Local and Traditional Knowledge

### *7.1 Overview*

During discussion of the Adaptive Management project at the April 2025 meeting, Council members acknowledged broad challenges associated with data collection, processing, and analysis, particularly in terms of the timeliness of data used in the Council process. Some of these challenges are driven in part by constraints and dynamics that are beyond the immediate purview or control of the Council or its partners at NMFS West Coast Region and the Northwest and Southwest Fisheries Science Centers. At the same time, Council members noted that the Council's ability to act quickly and manage adaptively in the face of rapidly changing conditions depends on its access to timely information that supports its management decisions. This combination of considerations – existing and anticipated challenges around the availability of and access to timely data, coupled with an increasing need for such data to inform responsive and efficient decision-making – led to the inclusion in the Council's April motion for the Adaptive Management project of language calling for an "exploration of ways to improve timeliness of fishery-independent and fishery-dependent data streams, and including local and tribal knowledge."[27]

While this guidance seeks a review of opportunities to improve the timeliness of data streams in general – including through the use of tools such as remotely operated vehicles (ROVs) and environmental DNA (eDNA) – it also points to a potential increased role for local and traditional knowledge in Council decision-making. For the purposes of this scoping document, Council staff focused primarily on the latter, largely due to the fact that a more discrete nexus exists between the Council process and the on-ramping of local and traditional knowledge, as opposed to data collection, processing, and analysis, which are efforts generally undertaken by NMFS, the Science Centers, and state agencies. That said, some of the tools described below also pertain to the timely availability of data streams and seek to underscore potential approaches to shorten data timelines without sacrificing scientific rigor.

We note here that staff has interpreted the Council's guidance in this matter to include two distinct but intersecting pathways: tools that improve the timeliness of and speed at which data can be made available to inform Council decision-making, and ways to better integrate local and indigenous knowledge into Council decision-making as a means of improving data timeliness. In the event further clarification is needed, we request any additional guidance the Council may have at the September Council meeting.

### *7.2 Considering the roles of local and traditional knowledge in Council decision-making*

The incorporation of local (such as fishermen's) knowledge and traditional (or indigenous) knowledge (LKTK) into fisheries management ranges from emerging to well-established across

[27] Pacific Fishery Management Council, Agenda Item C.4, motion in writing, April 2025.

several fishery management councils, and is identified by Drexler at al. (2025) as a near-term action that can help to advance resilience in fisheries management.[28] As described in Drexler et al., the specific benefits associated with diversifying knowledge systems in management can include:

- Bringing together a range of stakeholders and knowledge systems that can better address complex ecosystem and climate challenges.
- Expanding understanding of and ability to manage complex socio-ecological fishery systems in the context of climate change.
- Enabling scientists and managers to evaluate decisions from a perspective that better considers human-environment relationships.
- Increasing participation and stakeholder engagement in management processes.[29]

The potential value of an expanded role for LKTK in the Council process is also highlighted in one of the CCI's follow-up tasks ("Task advisory bodies to explore the use of citizen science and Traditional Ecological Knowledge, through community-based, and collaborative efforts in data collection for tracking climate change."[30]) and in a recent progress review of NMFS's Ecosystem-Based Fisheries Management Policy and Roadmap ("There is also growing recognition that participant knowledge, Indigenous Knowledge, and knowledge co-production are critical for more fully understanding ocean processes and for sustainably, adaptively, and equitably managing marine activities and resources."[31]). Further, a more formal integration of LKTK in Council decision-making may help identify signals of change earlier than conventional stock assessments.

Existing Council processes include some onramps for LKTK, including but not limited to:

- Tribal representation on Management Teams and Ad Hoc Committees.
- Focused Tribal input during the Council's salmon season setting meetings in March and April.
- The opportunity for Tribal reports to be given at any time during Council meetings.
- Fishermen, processor, and at-large representation on Advisory Subpanels.

Through each of these pathways, input or advice may be brought forward for consideration by the full Council, often as part of Advisory Body reports, though we note that these avenues are not necessarily tailored to the provision of data to inform management. If the Council wishes to explore opportunities to better incorporate LKTK into its decision-making processes, particularly as a means to improve timeliness of data streams, it may want to consider standing up a task force or ad hoc committee to identify management procedures and onramps for diversifying

[28] Drexler M, Cerny-Chipman EB, Peterson Williams MJ, Moore M and Ridings C (2025). Harnessing the value of near-term actions for achieving climate-ready fishery management. Front. Mar. Sci. 12:1558251. doi: 10.3389/fmars.2025.1558251
[29] *Ibid*.
[30] Pacific Fishery Management Council, Agenda Item H.2.a, CCCT Report 1, September 2021.
[31] Harvey, C. J., Y. L. deReynier, W. E. Morrison, et al. 2025. "The U.S. Ecosystem-Based Fisheries Management Policy and Road Map: Assessing Progress and Applying Lessons Learned." *Fish and Fisheries* 1–18. https://doi.org/10.1111/faf.70012

knowledge systems and facilitating the co-production of knowledge.[32] Such an entity could be term-limited with a specific charge, and comprised primarily of LKTK holders.

For example, the North Pacific Fishery Management Council established a Local Knowledge, Traditional Knowledge, and Subsistence (LKTKS) Task Force in 2020, the goal of which is to "create processes and protocols through which the Council can identify, analyze, and consistently incorporate TK and LK, and the social science of TK and LK, into Council decision-making processes to support the use of best available scientific information in Ecosystem-based Fishery Management."[33] The Council could consider a similar approach, but adapted to meet the Pacific's specific regional needs and priorities, and perhaps with a focus on the ways in which LKTK can improve the timely availability of data to support Council actions and decisions.

Other Councils have also established protocols or pathways for the collection and use of community science and fishery participant knowledge and observations. These include:

- The South Atlantic Fishery Management Council's Citizen Science Program, which seeks to improve information for fisheries management through collaborative science.
- The Gulf Fishery Management Council's Fisherman Feedback Tool, which provides on-the-water observations gathered directly from fishermen to scientists and managers to help inform understanding of fish stocks.
- The Mid Atlantic Fishery Management Council's Fishery Performance Reports, which summarize fishermen's on-the-water perspectives on a range of factors and are provided annually to the Council to support decision-making.
- The Western Pacific Fishery Management Council's SEEM (Social, Economic, Ecological, Management Uncertainty) process, which merges scientific information with the lived experience of people who depend on ocean resources for social, economic, cultural, and ecosystem benefits as a way to enhance catch advice.

Also, in 2024, the CCIEA team held its first-ever Fishermen and Scientists Roundtable as part of the development of the 2024-2025 ESR. The roundtable was intended to share observations, strengthen collaborations and communication, and learn how to make the ESR more useful for fishermen; it also served as a pilot for discussions about co-developing knowledge "for future ESRs to better inform risk tables, assessments, and management decisions."[34]

If the Council were to consider pathways to further develop LKTK protocols, the above initiatives may provide a starting point for discussion, particularly regarding onramps for local and fisherman knowledge.

*7.3 Considering opportunities to improve timeliness of data streams*

As discussed above, data collection and analysis enterprises generally exist outside the Council's purview. However, through methodology and data review processes, the Council may consider new or modified methodologies to inform stock assessments, salmon abundance and harvest

[32] Drexler et al., 2025.
[33] North Pacific Fishery Management Council, LKTKS Task Force Update, March 2022.
[34] NOAA California Current Integrated Ecosystem Assessment, 2024-2025 Ecosystem Status Report, March 2025.

projections and conservation objectives, groundfish impact analyses, or other data products used in Council decision-making.[35] Methodology reviews could be a way for the Council to investigate improvements to the timeliness of data streams that inform Council actions like the adoption of stock assessments or harvest specifications. One potential approach described by Drexler et al. is using indices of stock abundance to supplement stock assessments on a more frequent basis.[36] This could allow for more timely management responses to short-term changes in stock abundance (provided a candidate index can be identified, an appropriate mechanism exists for reporting the index annually, and the index can be evaluated for its suitability to inform harvest control rules).

Another possible approach to improving timeliness of data streams is specific to the Groundfish FMP and would entail specifying new scientific sorting requirements inseason so that the Council and NMFS could obtain data on a stock of interest based on emergent information. Such an action could possibly be established as a routine management measure, giving the Council the ability to recommend sorting at a specified level in the event certain information is needed. Collaboration with NMFS and the Science Centers would be necessary to help ensure that the data generated via such a measure is useful in/usable by stock assessment scientists and others.

*7.4 Potential next steps*

The Council could consider putting out a call for information regarding the collection and use of, as well as onramps for, LKTK in the Council process. That information could then be reviewed to identify pathways for (and any gaps regarding) more formal integration of LKTK into Council decision-making, with a focus on improving timeliness of data streams. From there, the Council, with Advisory Body and public input, could determine a process for implementation of recommended next steps (e.g., capturing LKTK in science products). However, the uptake of any recommendations might fall outside the timeline of the Adaptive Management project.

Similarly, the Council could consider initiating one or both of the potential actions around improving data timeliness, recognizing that additional concepts may be brought forward in Council discussion. The groundfish scientific sorting requirements item could move somewhat quickly if implemented as a routine management measure, while actions requiring methodology review would take more time and likely benefit from a high degree of collaboration with NMFS and the Science Centers.

## 8. FMP-Specific Priorities and Opportunities

In describing FMP-specific challenges above in Section 1.2.4, and in the discussion of if-then statements in Section 4, a number of FMP-specific opportunities were identified where increased flexibility or efficiency could help improve the Council's ability to respond to rapid or unexpected changes. These are reiterated below in list form, and could be further expanded upon or advanced either as individual actions or as a package of multiple actions. Advisory Bodies, the public, and the Council may also recommend additional actions for consideration.

[35] Salmon methodology review procedures are described in COP 15, Groundfish methodology review procedures are described in COP 25, and CPS methodology review procedures are described in COP 26.
[36] Drexler et al., 2025.

*Coastal Pelagic Species*

- Continued progress on Science and Management Priorities identified by the Council in April 2025.
- Exploration of pathways to allow for inseason catch accounting of Pacific sardine.
- Improved Council EFP processes focused on flexibility, timeliness, and the collection of fishery-dependent data in the absence of a directed fishery.
- Evaluation and development of new methods to bolster CPS surveys, particularly in nearshore areas.

*Groundfish*

- Development and application of if-then statements that enable action outside of or between Council meetings.
- Allowing for more inseason actions and possible expansion of the list of routine management measures.
- Continued progress on development and implementation of the Groundfish Harvest Specifications Flexibility action, which is currently underway.
- Consideration of additional flexibility-focused items from the 2025 Groundfish Workload and New Management Measures list, such as allowing vessels to switch declarations at sea.

*Highly Migratory Species*

- Improved Council EFP processes focused on flexibility, timeliness, and accelerating the development of new gear types and fishing methods (and noting that this work is already underway via the Ad Hoc HMS FIW).
- Using NEPA to frontload future management options and reduce the necessary workload to consider and analyze individual FMP/regulatory changes.

*Salmon*

- Development and application of if-then statements to enhance flexibility, specifically with respect to preseason modeling forecasts, allowing for timely and appropriate model adaptations when/if needed.

## 9. Other Items for Consideration or Discussion

### *9.1. Programmatic NEPA Documents*

In addition to the tools described above in the Scoping section of this paper, additional ideas related to NEPA and other analytical requirements may be appropriate for further exploration as well. Currently, for NEPA analyses, the Council utilizes a "tiering" process, incorporation by reference, and integrated alternatives, particularly in the Groundfish FMP. Council staff and Advisory Bodies also use frontloading of analysis to expedite NEPA analyses or other analytical requirements. However, there may be ways to gain greater efficiencies in these processes. As an example, moving to a programmatic Environmental Impact Statement (PEIS) and then completing Supplemental Informational Reports (SIRs) to update any impacts, as done in the

North Pacific Fishery Management Council, may help to expedite Council actions and associated rulemakings by NMFS. The MAFMC's 2024 Program Review describes some of the potential benefits associated with developing a PEIS:

- Can help to manage programs holistically, analyze cumulative impacts, streamline actions, address workload challenges, and incorporate more climate scenario/impact modeling information.
- Can reduce workload over time when conducting routine actions, reduce repetitive analyses, and provide a broader range of considerations for actions that are routine or conducted at specific intervals.
- Can establish a baseline analysis to tier from when analyzing a new action and its impacts within the scope of the original impact analysis.[37]

NMFS West Coast Region staff are currently exploring the possibility of revising the groundfish programmatic NEPA document in conjunction with the Groundfish Harvest Specifications Flexibility work taking place in parallel with the broader components of the Adaptive Management project. Benefits from doing so could accrue in the form of shorter specifications processes, more automatic actions and routine management measures, and related efficiencies.

Because programmatic NEPA documents are by definition comprehensive, the workload and time required to develop one could be substantial and likely fall outside the timeframe of the Adaptive Management project. As a result, we are not recommending that a broader programmatic effort be considered as part of the scope of this project, but wanted to note here that the Council may wish to discuss such an approach in the future, given its potential to improve flexibility and responsiveness in the Council process.

*9.2 Continued progress on Council Priorities and Efficiencies*

In June 2024, the Council provided guidance and set benchmarks to improve operational efficiency, reduce costs, enhance public participation, and strengthen decision-making processes based on the Executive Director's recommendations (Attachment 1, Agenda Item C.2, Attachment 1, June 2024). These recommendations were an outgrowth of the Committee of the Whole (COTW) meeting and associated recommendations to consider changes to Council priorities and to the way in which operations are conducted. The Council's work to improve its operational efficiency also aligns with a suggestion coming out of the CCI, which noted the relationship between flexibility and efficiency: "Evaluate whether the Council process itself is adequately flexible by reviewing the recommendations made under the Council Meeting Process and Efficiency agenda item from April 2023 [an agenda item that preceded and helped to inform the COTW process]."[38]

This relationship between flexibility and efficiency may also extend to the Council's ability to respond quickly to rapid or unexpected changes, given that the more efficient the Council's operations are, the faster it may be able to act in general. This may not always result in quicker

[37] MAFMC 2024 Program Review
[38] Pacific Fishery Management Council, Agenda Item H.3.a, EWG Report 1, March 2024

decision-making timelines, as operational efficiencies can be distinct from procedural efficiencies, but the continued implementation of Council Efficiencies will very likely contribute broadly to the success of efforts to improve the Council's flexibility and adaptive capacity.

As noted in an April 2025 update to the Council on Council Efficiencies, significant progress has been made to date on the recommendations stemming from the COTW, though some of the more challenging tasks remain. This work is proceeding under a separate effort and therefore does not need to be included in the scope of the Adaptive Management project, but its discussion here is intended to highlight the connection between flexibility and efficiency as well as to provide additional context regarding the Council's work in both areas.

*9.3 Responsiveness to 2025 Seafood Executive Order*

In April 2025, Executive Order (EO) 14276, *Restoring American Seafood Competitiveness*, was published in the Federal Register. Section 4 of the EO requires that each Regional Fishery Management Council submit a prioritized list of recommended actions to reduce burdens on domestic fishing and to increase production of sustainable fisheries. Building upon EO 13921 from 2020, *Promoting American Seafood Competitiveness and Economic Growth*, EO 14276 specifies that identified actions should stabilize markets, improve access, enhance economic profitability, and prevent closures. At its June 2025 meeting, the Council adopted a motion that lays out a plan for responding to the EO's requirements.[39]

Among the items identified for inclusion on the Council's list of recommended actions, to be finalized at the September 2025 meeting, are the three Special Projects. While not regulatory in nature, the projects may lead to future FMP amendments and associated regulations. And in the case of the Adaptive Management project, the Council may opt to implement select actions that are especially responsive to the EO in that they improve the Council's EFP processes, expand the Council's use of data and tools informed by real-time ocean conditions, and otherwise advance innovation and flexibility in Council-managed fisheries.

As with the Council Efficiencies work described above, the Council's response to the Seafood EO does not need to be part of the scope of the Adaptive Management project. However, as there are linkages between the two, it is included here in order to highlight those intersections and to provide additional context around the flexibility, responsiveness, and innovation challenges that the Adaptive Management project seeks to address.

**10. Next Steps**

This paper describes a range of potential actions and issues that could inform the Council's consideration of a scope for the Adaptive Management project. Some of these are cross-FMP in nature (e.g., EFP process improvements and other procedural efficiencies) while others may be FMP-specific (e.g., tailored if-then statements). Given the project timeline and Council staff resources, it will likely be necessary to focus on a subset of actions that can reasonably be developed by 2027.

[39] Pacific Fishery Management Council, Agenda Item D.2, preliminary draft motion in writing, June 2025.

To help support the Council's discussion in this matter, Council staff will prepare a Supplemental Attachment under this agenda item which will outline possible packaging options for categories of actions. Using the framing questions in Section 3, the Supplemental Attachment will include a review of potential prioritization criteria and recommendations for applying these criteria to a selection of the actions included above.

## Appendix A – Review of Recent Council Action Timelines

**Table1a. Key milestones in implementation process for selected Council actions (regulation + amendment).**

| Action | Groundfish harvest specifications and management measures for 2023-2024 (including Amendment 30) | Groundfish FMP Amendment 28: Essential fish habitat | HMS FMP Amendment 6: Authorization of a deep-set buoy gear fishery |
|---|---|---|---|
| Type | Regulation + Amendment | Regulation + Amendment | Regulation + Amendment |
| Council initiates | 6/30/2021 | 4/16/2015 | 3/14/2016 |
| Council final action | 6/14/2022 | 4/10/2018 | 9/18/2019 |
| Council transmittal | 8/29/2022 | 6/15/2019 | 12/21/2022 |
| FMP secretarial decision | 11/29/2022 | 9/9/2019 | 3/31/2023 |
| Proposed rule | 10/14/2022 | 8/15/2019 | 2/6/2023 |
| Final rule | 12/16/2022 | 11/19/2019 | 5/9/2023 |
| Rule effective date | 1/1/2023 | 1/1/2020 | 6/7/2023 |
| Time Intervals (in days) | | | |
| Council process | 349 | 1090 | 1283 |
| Final action-transmittal | 76 | 431 | 1190 |
| Transmittal-Secretarial decision | 92 | 86 | 100 |
| Transmittal-Effective date | 125 | 200 | 168 |
| Total time | 550 | 1721 | 2641 |
| Council action % | 63% | 63% | 49% |
| Final action-transmittal % | 14% | 25% | 45% |
| Transmittal-effective date % | 23% | 12% | 6% |

**Table 1b. Key milestones in implementation process for selected Council actions (regulation only).**
***The Secretarial approval date is used for this calculation.**

| Action | Pacific Whiting Utilization in the At-Sea Sectors | Salmon 2024-2025 season management | Salmon Amendment 21: SRKW |
|---|---|---|---|
| Type | Regulation | Regulation | Amendment |
| Council initiates | 11/20/2019 | 3/13/2024 | 4/16/2019 |
| Council final action | 3/14/2022 | 4/11/2024 | 11/20/2020 |
| Council transmittal | 8/1/2022 | 4/22/2024 | 5/25/2021 |
| FMP secretarial decision | | | 8/31/2021 |
| Proposed rule | 9/13/2022 | | |
| Final rule | 12/16/2022 | 5/21/2024 | |
| Rule or amendment effective date | 1/17/2023 | 5/16/2024 | 9/13/2021 |
| Time Intervals (in days) | | | |
| Council process | 849 | 29 | 584 |
| Final action-transmittal | 136 | 11 | 186 |
| Transmittal-Secretarial decision | | | 98 |
| Transmittal-Effective date | 169 | 24 | |
| Total time | 1154 | 64 | 868 |
| Council action % | 74% | 45% | 67% |
| Final action-transmittal % | 12% | 17% | 21% |
| Transmittal-effective date % | 15% | 38% | 11%* |

## Appendix B – Meeting Requirements by FMP

*Coastal Pelagic Species*

Types of Actions and Procedures:

- Management measures may be imposed, adjusted, or removed at any time during the year. Management measures may be imposed for resource conservation, social, or economic reasons consistent with FMP procedures, goals, and objectives.
- Categories of management actions:
    - Automatic actions – no notice and comment; no Council meetings (for actions that are non-discretionary and where the impacts have previously been taken into account).
    - Notice actions – require at least one Council meeting and one Federal Register notice (these include all management actions other than automatic actions that are either non-discretionary or have probable impacts that have been previously analyzed).
    - Abbreviated rulemaking actions – normally require at least two Council meetings and one Federal Register rule (these include all management actions intended to

have permanent effect and be discretionary in nature with impacts that have not been previously analyzed).
    - Full rulemaking actions – normally require at least two Council meetings and two Federal Register rules; usually used for highly controversial management measures (these include any highly controversial management measure).

Routine Management Measures:

- Once a management measure has been classified as routine through the abbreviated or full rulemaking procedures, it may be modified thereafter through the single meeting notice procedure if (1) modification is proposed for the same purpose as the original measure; and (2) impacts of the modification are within the scope of the impacts analyzed when the measure was originally classified as routine.

*Groundfish*

General Procedures for Establishing and Adjusting Management Measures

- Management measures are normally imposed, adjusted, or removed at the beginning of the biennial fishing period, but may, if the Council determines it necessary, be imposed, adjusted, or removed at any time during the period. Management measures may be imposed for habitat protection, resource conservation, or social or economic reasons consistent with the criteria, procedures, goals, and objectives set forth in the FMP.
- Categories of management actions:
    - Automatic actions – no notice and comment; no Council meetings (these actions are nondiscretionary, and the impacts must be reasonably accountable, based on previous application of the action or past analysis).
    - Notice actions requiring one Federal Register notice – may be recommended at one Council meeting or by NMFS outside of a Council meeting for certain actions (these include all management actions other than automatic actions; may be nondiscretionary; may be actions for which the scope of probable impacts has been previously analyzed).
    - Management measures rulemaking for actions developed through three-meeting biennial specifications process – three Council meetings and two Federal register notices (these include (1) management measures to be classified as routine the first time these measures are used; or (2) adjustments to measures previously classified as routine, such as trip limits that vary by gear type, closed seasons or areas, and in the recreational fishery, bag limits, size limits, time/area closures, boat limits, hook limits, and dressing requirements or (3) new management measures, which are those management measures where the impacts have not been previously analyzed and/or have not been previously implemented in regulations).
    - Full rulemaking actions – normally require two Council meetings and two Federal Register rules (these include any proposed new management measures to be classified as routine, including those considered highly controversial, or any measure that directly allocates the resource; also includes regulatory measures to implement an FMP amendment).

Routine Management Measures

- Routine management measures are those that the Council determines are likely to be adjusted on an annual or more frequent basis. The Council will classify measures as routine through either the specifications and management measures or full rulemaking processes. In order for a measure to be classified as routine, the Council will determine that the measure is appropriate to address the issue at hand and may require further adjustment to achieve its purpose with accuracy.
- Once a management measure has been classified as routine through one of the two rulemaking procedures outlined above, it may be modified thereafter through the single meeting notice procedure only if (1) the modification is proposed for the same purpose as the original measure, and (2) the impacts of the modification are within the scope of the impacts analyzed when the measure was originally classified as routine.

*Highly Migratory Species*

Biennial Process for Specifying Management Reference Points and Management Measures

- Management measures may be imposed for resource conservation, or social or economic reasons consistent with FMP procedures, goals and objectives.
- Under most framework procedures, management measures may be established, adjusted or removed using the following categories of actions:
    - Automatic actions – may be made effective immediately in a single Federal Register notice (these include actions that are nondiscretionary and which have already been analyzed in advance).
    - Notice actions – require at least one Council meeting and one Federal Register notice (these are management actions other than automatic actions that are either nondiscretionary or within the scope of a previous analysis).
    - Abbreviated rulemaking actions – normally require at least two Council meetings and one Federal Register notice (this process is used only when time is insufficient to use the full rulemaking process).
    - Full rulemaking require actions – at least two Council meetings and two Federal Register notices consisting of proposed and final rules (these include any proposed management measures not falling within the other categories, including measures that are highly controversial or that directly allocate a resource, such as regulatory amendments or adjustments to change management rules).

*Salmon*

Inseason Management Actions and Procedures

- Inseason modifications of the regulations may be necessary under certain conditions to fulfill the Council's objectives. Inseason actions include “fixed” actions (e.g., automatic season closures when a quota has been reached) or “flexible” actions (e.g., modification of quotas and/or fishing seasons).
- Inseason actions are taken by the Secretary of Commerce through the NMFS Regional Administrator and do not require a Council meeting or Federal Register notice (notice of inseason actions will still be filed with the Office of the Federal Register as soon as is practicable).

FMP Amendment

- Depending on the required environmental analyses, the amendment process generally requires at least a year from the date of the initial development of the draft amendment by the Council. In order for regulations implementing an amendment to be in place at the beginning of the general fishing season for salmon (May 16), the Council will need to begin the process by no later than April of the previous season.

PFMC
08/28/25