

HIGHLY MIGRATORY SPECIES MANAGEMENT TEAM REPORT ON THE HIGHLY MIGRATORY SPECIES ROADMAP

The Highly Migratory Species Management Team (HMSMT) recommends the Pacific Fishery Management Council (Council):

- 1) Adopt the components of the draft HMS Roadmap in Appendix A.
- 2) Provide guidance on inclusion of any additional content and the Terms Appendix in the HMS Roadmap.
- 3) Revise HMS Roadmap goal D by removing “Climate-Ready Fisheries and”.
- 4) Clarify the roles of the HMSMT, HMS Advisory Subpanel (HMSAS), and the Fisheries Innovation Workgroup in further development of the HMS Roadmap.
- 5) Request the annual drift gillnet (DGN) bycatch summary report as an informational report instead of agendizing it for floor time (action item 4a).

HMS Roadmap Action Items

Based on discussions with the (HMSAS), the HMSMT provided draft action items for Council consideration (see November 2023 [F.3.a, HMSMT Report 1](#) and March 2024 [I.3.a, HMSMT Report 1](#)). The HMS Advisory Bodies discussed actions listed in these reports as reflective of ongoing and future actions the Council may take to support the HMS Roadmap goals. While the HMSMT grouped the action items either under goals they supported or by topic, items were not further categorized as supporting steps or sub-actions. In preparing the draft HMS Roadmap (Appendix A), the HMSMT reviewed the proposed actions in these earlier reports as well as the California Department of Fish and Wildlife (CDFW) report (November 2024 [H.4.a, Supplemental CDFW Report 1](#)) and further refined some of the language and grouping of actions and supporting analyses based on review of the HMS Roadmap Workshop notes, reports, joint sessions, public comment, and Council guidance.

The HMSMT discussed the proposed revisions of the action items provided in CDFW Report 1 and agreed with the deletion of five of these (1b, 3a, 4b, 4c, 6b and 7b), two of which were incorporated into another revised action item (4b and 4c into 4a). In addition, the HMSMT agreed that action items 1c and 6d should be deleted. However, for the remaining deletions proposed by the CDFW report (2c, 3b, 5b and 6f), the HMSMT felt these were worth retaining with some refinement.

The remaining action items were then organized into four groups:

1. Explore and Establish Management Strategies and Objectives
2. Develop Exempted Fishing Permit (EFP) Framework
3. Develop Fishery Management Decision-support Tools and Analyses
4. Continue DGN Fishery Monitoring

The following section provides considerations underpinning the HMSMT’s recommendation for action items in a draft HMS Roadmap.

1. Explore and Establish Management Strategies and Objectives

- a. *Evaluate the need for developing bycatch monitoring, performance metrics~~standards~~, and finfish retention rates for managing in other HMS fisheries and ~~under~~ EFPs. (Formerly 2a. Also supports EFP Framework Development)*

Edits aim to standardize terminology across action items and Council documents (“performance metrics” instead of “performance standards”) and clarify action intention. “Other” is unnecessary as it is a remnant from a previous version of the draft action.

- b. *Define acceptable levels of bycatch/bycatch mortality ~~for protected and non-marketable species~~ to be used in evaluation and management of HMS EFPs and authorized fisheries. (Formerly 2b. Also supports EFP Framework Development)*

The HMSMT discussed the suggestion to include “for protected and non-marketable species” in the language of this action item but considered this language redundant as the Council will not need to define acceptable levels of “bycatch” for target species. The definition of bycatch developed for the HMS Roadmap Workshop Terms Appendix does not include marketable species, so we recommend deleting the struck-out clause to avoid redundancy.

- c. *Define harvest goals for target HMS within the international context and consistent species with ~~within internationally agreed to catch~~ or effort limits to which the United States has agreed. (Formerly 5c)*

The team agreed with the edits in the CDFW in concept, but recommended alternative text to clarify that efforts to define harvest goals do not need to be limited to target species for which there are existing internationally agreed to catch limits.

- d. *Evaluate the harvest levels and market demand of HMS to develop a list of priority species for development of alternative fishing practices. (Formerly 5a)*

No edits

- e. *~~Test~~ Consider use of individual accountability management approaches. (Formerly 3b - CDFW proposed for deletion)*

The HMSMT discussed the meaning of individual accountability management approaches as a means to maintain fishing opportunities for individuals who have not been engaged in unwanted or adverse fishing activities (e.g., entanglements or mortalities of protected species). With this interpretation, the HMSMT sees value in this action item as a potential future management strategy for use with EFP activities or future HMS fisheries.

- f. *Promote resilience in community-level benefits from HMS fisheries. (Formerly 8a)*

No edits

- i. *Identify fleets, fishing practices or gears that may be more flexible and/or adaptable given current and anticipated environmental conditions–~~climate change~~. (Formerly 7a)*

Edits aim to increase readability and broaden the scope of environmental factors that should be considered, including changes to oceanic, atmospheric, ecosystem, and socioeconomic conditions.

- ii. *Identify characteristics or resources that would position communities to support HMS fisheries given current and anticipated environmental conditions–~~climate change~~. (Formerly 8b)*

Edits aim to broaden the scope of environmental factors that should be considered, including changes to oceanic, atmospheric, ecosystem, and socioeconomic conditions.

2. Develop EFP Framework

- a. *~~Increase~~ Facilitate the use of EFPs to expand options for HMS fisheries ~~explore new fishing methods and gear types to more fully access underutilized HMS fisheries stocks~~. (Formerly 5d)*

The HMSMT agreed the term “facilitate” rather than “increase” was better suited to the Council’s role in using EFPs as a tool to expand options for HMS fisheries and preferred to place emphasis on expanding options for HMS fisheries consistent with the Council’s objectives for hosting its June 2024 stakeholder workshop, rather than on increasing the number of individual EFPs issued.

- b. *~~Develop an set of EFP guidance, including program standardized~~ Council application requirements, application review criteria, and gear performance metrics to meet Council management and data needs. (Formerly 6a)*

Edits aim to clarify the scope and intent of Council input on considerations underpinning issuance and evaluation of EFPs.

- c. *~~Define “economic viability” and “minimal conservation impacts” for the~~ Support the development of EFPs which useutilizing new approaches to achieve economic viability balanced with minimal conservation objectives ~~impacts~~. (Formerly 6c)*

The HMSMT defined “economic viability”¹ in the HMS Roadmap Terms Appendix. If the Council desires edits to that definition, the HMSMT recommends these changes be made in the Terms Appendix and not in an action item. Similarly, the HMSMT did not see value in defining “minimal conservation impacts” as an essential component of this action item. Rather, the HMSMT recommends rewording the term “minimal conservation impacts” to

¹ “The ability to generate sustained revenue to cover operating costs, including a source of livelihood to producers, and providing a sufficient return on capital investment such that it encourages ongoing participation in the operations.” [Terms Appendix, March 2024 Agenda Item 1.3.a, Supplemental HMSMT Report 2](#)

“conservation objectives” in an effort to better clarify the intent of the action item. The HMSMT notes that conservation objectives (such as “acceptable bycatch”) are addressed under other action items in this Roadmap (such as 2b). The HMSMT views this action item as intended to emphasize use of approaches that can achieve economic viability on balance with conservation objectives that appear elsewhere in this Roadmap or the FMP or both. Lastly, “which use” expresses a broader applicability than does “utilize” and better captures the intent of the action item.

- d. ~~*Facilitate the use of Use EFPs to explore the feasibility of fishing practices and/or management strategies which expand on utilize relevant components of existing gear types, to explore alternative fishing practices or management strategies for increased HMS production while limiting bycatch.*~~ (Formerly 6e)

The HMSMT discussed action items 6d and 6e and agreed that the intent of these two items could be expressed as a single action item. Exempted fishing permits for alternative fishing practices could build on experience with existing fishing methods, including those employed in other parts of the world, and expand opportunities to explore alternatives to enhance operational efficiency or mitigation, or both. In this sense, this action item encompasses the former action item 6d. For example, the Council could consider expanding the use of deep-set buoy gear (DSBG) through exemptions to existing regulations on specifics of gear configuration, or alternative observation or monitoring methods.

- e. ~~*Evaluate currently authorized Deep-Set Buoy Gear and consider whether these configurations could be scaled up (additional pieces of gear, different sized footprints, use of satellite buoys, etc.) under EFPs.*~~ (Formerly 6d)

The HMSMT recommends deletion of this action item as the rewording of action item 2d (formerly 6e) incorporates the intent and a stand-alone action is not needed.

3. Develop Fishery Management Decision-support Tools and Analyses

- a. *Document sources of U.S. swordfish supply, considering all domestic and foreign caught HMS and the potential to mitigate conservation impacts and reduce the seafood trade deficit.* (Formerly 4a & 4b)

“Seafood” was added before “trade deficit” to clarify it was not in reference to the national trade deficit (aggregate U.S. imports less exports), but rather the seafood trade deficit², which is the excess of U.S. seafood imports over seafood exports

- b. *Support ongoing efforts to develop and implement electronic monitoring.* (Formerly 2d)

No edits

² https://ers.usda.gov/sites/default/files/_laserfiche/Charts/108473/Aquaculture.png?v=97811.

- c. *Explore the use of dynamic ocean modeling tools, such as EcoCast, as part of an individual accountability-based management strategy. (Formerly 7c)*

No edits

- d. *Evaluate overall net economic benefits of producer and consumer surplus in HMS fisheries operations. (Formerly 5b - CDFW proposed for deletion)*

Edits to this action item aim to provide a more complete measure of the economic value of HMS fisheries operations than would an evaluation of just consumer and producer surplus. While the CDFW report suggested deletion of this action item, it encompasses important economic considerations for the Council's work under the Roadmap. Overall net economic benefits are the benefits of HMS fisheries operations (including producer surplus, consumer surplus, and multiplier effects) minus the costs (such as the nonmarket value of any bycatch impacts generated by HMS fisheries operations).

Producer surplus is generated when U.S. seafood producers catch and sell enough fish to generate revenues in excess of operating costs. Consumer surplus is created when U.S. consumers are able to purchase HMS at a lower cost than the value they place on consuming it. Multiplier effects of U.S. fisheries operations include indirect effects, due to purchases of goods and services to support U.S. fishing operations, and induced effects, from household spending by workers in the U.S. seafood sector.

Proper calculation of costs should take into account the non-market value of any reduction in bycatch that results from reduced reliance on imports due to increased U.S. production, potentially resulting in an overall reduction in bycatch.

In addition to providing jobs to workers in the U.S. seafood sector and direct, indirect and induced regional economic impacts on the West Coast economy, an increase in U.S. seafood production would likely produce intangible benefits of increased U.S. food security and a reduced carbon footprint of U.S. swordfish consumption.

Additional benefits of U.S. HMS production reflect that (1) locally caught seafood is higher quality due to freshness, (2) the U.S. consumers place value on consuming locally-produced seafood, and (3) U.S. production is more sustainable on average than relying on production in fisheries from which we import, due to stricter U.S. conservation and management measures.

Ultimately, this action item could provide the Council with metrics by which to evaluate the overall economic and conservation benefits of allocating resources to the development and authorization of specific gear types, in the context of economic viability and bycatch concerns.

- e. *Consider impacts of potential competing current and future marine uses (i.e. offshore wind, aquaculture, etc.) in HMS fisheries management. (Formerly 8c)*

No edits

- f. Develop an index of multispecies fishery production as a metric for comparing HMS harvest methods and evaluate bycatch relative to this index. (Formerly 2c & 6f - CDFW proposed for deletion)

~~Evaluate bycatch levels relative to a multispecies index of harvest in the context of population levels, economic impacts, fleets, and fishing effort levels including comparisons with importing HMS caught by foreign fleets. (Action item 2c)~~

~~Development of economic index for multispecies fishery production, as a metric for comparing multispecies swordfish harvest methods (Action item 6f)~~

The HMSMT prefers to retain these action items. The HMSMT proposes combining them into a two-step process for understanding and comparing different HMS fisheries in terms of their economic performance and bycatch impacts. The first step (formerly 6f, now the first stage of 3f) is to develop an index that describes each fishery's overall harvest production/economic performance, accounting for all market species caught and landed. The second step (formerly 2c, now the second stage of 3f) is to evaluate bycatch levels for each fishery relative to its harvest index, taking into account any relevant factors which affect the comparison. This will allow for an easy-to-understand comparison of the bycatch impacts of each fishery in the context of its production.

Variation in production levels across fishing methods adds complexity to evaluating the performance of gears relative to achieving the goal of fully utilizing the swordfish stock while minimizing bycatch to the extent practicable. The work proposed under this Roadmap action would provide a clearer, more objective method for comparing the performance of different fishing methods. For example, producing a metric like "bycatch per unit of harvest" could allow the Council to evaluate the performance in relative terms that more fully captures the benefits and impacts of different sources of HMS supply.

Edits aim to combine the two former action items in a way that simplifies the language and captures the two-step approach the HMSMT intends to take to complete the analyses and provide the information described above. Related to action item 3a, the index could be used to compare domestic and foreign HMS fleet. However, obtaining the needed data for such an effort may be challenging, so while the action item does not preclude comparisons with international fisheries, the HMSMT suggests the Council consider data availability and workload prioritization when developing and applying the multispecies index and related performance metrics.

4. Continue DGN Fishery Monitoring

- a. ~~For each June Council meeting through 2027, continue to report review annual drift gillnet fishery bycatch estimates against performance metrics standards for specified marine mammals and sea turtles, and monitor annual finfish retention rate and observed take of specified species.~~ (Formerly 1a & 1c)

~~For each June meeting through 2027, report annual rare event bycatch estimates for the drift gillnet fishery against Council performance metrics. (Action item 1c)~~

With these edits, the HMSMT aimed to standardize terminology across action items and Council documents (see 1a). In discussion with the HMSAS, the HMSMT heard concerns about the date on which this task would end. Ultimately, the HMSMT decided to remove the reference to 2027 believing that the action item captures the intent to “continue” the practice, and that the reference to the federal mandate in the introduction of the Roadmap captures the sunset of the fishery. It is the HMSMT’s understanding that this action item would be considered complete at that time. There was a general consensus amongst the HMSAS during joint discussion that continued monitoring of the DGN fishery is not the best use of Council floor time. Because bycatch reports are presented six months after the end of a calendar year, any action the Council may wish to take as a result is unlikely to be implemented before the sunset date of the fishery. While understanding the HMSAS’ perspective, the HMSMT also considered that its process for compiling bycatch summaries for the Council is quick and keeps the Council informed. Therefore, the HMSMT suggests the Council consider receiving the DGN bycatch summary as an Informational Report, rather than scheduling floor time for its presentation. This suggested adjustment in process is not intended to affect the amount of observer coverage required by National Marine Fisheries Service for the DGN fleet.

Additional HMS Roadmap Considerations

Revision of Goal D

The HMSMT suggests the Council reconsider the wording of Goal D for the HMS Roadmap. Striking “Climate-Ready Fisheries and” would not add to or subtract from the intent of the Goal nor the Council’s scope of work proposed under the HMS Roadmap but would streamline the language and allow for necessary flexibility moving forward.

Proposed Goal D: Promote ~~Climate-Ready Fisheries and~~ fisheries resilience by developing flexibility in management and other tools to account for changes in HMS distributions, ecosystem structure and function, and the communities dependent on HMS fisheries.

Roadmap Next Steps

The HMSMT requests guidance on whether to include sections that were in the Swordfish Management and Monitoring Plan, such as Council Priorities, Fishery Background (which exists in the FMP), or Fishery Updates (e.g. trends in landings, revenues, price per pound or other attributes) in the Roadmap itself, or as supporting materials for Roadmap agenda items. Additionally, further direction on division of tasks and responsibilities between the Council ABs and the HMS Fisheries Innovation Workgroup would be appreciated.

HMS Roadmap Terms Appendix

At the March 2024 meeting, the Council adopted the HMS Roadmap Terms Appendix for use as a guidance document during the June 2024 HMS Roadmap Workshop. The HMSMT continued to rely on these definitions when proposing edits to action items in the draft Roadmap.

Below, the HMSMT proposes some revisions to the Terms Appendix used during the 2024 HMS Roadmap Workshop by using strikethrough and underlined text. In doing so, the HMSMT

reviewed the definitions in HMSAS Report ([March 2024, Agenda Item I.3a, HMSAS Report 1](#)), and agreed with some of the language in that report. Notably, not all of the terms in the Terms Appendix appear in the draft HMS Roadmap (in Appendix A of this report). Nonetheless, the HMSMT found most of these definitions useful for the purpose of discussing the proposed action items for the HMS Roadmap. The HMSMT recommends the Ad Hoc HMS Fisheries Innovation Workgroup and the Council take them into consideration when determining next steps.

Terms Appendix

The terms and definitions listed below are to provide a clear understanding of the meanings used within the context of the HMS Roadmap and related discussions and work.

1. Bycatch:³ For the discussion here the term “bycatch” is used in a broad context and includes marine mammals and birds, as well as fish (see definition 8 below) that are harvested in a fishery but are not sold or kept for personal use, including economic and regulatory discards (see definitions 4 and 11 below).
2. ~~Climate Ready Fishery: A fishery that incorporates available climate and ecosystem environmental data to support management decisions and the resilience of communities that depend on it.~~
3. Commercial Volume of Landings: A volume of fish or seafood harvested and landed over a specified time period which is necessary for commercial operations to be economically viable~~practicable~~.
4. Economic discards:⁴ For discussion here, fish which are a target of a fishery, but which are not retained because they are of an undesirable size, sex, or quality, or for other economic reasons.
5. Economic production: The use of technology, expert knowledge, labor and energy in the harvesting, processing, and distribution of fish and seafood products for commercial purposes.
6. Economic viability: The ability to generate sustained revenue to cover operating costs, including a source of livelihood to producers, and providing a sufficient return on capital investment such that it encourages ongoing as well as new participation in the activity operations.
7. Economic waste: A loss of economic value due to inefficient allocation or utilization of resources, such as using production processes with higher operating costs or which produce less catch or revenues than the most efficient methods available.
8. Fish:³ The term “fish” means finfish, mollusks, crustaceans, and all other forms of marine animal and plant life other than marine mammals and birds.

³ MSA National Standard 9 requires Councils to consider the bycatch effects of existing and planned conservation and management measures (50 CFR 600.350(b)) and the definition of “fish” in MSA covers “... all ... forms of marine animal and plant life other than marine mammals and birds” (§3(12)). However, guidelines state “Other applicable laws, such as the MMPA, the ESA, and the Migratory Bird Treaty Act, require that Councils consider the impact of conservation and management measures on living marine resources other than fish; i.e., marine mammals and birds” (50 CFR 600.350(e)).

⁴ Discard means to release or return fish to the sea, whether or not such fish are brought fully on board a fishing vessel (50 CFR 600.10). The definitions for economic and regulatory discards are consistent with the definitions provided in statute ([MSA](#)) and the [National Bycatch Reduction Strategy](#).

9. High quality: Fishery products ~~that are landed/supplied in such a~~ delivered in a relatively more desirable condition to meet consumer demand. Higher quality fish will typically command a higher price ~~that yields above average financial return~~.
10. Minimize: Reduce to a level that meets the Council's conservation goals while considering the balance between conservation and economic viability, as it relates to bycatch, discards, and negative impacts to protected and prohibited species.
11. Regulatory discards:⁴ Fish that are caught but discarded because regulations do not allow fishermen to retain the fish.
12. Supporting resilience in fishery operations: Decision making processes that encourage innovation and adaptability of fisheries and fishing practices, management flexibility, and promotion of economic viability.
13. Underutilized Resource: A situation where available resources are not being fully utilized or harvested efficiently to their maximum potential as allowed under applicable laws and regulations.
14. Trade Leakage: In the regional fisheries context, an increase in the U.S. seafood trade deficit resulting from unilateral fishery management policy. For example, policies which reduce domestic harvest may cause an increase in imports from foreign sources of supply in order to meet domestic demand.
15. Trade Leakage/Transfer Effect: Global conservation impacts resulting from trade leakage. The set of aggregate shifts induced by natural resource decision-making — in activity footprints, and consequences for stakeholders and communities, target and non-target species, ecological integrity and overall performance, at whatever scale, from local to global. For example, in the context of West Coast HMS fisheries, the reduction of domestically supplied swordfish is causing an increase in imports from nations with far less stringent management regimes on protected species and other species of concern.

Appendix A: Draft Roadmap

Introduction

The Pacific Fishery Management Council (Council) manages commercial and recreational fisheries targeting Highly Migratory Species (HMS) in federal waters off the West Coast under its Fishery Management Plan for West Coast Fisheries for Highly Migratory Species (HMS FMP). These fisheries include large-mesh drift gillnet (DGN), harpoon, pelagic longline, hook-and-line, and deep-set buoy gear (DSBG). In addition to descriptions provided in the HMS FMP, regulations at 50 CFR Subpart K include fishing gear definitions and specifications as well as operational requirements. Existing regulations prohibit the use of pelagic longline gear within the U.S. Exclusive Economic Zone (EEZ) of the West Coast (out to 200 nautical miles) without an exempted fishing permit (EFP). Similarly, alternative fishing activities that would otherwise be in contravention of the existing regulations would require an EFP and compliance with the terms and conditions of that permit.

The Council is concerned with managing bycatch of unmarketable finfish species and incidental take of protected species in HMS fisheries and EFP activities. National Standard 9 of the Magnuson Stevens Act requires the Council to minimize bycatch to the extent practicable, and bycatch monitoring and reporting methods are described for all fisheries in the HMS FMP. Protected species, including whales, dolphins, pinnipeds (e.g., seals, sea lions), sea turtles, and seabirds have special status under Federal statutes. Existing regulations for HMS fisheries include various mitigation measures to ensure compliance with the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA) and other federal requirements. As a result, bycatch of protected species has been substantially reduced; however, there has also been a coincidental decline in participation in these fisheries, resulting in a decline in landings as well.

Beginning in 2014, the Council solicited applications for EFPs to test alternative approaches or methods to target swordfish and other marketable HMS and drafted a Swordfish Management and Monitoring Plan (SMMP) for a holistic look at ongoing and potential future actions to manage fishing opportunities and bycatch. This plan served as a living document, which the Council periodically discussed when prioritizing workload among the interconnected analyses and management actions listed therein. Given changes in the management landscape in the intervening years, including a mandate to phase-out the DGN fishery by the end of 2027, the Council decided to overhaul the SMMP in 2023 and create this HMS Roadmap as a replacement document. Similar to the role of the SMMP, the Roadmap is intended to augment the Council's planning and prioritization of future workload by offering a holistic view of management considerations for balancing economic viability with conservation objectives in HMS fisheries off the West Coast.

Roadmap Goals:

In March of 2024, the Council adopted goals for guiding workload considerations in the HMS Roadmap. These are as follows:

- A. Support innovation and development of multi-species HMS fishing methods to increase the domestic supply of and meet the demand for swordfish and other marketable species.

- B. Support and test fishing practices that have the potential to be economically viable and consistent with National Standard 9 guidelines.
- C. Support the economic viability of West Coast commercial fisheries for swordfish and associated marketable species through a diverse range of HMS fishing methods.
- D. Promote fisheries resilience by developing flexibility in management and other tools to account for changes in HMS distributions, ecosystem structure and function, and the communities dependent on HMS fisheries.
- E. Engage fishery participants to preserve knowledge and help bolster resilience in future fisheries.
- F. Support recreational HMS fishing opportunities.

Action Items

The actions listed in this HMS Roadmap reflect ongoing and potential future workload of interest to the Council. This workload is interrelated, and implementation of an action or sub-action may impact the nature of work on other actions or sub-actions. Some of the actions and sub-actions require Council decisions, whereas others reflect Council interest in providing guidance on capacity building, tool development, or other analytical functions serving the goals of the Roadmap. The actions in the Roadmap will consider the interconnectedness of commercial and recreational fishing sectors by exploring potential impacts to both fleets where appropriate.

1. Explore and Establish Management Strategies and Objectives

- a. Evaluate the need for developing bycatch monitoring, performance metrics, and finfish retention rates for managing HMS fisheries and EFPs. *(Also supports EFP Framework Development)*
- b. Define acceptable levels of bycatch/bycatch mortality to be used in evaluation and management of HMS EFPs and authorized fisheries. *(Also supports EFP Framework Development)*
- c. Define harvest goals for target HMS within the international context and consistent with catch or effort limits to which the United States has agreed.
- d. Evaluate the harvest levels and market demand of HMS to develop a list of priority species for development of alternative fishing practices.
- e. Consider use of individual accountability management approaches.
- f. Promote resilience in community-level benefits from HMS fisheries.
 - i. Identify fleets, fishing practices or gears that may be more flexible and/or adaptable given current and anticipated environmental conditions.
 - ii. Identify characteristics or resources that would position communities to support HMS fisheries given current and anticipated environmental conditions.

2. Develop EFP Framework

- a. Facilitate the use of EFPs to expand options for HMS fisheries to more fully access underutilized HMS stocks.
- b. Develop EFP guidance, including Council application requirements, application review criteria, and gear performance metrics to meet Council management and data needs.
- c. Support the development of EFPs utilizing new approaches to achieve economic viability balanced with conservation objectives.
- d. Facilitate the use of EFPs which expand on existing gear types, to explore alternative fishing practices or management strategies for increased HMS production while limiting bycatch.

3. Develop Fishery Management Decision-support Tools and Analyses

- a. Document sources of U.S. swordfish supply, considering all domestic and foreign caught HMS and the potential to mitigate conservation impacts and reduce the seafood trade deficit.
- b. Support ongoing efforts to develop and implement electronic monitoring.
- c. Explore the use of dynamic ocean modeling tools, such as EcoCast, as part of an individual accountability-based management strategy.
- d. Evaluate overall net economic benefits of HMS fisheries operations.
- e. Consider impacts of potential competing current and future marine uses (i.e. offshore wind, aquaculture, etc.) in HMS fisheries management.
- f. Develop an index of multispecies fishery production as a metric for comparing HMS harvest methods and evaluate bycatch relative to this index.

4. Continue DGN Fishery Monitoring

- a. For each June Council meeting, continue to report annual drift gillnet fishery bycatch estimates against performance metrics for specified marine mammals and sea turtles, and monitor annual finfish retention rate and observed take of specified species.

PFMC
02/21/25