Agenda Item I.4.a
Supplemental FIW Report 2
November 2025

AD HOC FISHERIES INNOVATION WORKGROUP REPORT ON HIGHLY MIGRATORY SPECIES ROADMAP - EXEMPTED FISHING PERMITS GOALS AND METRICS

The Pacific Fishery Management Council's (Council) Ad Hoc Fisheries Innovation Workgroup (FIW) convened virtually on October 29, 2025. A quorum of FIW members, Council staff (with contractor support), and several members of the public attended the meeting. The National Marine Fisheries Service (NMFS) representative (Mr. Wulff) did not participate due to the ongoing federal government shutdown, and one Council member appointee to the FIW (Mr. Ugoretz) was not available to participate. Consistent with its charge, the FIW continued its work to develop and refine Council procedures to facilitate the more rapid creation of new Highly Migratory Species (HMS) fishing gears and achieve the goals of the HMS Roadmap. The Co-Chairs adjusted the agenda for this meeting to focus on topics that could be considered without NMFS representatives but recognized that the input of NMFS and all FIW members will be necessary to articulate comprehensive recommendations. The FIW focused on the development of benchmarks associated with specific metrics as part of an effort to create a systematic, transparent, and effective evaluation framework for exempted fishing permit (EFP) performance. This supplemental report provides additional details regarding EFP performance goals, performance metrics, and benchmarks, and includes preliminary recommendations for Council consideration and guidance.

Based on the discussions at the October meeting, the FIW offers the following requests for Council feedback/guidance:

- Review and provide feedback on a proposed overall EFP performance goal;
- Review options, including the FIW's preliminary preferred options, for economic and bycatch metrics and benchmarks for evaluating EFP performance and provide any feedback; and
- Review the two options currently under consideration by the FIW for determining a prioritized list of bycatch species needed to calculate species-level benchmarks and provide guidance.

EFP Evaluation - Overall Performance Goal

The FIW considered two options for the overarching goal to guide the evaluation effort: Goal B from the HMS Roadmap and a version slightly more tailored to EFP fishing and evaluation (see Appendix A). The FIW agreed to adopt HMS Roadmap Goal B verbatim (below), stating a preference for its "bigger picture" framing that still encompasses EFPs and innovative gear development. The FIW preferred performance goal reads: "Support and test fishing practices that have the potential to be economically viable and consistent with National Standard 9 guidelines." (HMS Roadmap Goal B).

EFP Evaluation - Performance Metrics

After evaluating a broad set of potential categories and metrics (see I.4.a, FIW Report 1), the FIW narrowed the categories down to economic viability and acceptable levels of bycatch (including

bycatch mortality). The FIW agreed on a specific subset of performance metrics for evaluating EFPs (see Table 1). By establishing a suite of performance metrics that each provides different insights and perspectives, evaluators can produce more comprehensive and holistic assessments of EFP performance than if relying on a single metric alone. One EFP may perform well on certain metrics and worse on others; another EFP may have inverse results. The suite of metrics selected by the FIW allows for the information across all metrics to be considered together, including any tradeoffs with various specific gears/methods. While most of these metrics would be quantitative in nature, the survey assessing fishery operators' views on economic viability would collect qualitative data.

Table 1: Summary of EFP Performance Metrics

Category	**Performance Metric**
Economic viability (qualitative and quantitative)	Fishery operators' view of economic viability assessed through survey responses with EFP holders (to also include questions about operating costs)
Economic viability (quantitative)	● Ex-vessel price per pound ● Catch per unit effort (CPUE) ● Ex-vessel revenue
Acceptable levels of bycatch (quantitative)	Discard rate
Acceptable levels of bycatch (quantitative)	● Individual bycatch-to-catch ratios ● Individual counts of interactions

EFP Evaluation - Fishery Operators' Views on Economic Viability

The FIW discussed the importance of individual fishery operators' views of economic viability of the gear/method tested in the EFP. This information would be collected through a series of focused questions in a survey after an EFP is completed. The FIW recommended keeping the survey simple and focusing on the following two aspects: 1) whether or not the gear/method was profitable, and 2) whether or not the operator would continue using the gear/method if allowed. If the gear/method was not profitable, it would also be valuable to know if the fishery operator has ideas for modifications or adjustments that would produce better economic results.

The FIW also expressed interest in collecting operating cost-related data. Collecting this quantitative information would enable the calculation of net earnings, which could serve as another potential metric; however, technical assistance will be needed to ensure the appropriate methodology. Staff will continue to develop this survey, including drawing from related examples and collaborating with survey experts (including with NMFS when the government reopens).

EFP Evaluation - Economic and Bycatch Benchmarks Development

The FIW discussed the development of a suite of benchmarks as a useful tool/resource in the EFP evaluation process. Benchmarks would be developed for each quantitative metric. They would not

serve as regulatory limits or caps for any HMS EFPs or suggested as caps for future approved fisheries, but rather as points of comparison to help put the results of an EFP into a broader context. The FIW discussed several ways to create these benchmarks, including by calculating percentiles from authorized HMS fisheries datasets or creating an index from average values across HMS authorized fisheries.[1] The summary below provides more details on benchmark-related preliminary preferences (see Table 2 for the full suite of preferred benchmarks).

- *Economic Benchmarks:* For benchmarks to assist in evaluating economic viability, the FIW considered a variety of options (see Table 1 in Appendix A) and generally preferred the approach of calculating benchmarks by using the 10-year averages (means or medians, as appropriate) from a limited number of specific HMS datasets. Averaging across 10 years helps to address any year-to-year variability. This overall approach would allow the Council, Advisory Bodies, and stakeholders to compare the economic performance of an EFP to the economic performance of authorized fisheries for the metrics below.

    - Ex-vessel Price per Pound: The FIW agreed to start with benchmarks for ex-vessel prices for swordfish and bluefin tuna. The FIW did not come to a conclusion regarding ex-vessel price per pound for other HMS landings, including all landings together. For swordfish and all HMS landings, the ex-vessel price per pound benchmarks would be developed from the 10-year averages from the West Coast (WC) drift gillnet (DGN) fishery and separately from the Hawaii shallow-set longline fishery (which targets swordfish). Given the sunsetting of the DGN fishery as a higher volume fishery with higher levels of swordfish production, several FIW members expressed interest in benchmarks reflecting these characteristics. For bluefin tuna, FIW members preferred developing benchmarks from the commercial hook-and-line fishery and separately the DGN fishery, using five-year averages, given that the hook-and-line fishery was established recently.

    - CPUE: The FIW agreed to develop CPUE benchmarks for swordfish and all HMS landings using 10-year averages from the DGN fishery and separately from the Hawaii shallow-set longline fishery. Similarly for ex-vessel price per pound, FIW members expressed interest in benchmarks reflecting high volume/production fisheries.

    - Ex-vessel Revenue: The FIW discussed creating a broader set of benchmarks for ex-vessel revenue to reflect different types of EFPs (both higher volume/lower price and lower volume/higher price gears/methods). The benchmarks would be developed from 10-year average ex-vessel revenues from all WC authorized HMS fisheries along with the Hawaii shallow-set longline fishery (all calculated separately).

- *Bycatch Benchmarks:* The FIW focused on developing benchmarks related to the discard rate metric and discussed the list of bycatch species that needs to be finalized to develop species-specific bycatch benchmarks (with future adjustments possible for the species list as more EFP data is collected).

[1] An "authorized" fishery refers to a legally operating and regulated fishery that is managed under a fishery management plan and included in that plan's fishery management unit.

- Discard Rate: The FIW considered several options (see Table 2 in Appendix A) and preferred developing discard rate benchmarks from the 10-year averages from the WC driftnet gillnet fishery and the Hawaii shallow-set longline fishery (calculated separately). Similar to the rationale for ex-vessel price per pound and CPUE, several FIW members expressed interest in benchmarks reflecting high volume/production fisheries. The FIW initiated discussions about how the discard rates would be calculated and the potential inclusion of dead, injured, or unknown in the discard rate formula (excluding those species released alive). The FIW will continue these discussions at the next meeting. Further consultation with NMFS and the Highly Migratory Species Management Team (HMSMT) will also be needed on the formula to ensure feasibility and consistency.

- Individual Bycatch Species - Bycatch Species List: In order to develop species specific benchmarks for individual species interactions and bycatch-to-catch ratios, a list of prioritized bycatch species needs to be determined. The FIW discussed two options: 1) potentially using a list of prioritized bycatch species developed for the DGN fishery; or 2) using the list of prioritized bycatch species for the DGN fishery as a starting point and making adjustments based on available data that was compiled for evaluating impacts of "longline-type" fisheries[2] (see Appendix C).

  The FIW discussed the tradeoffs associated with each option, including the important difference in bycatch species composition when fishing with different gears (hooks vs. a net). Thus, while already reviewed by the Council, the use of the approved DGN bycatch list would include species that are not bycatch in a hook fishery, while also excluding species that are bycatch. A revised list may require time for deliberation but may be more tailored and representative of the bycatch species interactions in future "longline type" EFPs. The FIW noted that the second option could be simplified by removing any species that could be "marketable" (e.g., shortfin mako). Given the absence of two FIW members, the FIW elected to retain both options for now.

Table 2: Summary of FIW Preliminary Preferred EFP Benchmarks

Category	**Performance Metric**	**FIW Preferred Benchmarks - All 10-Year Averages Unless Noted Otherwise**
Economic viability	Ex-vessel price per pound	Benchmark 1a: Swordfish ex-vessel price per pound from the WC DGN fishery Benchmark 1b: Swordfish ex-vessel price per pound from the Hawaii shallow-set longline fishery Benchmark 2a: Bluefin tuna ex-vessel price per pound* from the hook-and-line fishery Benchmark 2b: Bluefin tuna ex-vessel price per pound* from the WC DGN fishery Benchmark 3a: All HMS landings from the WC DGN fishery Benchmark 3b: All HMS landings from the Hawaii shallow-set longline fishery

[2] National Marine Fisheries Service. (2025). Final Environmental Impact Statement (EIS) for Consideration of Exempted Fishing Permits for Testing Fishing Practices to Target Swordfish and Other Marketable Highly Migratory Species in the United States West Coast Exclusive Economic Zone. https://s3.amazonaws.com/media.fisheries.noaa.gov/2025-03/Final-EIS-HMS-LonglineTypeEFPs-signed20250306.pdf

Category	Performance Metric	FIW Preferred Benchmarks - All 10-Year Averages Unless Noted Otherwise
Economic viability	CPUE	Benchmark 4a: Swordfish CPUE from the WC DGN fishery Benchmark 4b: Swordfish CPUE from the Hawaii shallow-set longline fishery Benchmark 5a: All landings CPUE from the WC DGN fishery Benchmark 5b: All landings CPUE from the Hawaii shallow-set longline fishery
Economic viability	Ex-vessel revenue	Benchmark 6a: Ex-vessel revenue from the WC harpoon fishery Benchmark 6b: Ex-vessel revenue from the WC deep-set buoy gear fishery Benchmark 6c: Ex-vessel revenue WC deep-set pelagic longline (outside the Exclusive Economic Zone (EEZ)) Benchmark 6d: Ex-vessel revenue from the WC DGN fishery Benchmark 6e: Ex-vessel revenue from the WC purse seine fishery Benchmark 6f: Ex-vessel revenue from the WC albacore hook-and-line fishery Benchmark 6g: Ex-vessel revenue from the Hawaii shallow-set longline fishery
Acceptable levels of bycatch	Discard rate	Benchmark 7a: Discard rate from WC DGN fishery Benchmark 7b: Discard rate from the Hawaii shallow-set longline fishery
Acceptable levels of bycatch	-Individual bycatch-to-catch ratios -Individual interactions counts	TBD - Pending final bycatch species list and methodology determinations

*Because the Bluefin hook-and-line fishery is a newer fishery, the FIW considered a shorter time horizon of five years. Although DGN data are available for more than five years, the same time horizon should be used for consistency.

Future Meeting and Workload Planning

The FIW will continue its work to develop EFP evaluation benchmarks and recommendations for improving the overall EFP process. The group will meet on December 11th and again on January 29th and 30th, 2026, with a strong preference to conduct the two-day meeting in-person in the new year. An in-person meeting will be critical for the FIW to make the progress needed to formulate final recommendations for the Council's consideration at the March 2026 meeting. However, the FIW recognizes that the ongoing government shutdown may create the need for a modified workplan and schedule.

PFMC
11/04/25

APPENDIX A: SUMMARY OF OPTIONS CONSIDERED AT THE OCTOBER 29TH FIW MEETING

Summary of Options Considered for an EFP Performance Goal:

1) HMS Roadmap Goal B (verbatim) - "Support and test fishing practices that have the potential to be economically viable and consistent with National Standard 9 guidelines."
2) Language that is more tailored to this effort - "The fishing gear/method used in the EFP is economically viable and meets acceptable levels of bycatch/bycatch mortality."

Table 1: Summary of Options Considered for EFP Economic Benchmarks*

Performance Metric	Option 1	Option 2	Alternative Approach	FIW Preferred Benchmarks
CPUE	A CPUE of X_1 for all landed species A CPUE of Y_1 for swordfish (To be calculated from the 50th percentile of CPUEs from a specific set of HMS fisheries and previous EFPs)	A CPUE of X_2 for all landed species A CPUE of Y_2 for swordfish (To be calculated from the 75th percentile of CPUEs from a specific set of HMS fisheries and previous EFPs)	Create an index for broader comparison on an annual basis	Two swordfish CPUE benchmarks calculated from the 10-year averages from the WC DGN and Hawaii shallow-set fishery. Two "all HMS landings" CPUE benchmarks calculated from the 10-year averages from the WC DGN fishery and Hawaii shallow-set fishery.
Ex-vessel revenue**	An ex-vessel revenue of X_1 per (day, hook, set, or vessel) (To be calculated from the 50th percentile of ex-vessel revenues from a specific set of HMS fisheries)	An ex-vessel revenue of X_2 per (day, trip, hook, set, or vessel) (To be calculated from the 75th percentile of ex-vessel revenues from a specific set of HMS fisheries)	Create an index for broader comparison on an annual basis	Ex-vessel revenue benchmarks calculated from the 10-year averages for all WC authorized HMS fisheries and the Hawaii shallow-set longline fishery.
Ex-vessel price per pound	An average ex-vessel price per pound of $3.78 (Calculated using the 50th percentile of average price per pound for other HMS fisheries)	An average ex-vessel price per pound of $5.38 (Calculated using the 75th percentile of average price per pound for other HMS fisheries)	Create an index for broader comparison on an annual basis	Ex-vessel price per pound for swordfish and all HMS landings calculated from the 10-year averages from the WC DGN fishery and Hawaii shallow-set fishery. Ex-vessel price per pound for bluefin tuna calculated using the five-year averages from the hook-and-line fishery and the WC DGN fishery.

*Staff is currently working to access the data needed to create the data summaries needed to calculate these benchmarks. However, given that data summaries will be needed for the Hawaii longline fishery, collaboration from NMFS will be needed when the government reopens. Technical assistance from experts (NMFS, the Pacific States Marine Fisheries Commission (PSMFC), and the HMSMT) may be needed on the most appropriate way to standardize CPUE across gear types.

**Technical assistance is needed from experts (NMFS, PSMFC, and the HMSMT) on the most appropriate way to scale ex-vessel revenue reported annually by fishery to allow comparisons with ex-vessel revenue from EFPs.

Table 2: Summary of Options for EFP Bycatch Benchmarks*

Performance Metric	**Option 1**	**Option 2**	**Option 3**	**Alternative approach**	**FIW Preferred Benchmarks**
Discard rate	A discard rate of 12% during the EFP (Calculated using the mean discard rate from the DGN fishery) Discard rate = discarded species (dead + unknown condition) / (landed species + discarded species (dead + unknown condition))	To be calculated from the 25th percentile of discard rates from a specific set of HMS fisheries and previous EFPs Discard rate = discarded species (dead + unknown condition) / (landed species + discarded species (dead + unknown condition))	To be calculated from the 25th percentile of discard rates using the final list of bycatch species and a specific set of fisheries and previous EFPs Discard rate = <u>discarded species on the list</u> (dead + unknown condition) / (landed species + <u>discarded species on the list</u> (dead + unknown condition))	Create an index for broader comparison on an annual basis	A discard rate calculated from the 10-year averages from the WC DGN fishery and Hawaii shallow-set fishery
-Individual bycatch-to-catch ratios -Individual interactions counts	TBD - Pending final bycatch species list and methodology determinations				

APPENDIX B: POTENTIAL FISHERIES AND EFPS THAT COULD BE USED TO INFORM BENCHMARK DEVELOPMENT

West Coast HMS Fisheries:

- West Coast Large-Mesh DGN Fishery
- West Coast Deep Set Longline Outside of the EEZ
- West Coast Deep Set Buoy Gear Fishery
- West Coast Harpoon Fishery
- West Coast Purse Seine Fishery
- West Coast Albacore Hook-and-Line

Previous EFPs:

- EFP Data for Shallow Set Longline and Deep Set Longline in the U.S. West Coast EEZ
- EFP Data for Deep-set Linked Buoy Gear

Other HMS Fisheries (would require collaboration across NMFS regions):

- Atlantic/Gulf of Mexico Pelagic Longline Fishery
- Hawaii Deep Set Longline and Shallow Set Longline Fisheries

APPENDIX C. ACCEPTABLE LEVELS OF BYCATCH - LIST OF BYCATCH SPECIES

The FIW discussed two options for determining a list of species for developing species-specific benchmarks. The first option is to use the priority list of bycatch species that was developed for the DGN without any modifications. The second option is to use the DGN list and make modifications based on data compiled in a Final Environmental Impact Statement (FEIS) to evaluate the impacts of "longline-type" EFPs targeting swordfish.[3] The FEIS includes the summary datasets from the 2019 WC shallow-set and deep-set longline EFP and proxy datasets, the Hawaii shallow-set and deep-set long line fisheries (east of 140˚W to better represent comparable fishing conditions), and the WC deep-set longline fishery (also east of 140˚W).

Option 1: Use the prioritized bycatch species list created for the DGN fishery as is.

(OPTION 1) PRIORITIZED BYCATCH SPECIES IN THE DRIFT GILLNET FISHERY

Finfish
- Striped marlin
- Black marlin
- Blue marlin
- Billfish (other and unidentified)
- Sailfish

Sharks/Rays
- White shark
- Basking shark
- Megamouth shark
- Giant manta ray

Marine Mammals
- Bottlenose dolphin
- Risso's dolphin
- Common dolphin (long-beaked and short-beaked)
- Northern right whale dolphin
- Pacific white-sided dolphin
- Fin whale
- Humpback whale
- Gray whale
- Short-finned pilot whale
- Minke whale
- Sperm whale

Sea Turtles
- Leatherback turtle
- Loggerhead turtle
- Olive ridley turtle
- Green turtle

[3] National Marine Fisheries Service. (2025). Final Environmental Impact Statement (EIS) for Consideration of Exempted Fishing Permits for Testing Fishing Practices to Target Swordfish and Other Marketable Highly Migratory Species in the United States West Coast Exclusive Economic Zone. https://s3.amazonaws.com/media.fisheries.noaa.gov/2025-03/Final-EIS-HMS-LonglineTypeEFPs-signed20250306.pdf

Option 2: Use the prioritized bycatch species list created for the DGN fishery as a starting point and make changes based on presence/absence in the "longline-type" FEIS summary datasets (excluding the DGN dataset). Discard data were not provided in the FEIS for linked buoy gear dataset.

Species from the original list (Option 1) not found in the "Longline-Type" FEIS summary datasets

POTENTIAL REMOVALS:

Sharks/Rays
- White shark
- Basking shark
- Megamouth shark
- Giant manta ray

Marine Mammals
- Northern right whale dolphin
- Pacific white-sided dolphin
- Fin whale
- Humpback whale
- Gray whale
- Short-finned pilot whale
- Minke whale
- Sperm whale

Species found in "Longline-Type" FEIS datasets and not on drift gillnet list

POTENTIAL ADDITIONS:

Sharks/Rays
- Blue shark*
- Shortfin mako*
- Pelagic stingray
- Oceanic whitetip
- Silky shark

Marine Mammals
- Striped dolphin
- California sea lion
- Northern elephant seal
- Guadalupe fur seal
- Unidentified seal
- Mesoplodont Beaked Whale
- False killer whale

Sea Birds
- Black-footed albatross
- Laysan albatross
- Unidentified shearwater

*While some blue and shortfin mako sharks are landed, they were more frequently discarded in the datasets (with the majority released alive).

Criteria for potential additions/removals:

- Potential removals:
  - Species that did not appear in any "longline-type" dataset in the FEIS
- Potential additions:
  - Species in a vulnerable species group (i.e., sharks and rays) that were characterized as "commonly caught" in any dataset
  - Protected species (ESA, MSA, MMPA, or MBTA) with at least one interaction in any dataset
  - "Commonly caught" species not included in the list that could also be considered:
    - Longnose lancetfish
    - Snake mackerel
    - Escolar
    - Tapertail ribbonfish
    - Oilfish

(OPTION 2) POTENTIAL REVISED LIST AFTER REMOVALS AND ADDITIONS

Finfish
- Striped marlin
- Black marlin
- Blue marlin
- Billfish (other and unidentified)
- Sailfish

Sharks/Rays
- Blue shark
- Shortfin mako
- Pelagic stingray
- Scalloped hammerhead
- Oceanic whitetip
- Silky shark

Marine Mammals
- Bottlenose dolphin
- Risso's dolphin
- Common dolphin (long-beaked and short-beaked)
- Striped dolphin
- California sea lion
- Northern elephant seal
- Guadalupe fur seal
- Unidentified seal
- Mesoplodont beaked whale
- False killer whale

Sea Turtles
- Leatherback turtle
- Loggerhead turtle
- Olive ridley turtle
- Green turtle

Sea Birds
- Black-footed albatross
- Laysan albatross
- Unidentified shearwater