



Scoping Document for the Potential Amendment to the Pelagic Fishery Ecosystem Plan of the Western Pacific Region to Manage the Main Hawaiian Island Small-Boat Fisheries



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1164 Bishop Street Suite 1400  
Honolulu, Hawai'i 96813

(808)522-8220  
Email: [info@wpcouncil.org](mailto:info@wpcouncil.org)

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## Acronyms

ACL	Annual Catch Limit
CML	Commercial Marine License
CPUE	Catch Per Unit Effort
DAR	Division of Aquatic Resources
EEZ	Exclusive Economic Zone
FEP	Fishery Ecosystem Plan
FRS	Fisher Reporting System
HDAR	Hawai‘i Division of Aquatic Resources
HMRFS	Hawai‘i Marine Recreational Fishing Survey
MHI	Main Hawaiian Islands
MSA	Magnuson Stevens Act
MUS	Management Unit Species
NMFS	National Marine Fisheries Service
NS	National Standard
NWHI	Northerwestern Hawaiian Islands
PMUS	Pelagic Management Unit Species
SAFE	Stock Assessment and Fishery Evaluation
US	United States of America
WPRFMC	Western Pacific Regional Fishery Management Council

## **1. INTRODUCTION**

The Western Pacific Regional Fishery Management Council (Council) and the National Marine Fisheries Service (NMFS) manage the fisheries in the US Exclusive Economic Zone (EEZ) around the State of Hawai‘i, American Samoa, Guam, the Commonwealth of the Northern Mariana Islands, and the U.S. Pacific Remote Islands Areas (PRIA). Since its creation in 1976 under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), the Council has made continuous efforts to monitor and understand the fisheries in the region in order to make sound management decisions.

Although some data for Hawai‘i’s fisheries are available, other data (biological, economic, and social) are needed for informed management. The MSA requires management decisions to be based on the best available data. The pelagic small-boat fisheries (i.e., non-longline vessels) in Hawai‘i lack data needed for good management.

The pelagic fisheries play a large role in the local seafood markets, with Hawai‘i residents consuming twice the per capita seafood compared to the rest of the nation including substantial amounts of fresh bigeye and yellowfin tuna (ahi), mahimahi, ono and opah. The largest commercial sector of the pelagic fisheries is the Hawai‘i longline fishery, accounting for 45 percent of the licensed fishermen<sup>1</sup> and 80 to 85 percent of the landed value.<sup>2</sup> The pelagic small-boat fisheries have both commercial and non-commercial sectors. Currently, the commercial fisheries in Hawai‘i provide mandatory catch information through the State of Hawai‘i’s Commercial Marine License (CML) and the non-commercial fisheries provide voluntary catch and effort information through the Hawai‘i Marine Recreational Fishing Survey (HMRFS).

The Council manages the pelagic fisheries with an ecosystem-based approach through Fishery Ecosystem Plan (FEP) for Pelagic Fisheries of the Western Pacific Region, incorporates community input and local knowledge into the management process. The Council manages pelagic fish through its Pelagic FEPs as pelagic management unit species (PMUS).

To form management options for the fisheries, managers need to understand the effects of the fisheries on other fisheries and vice versa; the impacts of the fisheries on stock abundance and local availability; and effects on the biological, social, economic, and cultural aspects of the fisheries and the fishing communities. Knowing this, managers can develop and choose options that provide the least impact on the fisheries and fisheries participants.

## **2. BACKGROUND**

### **a. Hawai‘i Pelagic Small-Boat Permitting and Reporting Landscape**

The Hawai‘i small-boat pelagic fleet is a mixed gear fishery (Chan and Pan, 2017) that demonstrates mixed motivations whether it would be for commercial or non-commercial purposes. This fishery is comprised of fishermen who troll, handline, ika shibi, palu ahi, and/or bottomfish. The social and cultural values of the small-boat fishery serve a different purpose

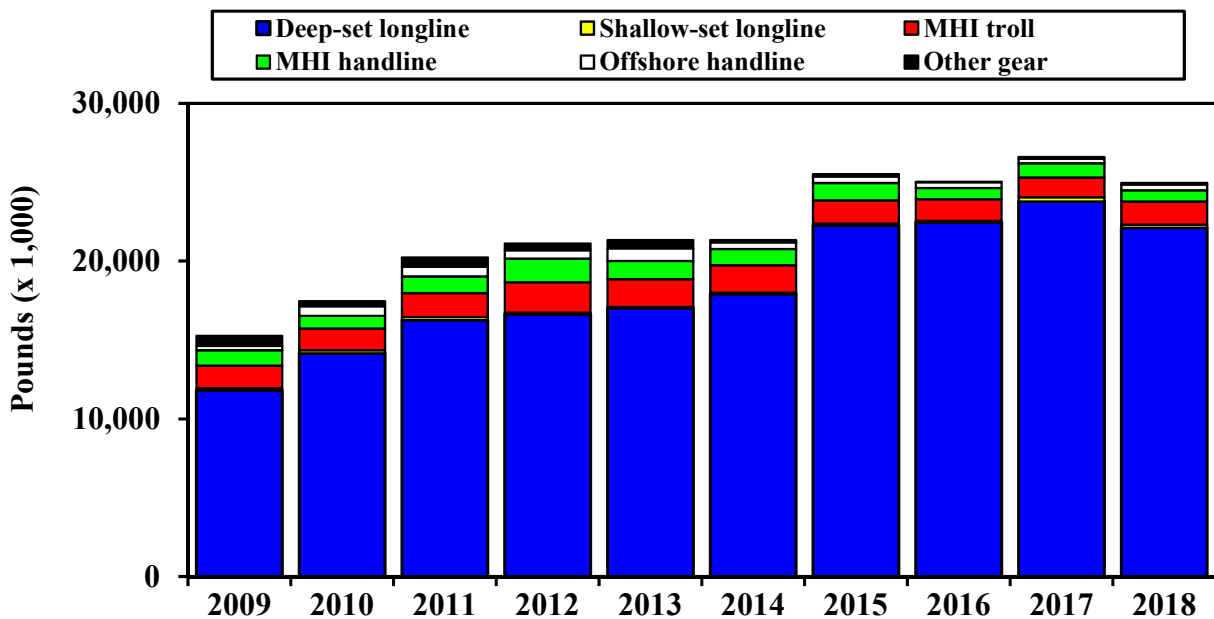
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<sup>1</sup> WPRFMC. 2019. Western Pacific Region Status of the Fisheries 2018, p2.

<sup>2</sup> Markrich M and Hawkins C. 2016. Fishing Fleets and Fishery Profiles. Pacific Islands Fishery Monographs No. 5. p6.

compared to other fisheries. Hospital and colleagues (2011)<sup>3</sup> found that most fishermen who participate in this fishery are employed full-time (77.4%). These commercial fishermen indicated on average 19.1% of their personal income came from fishing, suggesting a moderate reliance on fishing as a livelihood. Of the full-time employed fishermen, 13.55% are strictly full-time fishermen. Approximately 18.1% of the fishermen who participated in this study say they took time off from work, without pay, to fish due to opportunity. These commercial fishermen indicated on average 19.1% of their personal income came from fishing, suggesting a moderate reliance on fishing as a livelihood.

The State of Hawai‘i Division of Aquatic Resources (DAR) requires the commercial fishermen to hold a CML and report commercial and non-commercial fishing activities through the State’s Fisher Reporting System (FRS). The variability of the performance of the small-boat pelagic vessels fishing commercially and non-commercially is either unknown or not quantified. The current fishery performance estimates may be biased by variability in reporting by fishermen with different fishing expertise and true fishing effort not represented properly. Although longline fisheries in Hawai‘i catch the majority of PMUS in terms of volume, small-boat fisheries operating out of the main Hawaiian Islands (MHI) catch a significant volume of targeted tunas. These fisheries often catch 10% to 15% of the total tunas (bigeye, yellowfin, skipjack, albacore) reported by all pelagic fisheries operating out of the MHI per annum since 2009 to 2018 (Figure 1).



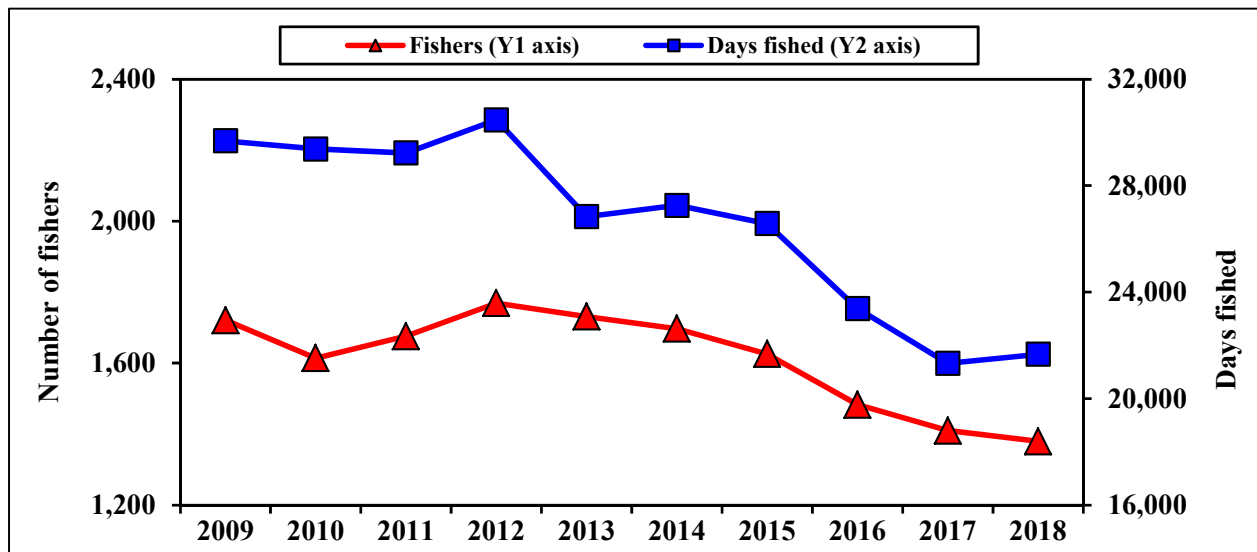
**Figure 1. Hawai‘i Pelagic Tuna Catch 2009-2018 from fisheries operating out of the MHI.**  
**Source: 2018 Stock Assessment Fishery Evaluation (SAFE) Report, WPRFMC.**

<sup>3</sup> Hospital, J., S. S. Bruce, and M. Pan. 2011. Economic and social characteristics of the Hawaii small-boat pelagic fishery. Pacific Islands Fish. Sci. Cent., Natl. Mar. Fish. Serv., NOAA, Honolulu, HI 96822-2396. Pacific Islands Fish. Sci. Cent. Admin. Rep. H-11-01, 50 p. + Appendices.

The non-commercial sector of the small-boat fisheries are captured through the State’s HMRFS program, which conducts voluntary in-person intercept surveys with fishermen at boat launch ramps, small-boat harbors and shoreline sites. The State of Hawai‘i’s DAR has been collecting information on Hawai‘i’s recreational fishing sector through its on-site interviews. It noted that the divisions between commercial, non-commercial and recreational are not clearly defined, and results suggest that the majority of catch for some categories of fishermen may be consumed by the fishermen and their families or given away.

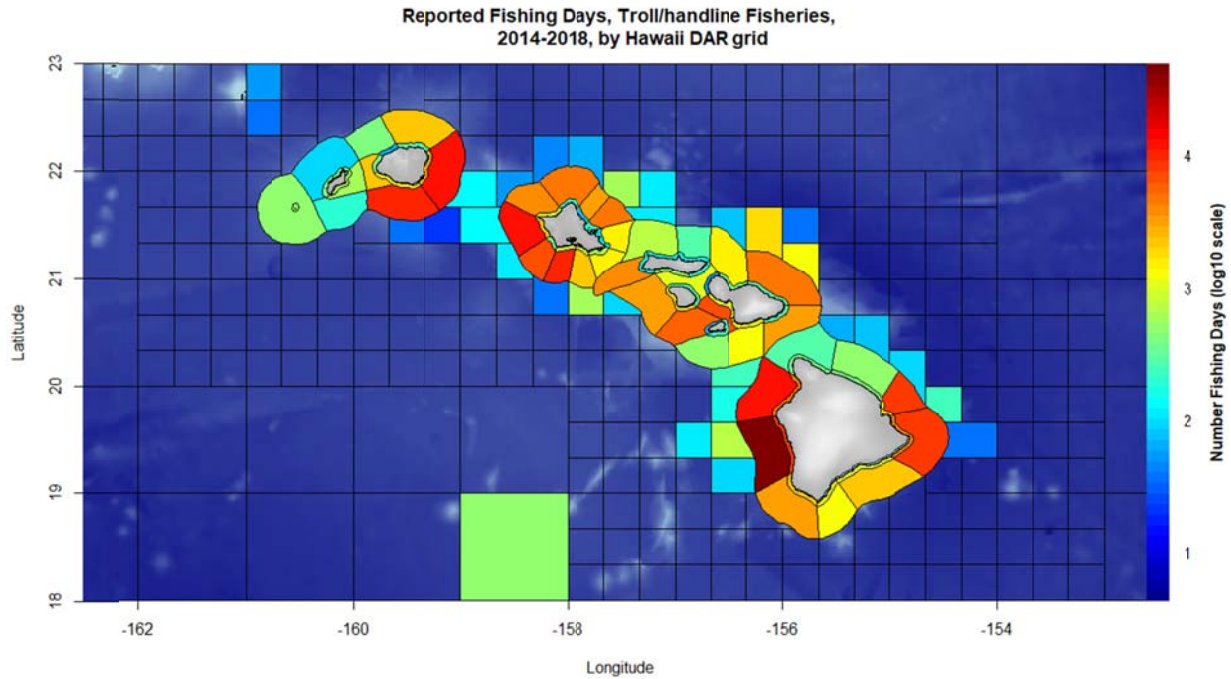
**Error! Reference source not found.** summarizes the Federal and State efforts to collect information from the fisheries.

Since 2009, participation in the pelagic troll and handline fisheries has declined. The number of participating fishermen have declined from more than 1,600 in 2009 to just under 1,400 fishermen in 2018 (Figure 2). Since 2012, the number of reported days fished per year declined from over 30,000 fishing days to just over 21,000 days in 2018.

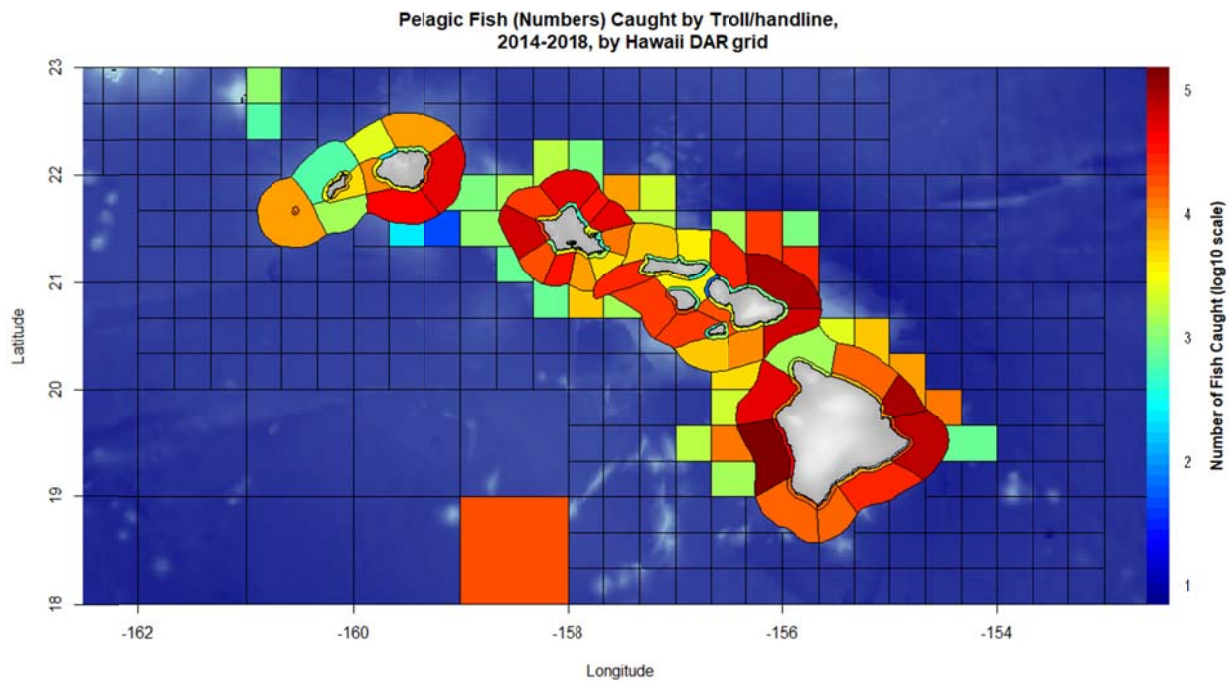


**Figure 2. Pelagic Small-Boat Commercial Fisheries Participation from 2009-2018. Source: 2018 SAFE Report, WPRFMC.**

Significant areas with the highest total number of PMUS fish caught offshore include the leeward (Cross Seamount) and windward coasts of Hawai‘i Island, the north coast of Maui, leeward and north coast of Oahu, and offshore windward Kauai (Figure 4).



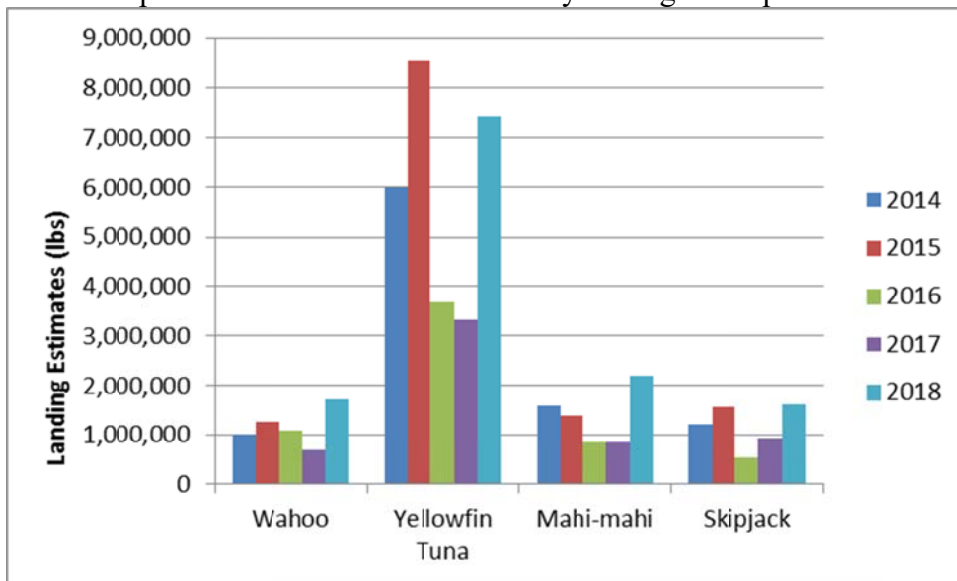
**Figure 3. Reported Fishing Days for the Hawai‘i Troll/Handline Fisheries by FRS Reporting Grid, aggregated from 2014 to 2018. Source: Hawai‘i Division of Aquatic Resources, 2019.**



**Figure 4. Pelagic Fish (number) Caught by the Small-Boat Troll/Handline Fisheries by FRS Reporting Grids, aggregated from 2014 to 2018: Hawai‘i Division of Aquatic Resources, 2019.**

The fishing effort and catch of PMUS (e.g., tunas, billfish, mahimahi, wahoo) from Hawai‘i small-boat fisheries holding CML permits, including troll and handline fisheries, reported as units of fishing days, was greatest in “offshore” Hawai‘i DAR FRS grids in primarily federal waters (> 3 miles offshore). From 2014 to 2018, aggregated fishing days reported by Hawai‘i DAR FRS grid was greatest off the leeward coast of Hawai‘i Island, the leeward coast of Oahu, the windward coast of Hawai‘i Island, and offshore the windward coast of Kauai (Figure 3). These regions consistently had more than 10,000 fishing days reported collectively per FRS grid from 2014 to 2018. Inshore grids that extend just over 2 nautical miles offshore and within State of Hawai‘i’s waters reported about 5,000 or more fishing days collectively in this time period as displayed in Figure 3.

The performance of the fisheries and their impact on the stock are not clearly understood. Non-commercial vessel owners/fishermen are not required to record and report their catch, which results in the current non-commercial data gap. The data collected from HMRFS are used to estimate total statewide fishing effort. In terms of weight, yellowfin tuna continues to dominate non-commercial pelagic fish catches in 2018 (Figure 5). There is uncertainty surrounding the various expansions from the HMRFS survey and figures reported.



**Figure 5. Annual non-commercial fishery landing by weight of 4 major pelagic fish species in Hawaii between 2014 and 2018: 2018 SAFE Report, WPRFMC**

This non-commercial data gap presents a need to: 1) establish a reporting platform for non-commercial small-boat pelagic fishermen akin to that implemented for CML holders, and 2) better understand fishery performance and catch of all non-commercial pelagic small-boat fisheries.

**b. Past Efforts to Address Data Needs for Management**

In 2002, the Council discussed the need to address the gaps in data throughout the Western Pacific Region and, at its 122<sup>nd</sup> meeting, decided to let each island area address its own needs in its own matter. In 2007, the Council addressed the overfishing condition of bigeye and yellowfin tuna, which are managed internationally (NMFS changed the yellowfin tuna status to not overfishing in the third quarter of 2007; the bigeye status was changed to not overfished or



subject to overfishing in 2017), and recommended measures through Amendment 14 to include (1) the establishment of control dates for most pelagic fisheries; (2) mandatory federal fishing permits and logbooks for all Hawai‘i-based commercial small-boat pelagic fishermen who fish beyond three miles from shore (trolling, handline and pole-and-line) to improve information about the fisheries; and (3) improved surveys and voluntary reporting for recreational pelagic fisheries to obtain and improve information on recreational catches.

Of the measures for domestic fisheries recommended by the Council, NMFS approved only the establishment of control dates for Hawai‘i’s non-longline commercial pelagic vessels (70 FR 47781)<sup>4</sup> and purse-seine and longline vessels (70 FR 47782)<sup>5</sup>. According to these measures, persons who enter the non-longline commercial pelagic fisheries (e.g., troll, handline, pole and line, etc.) in the U.S. EEZ around the Hawaiian Islands or the pelagic purse seine and longline fisheries in the U.S. EEZ of the Western Pacific Region after June 2, 2005 (“control date”) are not guaranteed future participation in the fishery if the Council recommends and NMFS approves a program limiting entry or effort. This action does not commit the Council or NMFS to limit entry or prevent any other date from being selected for eligibility to participate in the non-longline commercial pelagic fisheries. The Council or NMFS may also use other criteria to limit fishing effort or participation in a limited entry program that is developed in the future.

NMFS said the proposed federal permit and data collection program for Hawai‘i-based non-longline commercial pelagic fisheries would duplicate the State of Hawai‘i CML permitting and reporting system. NMFS recommended a cooperative State-Federal system of permitting and reporting for non-longline pelagic fisheries to simplify enforcement, provide data required for stock assessment and fishery management, and relieve the burden on the fishing public. It said, if the collaborative effort between State and Federal failed to provide the information necessary to meet fishery management needs, then revisiting the issues addressed would be appropriate.

At the 180<sup>th</sup> Council meeting in October 2019, the Council recommended that staff evaluate the effectiveness of the Council’s management measures for the Hawai‘i’s small-boat pelagic fisheries and to identify information gaps in the existing data collection programs that need to be addressed to support more effective management of these fisheries.

**Table 1. Permit and Data Collection programs in the Main Hawaiian Islands**

Fishery	Jurisdiction	Commercial	Non-Commercial	Data Collected
Longline fishery	Federal <sup>6</sup>	Hawai‘i Longline Limited Entry	N/A	Logbook Data which is consisted of catch and effort data. PS interaction was noted by observed on board.
	State <sup>7</sup>	N/A	N/A	*State CML for landings required
Pelagic (Non-longline)	Federal	N/A	N/A	
	State	HDAR CML Seafood dealer license program	HMRFS	Report catch and monthly activity which includes catch and bycatch Report fish bought to be sold to compare to recorded catch from fisher

<sup>4</sup> <https://www.govinfo.gov/app/details/FR-2005-08-15/05-16121>

<sup>5</sup> <https://www.govinfo.gov/app/details/FR-2005-08-15/05-16122>

<sup>6</sup> Federal – 3-200 nm offshore

<sup>7</sup> State- 0-3 nm offshore

### **3. PROBLEM STATEMENT: Considerations for Evaluating Effectiveness of Management Measures**

The purpose of the public scoping on Hawai‘i’s small-boat pelagic fisheries in February 2020 and this associated background scoping document is to identify potential options to improve efforts to evaluate the effectiveness of management measures for the Hawai‘i small-boat fisheries. The Council in its decision-making takes into account biological, ecosystem and socio-economic/cultural impacts. If data on these impacts are unavailable, the Council must rely on the best scientific information available, which could be out of date, just a snapshot in time or based on another geographic area. This public scoping aims is to identify what data are needed and the appropriate method(s) to collect them so as to improve understanding of the performance of the Hawai‘i small-boat pelagic fisheries and the status of the stocks in order to assist in effective management decision-making.

#### **a. Biological Impacts**

The pelagic fisheries are the largest and most valuable in the Western Pacific Region. They also are the most rapidly changing and dynamic fisheries in the region. The Hawai‘i longline and pelagic small-boat fisheries compete for the same stocks of tuna and catch the same billfish and other species. Research also indicates that the stocks may be affected by climate change.

In Hawai‘i and the rest of the United States, pelagic fisheries seaward of state waters are managed under the MSA, which requires a management plan and adherence to other mandates such as annual catch limits (ACLs), identification of essential fish habitat (EFH), etc. The MSA also requires management measures adhere to National Standards (NS).

Highly migratory pelagic species (such as tuna) range throughout the Pacific. The stock assessments for these species are conducted by the science providers of international fishery management organizations, such as the Western and Central Pacific Fisheries Commission and the Inter-American Tropical Tuna Commission (in the Eastern Pacific). In some cases, management measures for these highly migratory stocks (such as national quotas for longline-caught bigeye tuna) are developed through those same bodies and then adopted and managed by the countries that are members of those organizations.

The combined domestic and international management provide for well-regulated fisheries and reliable stock assessments when the data is available. Currently, stock assessments are available for tuna, billfish and sharks. However, there are no assessments for the other pelagic stocks caught by Hawai‘i fisheries, such as mahimahi, ono, opah, monchong, etc.

#### **b. Ecosystem Impacts**

There is not a clear understanding on fishing and non-fishing activities on the PMUS. Under the State’s current data collection system, there is no quantitative data on bycatch. Bycatch would include undersize and unwanted fish and protected species, such as sea turtles, seabirds and marine mammals. There have been studies in regards to fishing gear injuring protected species, but the interactions of the Hawai‘i pelagic small-boat fisheries with these species is uncertain.

### 3. Human Impacts

Fishing has been a way of life for millennia throughout the Pacific Islands. In Hawai‘i, fishing maintains a critical part of the cultural identity, health and livelihoods of the people. Hawai‘i’s small-boat pelagic fisheries serve many vital nonmarket functions such as building social and community networks, perpetuating fishing traditions and providing sustenance to local communities through customary exchanges. One of the primary motivations for fishing in Hawai‘i is for subsistence. Subsistence fishermen report that the fish they catch is an important source of food for their friends and family (Hospital et al. 2011). Fish sharing networks serve as a buffer against food insecurity in times of poor fishing or difficult economic times. Hospital and colleagues (2011) reported that a majority of fishermen report selling their fish simply to cover the expenses of their fishing trip, not necessarily to make a profit from the trip.

### DISCUSSION QUESTIONS

- **Shall we do nothing?**

Continuing under the status quo, the Council will continue to make estimations and assumptions based on the best scientific information available. There may be a time when additional information will be needed, and surveys may be done but will be used for specific purposes. If this route is pursued, how do you recommend the Council address potential unavoidable issues in the future, such as an overfishing determination mahimahi?

- **How do we address the lack of data?**

The Council has explored avenues to address the lack of data in the small-boat pelagic fisheries, such as potential registry, permits and licensing systems with the State of Hawai‘i, to working with fishermen on electronic reporting smartphone applications. All parties have recognized the need for data, but how to obtain the data (e.g., through voluntary or mandatory action) continues to be debated. How do you recommend we address the lack of data?

- **What about ecosystem impacts?**

Under the current data collection system, ecosystem impacts are not clearly understood. Managers assume that fishermen do not focus on the bycatch/protected species that they encounter. How do you suggest we address the need to better understand bycatch/protected species interactions in the Hawai‘i’s pelagic small-boat fisheries?

- **What other information about the Hawai‘i small-boat fisheries do you feel it is important for managers to know and understand?**

Comments will be accepted until February 15, 2020 on this topic by submitting comments to: Western Pacific Regional Fishery Management Council, 1164 Bishop St, Suite 1400, Honolulu, HI 96813 or to [info@wpcouncil.org](mailto:info@wpcouncil.org).

