WESTERN PACIFIC REGIONAL FISHERY MANAGEMENT COUNCIL

Pelagic Fishery Ecosystem Plan Team Meeting

May 3-5, 2022
1:00 p.m. – 5:00 p.m.
Council Office Conference Room via Teleconferencing
Honolulu, Hawaii

Meeting Report

1. Welcome and Introductions

Donald Kobayashi, Pelagic Fishery Ecosystem Plan Team (PPT, or Plan Team) Chair, opened the meeting, reviewed meeting protocols, and invited Plan Team members to introduce themselves. Present were Felipe Carvalho, Lynn Rassel, Francisco Villagomez, Bryan Ishida, Jason Helyer, Robert Ahrens, Melanie Hutchinson, Russell Ito, T. Todd Jones, Kirsten Leong, Domingo Ochavillo, Michael Kinney, Minling Pan, Brent Tibbatts, Jenny Suter, Phoebe Woodworth-Jefcoats, Keith Bigelow, Frank Roberto, Chelsey Young, and Ashley Tomita. Valerie Post participated as representative of NMFS Pacific Islands Regional Office (PIRO) International Fisheries Division (IFD). Not present was Sean Felise. Woodworth-Jefcoats was not present for Day 3.

2. Approval of Draft Agenda

The draft agenda for the May 2022 Pelagic Plan Team meeting was approved by consensus.

Council staff provided a brief update on recommendations and work items made at the previous Pelagic Plan Team meeting in May 2021. A document on the status of recommendations was provided to all members and participants.

3. Review 2021 Annual SAFE Report Modules

A. Fishery Data Modules

i. American Samoa

Domingo Ochavillo, American Samoa Department of Marine and Wildlife Resources (DMWR), presented updates for American Samoa pelagic fisheries in 2021 using data recently provided by the Pacific Islands Fisheries Science Center (PIFSC) Fisheries Research and Monitoring Division (FRMD). The number of vessels landing pelagic species has declined since 2014, but the same number of longlining vessels were active in both 2020 and 2021 despite slight changes in the composition of size classes. Both longlining sets and trolling trips increased in 2021 from the previous year despite the overall declining trend for the longline fishery.

Total landings for tuna increased slightly in 2021 from the previous year (to 2.3 million lb) in the midst of a declining trend since 2007. The increase in landings is consistent with the increase in longline sets; however, the total landings for non-tuna pelagic management unit species (PMUS)

continued its decline. Generally, commercial landings followed the same pattern in 2021 with increased tuna catches but decreased catches for non-tuna PMUS. Species-specific trends in catch and catch per unit effort (CPUE) were also presented, with the most notable trends being the slight increase of albacore catch and CPUE in 2021 after hitting an all-time low in 2020 and the decline of mahimahi catch and CPUE.

Overall, there were fewer trolling vessels in 2021. Despite declining participation, data suggest that the number of trolling trips and hours were relatively stable. Additionally, CPUE has been declining for most fishes except for skipjack tuna. For longlining in general, 2021 had better fishery performance than 2020, but the fishery is still experiencing a decline in the number of boats, trips, hooks set, landings (except for marlin) and CPUE. Ochavillo also noted that non-target longline catch (i.e., "miscellaneous" catch) is an important source of fish and food security for residents of American Samoa.

Plan Team discussion on the review of this section included the following:

- Care should be taken to ensure that non-disclosed (i.e., confidential) data be displayed differently than true zeroes in the data to better distinguish the values.
- There was confusion surrounding the terms "bycatch", "non-target" catch, and "miscellaneous" catch with respect to landings by the American Samoa longline and purse seine fisheries. Members clarified that bycatch under the MSA definition refers to anything discarded or released, whereas non-target catch is relatively synonymous with miscellaneous catch, as they both refer to non-tuna PMUS (i.e., ono, marlin, etc.) harvested by the longline fishery that are usually shared within the community or sold to the local markets rather than to the Star-Kist cannery. Thus, these non-target species become an important source of fish and food security.
- The best potential method to determine the amount of fish sold to the local markets by the pelagic fisheries was not clear, as the main source of available data is from commercial invoices submitted by fish vendors. Additionally, data for the American Samoa purse seine fishery are not readily available since PIRO only has access to logbooks and unloading logs that focus on tuna species.
- A regulatory change in American Samoa longline vessel size classes from four to two under Amendment 9 to the Pelagic Fishery Ecosystem Plan (FEP) became effective in November 2021. The Plan Team decided to retain the four typical size classes for the 2021 annual SAFE report, include a description of the forthcoming change, and incorporate data based on the new size classes in the 2022 report.
- In September 2020, the litigation surrounding the American Samoa large vessel prohibited area (LVPA) was reversed, and NMFS issued a final rule that reinstating the LVPA exemption. The purpose of the LVPA was originally to facilitate small boat fishery performance.
    - Council staff asked the Plan Team if a work plan might be required to discern the impacts of the relaxation of the LVPA on small boats. A Plan Team member thought this to be a good idea since permit modifications were meant to increase small boat participation and seeing how the actions are impacting or helping the fishery would be useful. Another Plan Team member stated that it would be interesting to dovetail the effort with the idea of miscellaneous catch that is transferred from the longline fishery to the community versus catch distributed from small boats, and Council staff agreed.

- There was zero *alia* activity in 2021, and a Plan Team member expressed reservations of undergoing effort to analyze the impacts of the LVPA on such a small fishery. While there was no decrease in CPUE for trolling vessels in 2021, the Plan Team discussed the importance of evaluating fishery performance to discern LVPA-related impacts over the next three to four years. One year of data is not sufficient, but if the trend continues, the Plan Team would be more confident in suggesting that the action is not detrimental to small boat fishery performance. There may also be other factors as play, such as economic or ecosystem drivers, that can impact small boat fishery performance going forward.

ii. CNMI

Francisco Villagomez, Commonwealth of the Northern Mariana Islands (CNMI) Division of Fish and Wildlife (DFW), presented updates for pelagic fisheries of the CNMI in 2021. In 2021, the boat-based creel survey program conducted 129 interviews, greater than both 2019 and 2020. There was a decrease in the number of trolling trips and hours in the CNMI pelagic fisheries, but the average length of fishing trips slightly increased.

Commercial landings in 2021 increased by 88% for pelagic species, which was mainly driven by skipjack tuna that comprised 79% of landings (i.e., a 45% increase from last year). Similarly, the total estimated landings from the creel surveys were driven by skipjack tuna with a 26% increase from 2020 to 2021. Non-tuna PMUS have been experiencing a decreasing trend but slightly increased in 2021; mahimahi landings decreased, while ono (wahoo) and blue marlin landings increased. All three of these non-tuna PMUS species had increases in the commercial data in 2021 as well. Regarding CPUE, there was an increase in trolling catch rates from 2020 to 2021, but the value was still lower than the 10-year average driven by decreases associated with mahimahi.

Plan Team discussion on the review of this section included the following:

- The charter boat fishery has had zero catch or effort in the past two years. The Plan Team discussed if the charter boat fishery simply has low participation or is completely inactive. Villagomez stated that the fishery is currently inactive and creel surveyors have not observed any recent charter activity, but the fishery may rebound as pandemic-related restrictions are alleviated. However, the charter fishery data indicates zero catch in several years prior to the pandemic (i.e., in 2015 and 2017), and it was not clear if the values are indicative of an inactive fishery or confidential data. It was speculated that natural disasters and DFW staffing issues may have impacted sampling in those years.
- Trolling catch rates for mahimahi have been declining, and a similar decreasing trend in mahimahi catches since 2014 has been observed in the other Western Pacific island areas and basin-wide.
- There was a disproportionate increase in the total estimated catch between creel surveys and the commercial receipt book relative to 2020, though the increases may be indicative of post-pandemic recovery. The total estimate catch for pelagic species is similar to the average, but the commercial sales data is more than twice the average. Villagomez stated that a possible explanation for the increased commercial data could be that commercial reporting is now mandatory, and DFW data staff have been communicating with all vendors to ensure compliance. While commercial reporting has been mandatory since February 2019, outreach

to the vendors did not begin until 2020 and 2021. In 2021, there were 42 active vendors and 37 of the vendors are up-to-date with their data submissions, representing strong compliance.

iii. Guam

Brent Tibbatts and Frank Roberto, Guam Division of Aquatic and Wildlife Resources (DAWR), presented updates for Guam pelagic fisheries in 2021. In 2021, DAWR completed 93 of 96 scheduled creel survey days documenting 1,070 trips and conducting 676 interviews. Restrictions associated with the COVID-19 pandemic did not allow for interviews to be conducted for the first half of January 2021, but sampling resumed normally afterward.

The total estimate pelagic landings increased 39% from 2020 to 856,432 lb, driven by an increase of 88% in tuna PMUS catch in the midst of a 55% decrease for non-tuna PMUS; skipjack tuna comprises the vast majority of non-tuna PMUS landings. While catches for skipjack and yellowfin tuna notably increased, catches of mahimahi, ono, and blue marlin decreased. There was an increase in active vessels from 2020 to 2021, and trolling catch rates also showed an increase due to contributions from the two main tuna species. Transshipment on Guam ceased at the end of 2020, but many years over the past decade are non-disclosed due to data confidentiality rules.

Plan Team discussion on the review of this section included the following:

- The foreign longline (i.e., transshipment) landings are confidential because there were less than three transshipment brokers reporting. Due to the extent of confidential data and the ending of the transshipment program on Guam at the end of 2020, the Plan Team agreed that transshipment information should be removed from the annual SAFE report.
- There was a noted increase in trolling effort on Guam. Additionally, in 2021, catch of bottomfish management unit species (BMUS) on Guam was nearly twice the annual catch limit (ACL). While it was assumed that trolling effort may have shifted to the bottomfish fishery, the data indicate that trolling effort also increased in 2021. DAWR staff wished to further examine the data before speculating as to the increase in effort and catch across archipelagic and pelagic fisheries of management concern.
- The increase in commercial sales data was not as large as the increase for total estimated catch, essentially presenting an opposite of the observed increasing trends in the nearby CNMI. There are still restrictions on allowing people into venues to purchase fish, so commercial sales have become increasing popular through informal channels. With the alleviation of pandemic-related restrictions, sales trends may return to normal in 2022.

iv. Hawaii

Russell Ito, PIFSC FRMD, presented updates for Hawaii pelagic fisheries in 2021. Overall, there was an increase in Hawaii commercial marine licenses (CML) in 2021 from 2020 by 189 licenses. The 929 longline licenses in 2021 are an all-time high, but the number of trolling licenses decreased slightly. The increase in aku boat permits is probably inaccurate due to it being listed first on the form and fishers haphazardly selecting it. Across all pelagic fisheries in 2021, there was nearly same amount of landings as 2020; however, the revenue increased to $124.4 million from $83.4 million, likely due to increase in average price. For example, while there was slightly less catch in 2021 by the deep-set longline fishery, the value increased substantially due to price increase of about $0.90/lb.

Tunas continue to dominate pelagic fisheries in Hawaii, followed by billfish and non-tuna

PMUS. Total catch in 2021 was slightly lower than average due to a decrease in billfish and non-tuna PMUS landings. While there has been a slight decrease in catch of bigeye tuna from 2015 to 2021, catches of yellowfin increased over the same time period. Billfish catch has been decreasing from its peak in 2017. Catches of albacore and skipjack tuna have also been showed reductions in catch. Swordfish and striped marlin also continued their decline, but blue marlin showed an increasing trend despite decreases in catch in 2020 and 2021. While swordfish is experiencing a declining trend, in 2021 it increased from its 2020 low, which was attributed to pandemic-related restrictions on flights that caused difficulties in exporting swordfish to mainland markets. Total catch of other PMUS has been decreasing since 2015, driven by a mahimahi decline since 2012 with contributions from oilfish, moonfish (opah), and monchong (pomfrets). The only other PMUS with increasing catch was ono with a rise and fall pattern that cycles every three to four years, but moonfish had an increasing trend until 2018.

With respect to major gear types harvesting pelagic species in Hawaii, the deep-set longline fishery had a consistent number of vessels and slightly increased effort from 2020 to 2021.The number of hooks set increased to a record high, and revenue increased substantially as noted previously. CPUE for the gear type showed a declining trend for bigeye tuna, an increasing trend for yellowfin tuna, and a steady or declining CPUE for billfish. In the shallow-set longline fishery, there has been an increase in vessels and trips following a declining trend through 2018 to 2019. Revenue for the shallow-set fishery increased notably from 2020 to 2021 in concert with the increase in effort. The main Hawaiian Islands (MHI) troll fishery had a declining trend for effort despite an increase in both fishers and days fished from the 2020 all-time low to 2021; the commensurate decline in catch and revenue was not as steep as the decrease in effort. The MHI handline fishery is on a declining trend for effort but catch and revenue increase in 2021 relative to the 2020 low. The only fishery to decrease in both catch and revenue in 2021 was the offshore handline, which peaked in effort in 2013 before dropping thereafter.

Plan Team discussion on the review of this section included the following:

- The size data for the longline fisheries are presented in tabular form when a graphic visualization would be helpful, especially since some of the trends presented in the tables are concerning. For example, while size for both blue marlin and mahimahi is decreasing, catch trends have also been showing a decline; this may be indicative of an elevated exploitation rate if selectivity has not recently changed. However, the Plan Team was reluctant to attribute the declines to stock impacts, as there may be data considerations not yet accounted for. A Plan Team member noted that the decline in average weight of blue marlin from the deep-set longline fishery could be due to exploitation, recruitment pulses influencing average size, or fishers choosing to retain smaller individuals. Alternatively, in spite of the recent blue marlin stock assessment with a positive outlook, it may be that the decline is a recent trend that has not yet been incorporated into the assessment. Additionally, the estimated weight values would not reflect changes in the degree of processing over time since they utilize an extrapolation factor in the estimation of whole weight. A Plan Team member voiced caution in evaluating the averages since there is a spatial component, and area-weighting may be necessary to see where the landed individuals are being harvested. It was noted that in blue marlin stock assessment, length composition data from Hawaii had the least agreement with the other data sources and its estimated selectivity pattern deviates from other fisheries. CPUE time series from Hawaii were not included in the assessment given the issue of the fishery operating in a small area relative to other international fisheries, and a potentially local declining trend would not be considered in the stock assessment.

- Offshore handline reportedly experienced a decrease in average price per pound in 2021 while other Hawaii pelagic, bottomfish, and some inshore fisheries had relatively high average prices. Because the offshore handline fishery harvests similar species as other pelagic fisheries and sells them through the same channels, it would be expected that the fisheries have a comparable average sale price. Hawaii Division of Aquatic Resources (DAR) representatives on the Plan Team noted that, anecdotally, offshore handline fishers had a good year in 2021, so there may be an issue in how revenue is calculated or attributed to the fishery. The current method of price extrapolation has been used for the past decade and is based on the percentage by species/month/gear/area in data from the State of Hawaii, which is applied to non-longline fisheries in the integrated dealer data; however, the extrapolations are estimates because there is no way to know which fishery the sales are from. The discrepancies in average price may be due to catch declining and the data not matching up well by species and month to the higher-price species. Ultimately, the cause of the discrepancies is not clear. A Plan Team member suggested that matching fishers to dealers, or at least sampling these pairs, may help better determine price and revenue by gear. DAR representatives stated that they have a pilot dataset from 2020 where DAR matched catch and sales data, and they would be happy to participate in a working group. The Plan Team agreed that this issue should be examined further through a working group to evaluate different ways to calculate price and revenue for different fishery sectors.
- The pelagic annual SAFE report only presents data from the most recent ten years, and the Plan Team discussed the utility of presenting longer time series in the reports to provide readers with additional fishery context. The archipelagic annual SAFE reports utilize longer time series, but, at its April 2022 meeting, the Archipelagic Plan Team (APT) began evaluating if 10-year time series would be better to present. Regardless, incorporating longer time series in the pelagic report would not necessarily increase the length of the report if the data were to be included in the graphical representations and appendices. Some Plan Team members were against incorporating longer time series because data collection has been different through the years, the determination of what year to begin the time series would need to be on a case-by-case basis, and regulatory changes to the fisheries can alter the way the fisheries are defined and how they perform; there may be variabilities in the catch trends of a long time series that are not related to the resource A possible alternative would be to include decadal averages akin to the archipelagic annual SAFE reports.
- There were no size data reported for bluefin tuna because there are only about five individuals landed each year, and the species is rare enough that workers at the Honolulu fish auction get excited when a bluefin tuna is on the floor. There may be more of this species harvested in the next few years as the population continues to rebuild.
- The Hawaii shallow-set longline fishery had low catch and effort in 2018 and 2019 because of closures associated with the turtle hard cap in May and March, respectively. In 2020, the cost of flying swordfish off-island was prohibitive for normal levels of effort in the fishery.
- There has been a decrease in mako shark retention by the Hawaii pelagic fisheries, which may be due to a new requirement by the U.S. Fish and Wildlife Service (USFWS) as a result of decisions under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). The new requirement specified that those engaging in international trade of any species of mako shark must first apply for a permit from CITES.

v. International

Keith Bigelow, PIFSC FRMD, provided updates regarding international fisheries in 2021 and trends in fishery performance through 2020 using data sourced from the Western and Central Pacific Fisheries Commission (WCPFC), the Inter-American Tropical Tuna Commission (IATTC), and the International Scientific Committee for Tuna and Tuna-Like Species in the North Pacific Ocean (ISC). Total estimated catch of tuna species in the Pacific Ocean was more than 3 million mt in 2020, which was mostly comprised of skipjack and yellowfin tuna; purse seining contributed the largest component of the total catch at about 2.5 million mt. While the trends in catch for historically-dominant purse seine fleets in the Western and Central Pacific Convention Area (WCP-CA) have been relatively stable since 1996, the combined Pacific Islands-flagged fleet purse seine catch increased from 214,218 mt in 2002 to 831,972 mt in 2020. Longline tuna catches in the Pacific Ocean have been relatively stable over the past decade at 100,000 mt. Incidentally-caught species (i.e., billfish) are dominated by swordfish at about 40,000 mt annually. The pole and line fishery, mostly comprised by the Japanese distant water fleet at present due to diminishing Pacific Island pole and line fleets, has also remained steady at around 200,000 mt annually. There were two basin-wide assessments relevant to the Council's PMUS in 2021, South Pacific albacore and Pacific blue marlin, both of which indicated that the species are being harvested sustainably. In 2022, stock assessments will be conducted for skipjack tuna, North Pacific blue shark, and North Pacific striped marlin.

Plan Team discussion on the review of this section included the following:

- Council staff indicated a desire to identify which regional fishery management organization (RFMO) stock assessments fall under the Council's PMUS.
- Some of the international catch trends are similar to trends observed in Hawaii fisheries, including a decrease for swordfish, a slight decrease for bigeye tuna, and an increase for yellowfin tuna.
- Bluefin tuna was not presented on the Kobe plot showing the stock status for the pelagic species assessed through the RFMOs. Bigelow stated he would double check the reason why, as the values for some species could perhaps be off the chart.
- The Plan Team discussed if the fleshed-out descriptions of the RFMO stock assessments could be replaced by more concise summaries and links to the full assessments, and Bigelow supported this idea. Council staff noted that linked documents should have an executive summary to provide consistency in the provided information.

vi. Recreational/Non-Commercial Fisheries

Council staff provided updates associated with the non-commercial fishery data module for the annual SAFE report. In the past, data for the module have been generated using methods and sources from a retired Council staffer, and much of those data are no longer available to access. Council staff requested that the Plan Team pause the updates to the non-commercial module and develop a new section consistent with the forthcoming efforts by the APT to generate non-commercial modules for the archipelagic reports.

Plan Team discussion on the review of this section included the following:

- Both the archipelagic and pelagic annual SAFE reports would not have modules specific to non-commercial fishery data and performance until next year. The APT's effort to generate new archipelagic modules could dovetail into a similar effort to generate a pelagic module. The APT working group could look at both sectors simultaneously.

- The initial issue in generating non-commercial data summaries for both archipelagic and pelagic fisheries in the Pacific Islands was the discrepancy between commercial data from the commercial receipt invoices and expanded creel survey data on fishers' intent to sell their catch. During an APT working group meeting, analyses by the PIFSC Stock Assessment Program were presented to show that the data streams become much more consistent with one another when non-species-specific sales are allocated among the MUS fisheries. For example, in American Samoa, BMUS may be classified as "bottomfish", "deep-water bottomfish", or by family, and these data would not be considered in species-specific commercial data summaries.
- For Hawaii non-commercial data, the Hawaii Marine Recreational Fishing Survey (HMRFS) can be used to generate data summaries.
- While the APT looks to generate new sections, members of that Plan Team are also investigating what it means to be a commercial fisher. There is confusion in the territories about what is commercial (i.e., trade vs. barter). PIFSC and the Council recently received feedback from fishers that they were selling large portions of their catch, but it is not clear what it means to be "sell" fish in a broader sense.
- The American Samoa DMWR representative to the Plan Team expressed a need for assistance to better evaluate total longline landings and commercial longline landings to determine the pelagic non-commercial catch in the territory. This difference is important because a portion of longline catch is sold to local vendors as "miscellaneous" fish that act as a source of food for American Samoa residents. Ashley Tomita, PIFSC FRMD, agreed to work with DMWR offline to better determine if the difference in total and commercial longline landings are the fish sold to local markets.

vii. Fisher Observations

Clay Tam, Council Advisory Panel (AP) Chair, presented fisher observations for pelagic fisheries from each of the island areas collected during quarterly AP meetings and an annual summit. The PIFSC Social-Ecological and Economic Systems (SEES) Program helped design the structure of the summit, took notes, and prepared summary reports. The Council recently began collecting anecdotal "on the water" information from active fishers about the region's fisheries over the past year to systematically document empirical fisher knowledge. The AP annual summit was held on February 23, 2022, for Guam and the CNMI and on February 24, 2022, for Hawaii and American Samoa; however, no fishers from American Samoa were able to attend the annual summit.

Pelagic fishers from Guam noted that 2021 was a bad fishing year for ono, possibly due to fewer fish aggregating devices (FADs), and mahimahi. FADs are especially important to consider for small boat fleets, as there are problems keeping FADs at their intended location. Fish that gather on FADs also tend to be smaller away from FADs. Guam fishers also observed that bonita were spitting out manahak (i.e., juvenile rabbitfish), and large schools of manahak were impacting catches outside of Agat Marina.

In the CNMI, fishers reported that 2021 was a good fishing year for mahimahi with increased catch toward the end of the year, whereas marlin catches were more sporadic with smaller individuals being landed.

Hawaii pelagic fishers observed that ahi catch was steady near Kauai in 2021 and would trickle into northern portions of Oahu, while Big Island fishers experienced seasonal ahi catch perhaps

due to unfavorable currents. Additionally, pelagic fishers from Oahu noted that, in 2021, the mahimahi run was slow, but that it was a good year for both ono and marlin. Fishers from the Big Island and Oahu observed that aku (skipjack tuna) were relatively small at the beginning of 2021 before larger individuals began appearing in the summer.

Generally, fishers also noted that there were many new entrants into regional fisheries over the past year, whose relative lack of experience could negatively impact CPUE. There has been an increased fish flow through informal channels, especially as the pandemic continues to impact expense costs and fish prices, and fishers have become more efficient to sustain themselves in the current conditions. Informal channels have also been encouraged because there has been no guard at the auction to facilitate fishers dropping catch off at night. The pandemic is also likely associated with a general decrease in demand for fresh fish, and fishers responded by adjusting target species. Additionally, shark depredation continues to be a serious issue across island areas.

Plan Team discussion on the review of this section included the following:

- Fish-selling applications have become popular, and it is possible with the increase in popularity of the applications that fishers do not want to drive all the way to town to sell their fish. Commercial fishers, inclusive of those selling through the application, are required to report their sales to DAR, but this can be hard to enforce.
- Fishers reported a good fishing year for mahimahi despite the noted decrease in catch and CPUE from the creel survey expansion. However, this report may have come from one fisher, so it is a priority of the AP to expand the pool of information contributed by fishers. Fishers may also vary by skill level, and in Hawaii in particular, there is a core group of fishers that are very skilled using handline. Additionally, fishers sometimes harvest large numbers of mahimahi off of private FADs and are careful not to let others know of their FAD location.
- The Plan Team discussed the concept of private FADs and if the State of Hawaii could be overlooking commercial mahimahi landings that should be reported. DAR representatives to the Plan Team noted that these fisheries generate different data than a majority of the DAR has in the Fishing Report System (FRS), as there are many non-traditional fishers that generate pelagic catch and for mahimahi in particular for which data are not always submitted. Tam indicated that across the majority of fisheries, there is a mix of fishers who do and do not report their catch. DAR staff need to reach out to these mahimahi fishers to ensure reporting is being conducted correctly. The auction has rules for fish quality, and one bad fish through an informal channel could hamper demand for a species.
- Oahu is the center point of the State for mahimahi catch, especially on the windward side due to favorable currents, the presence of FADs, and open schools. While some of these mahimahi fishers may sell their catch at the auction, they have their own direct market in better seasons and it is not clear if the fishers report. Kauai has a seasonal fishery for mahimahi, while the Big Island and Maui do not catch mahimahi to the same extent. Thus, the distribution network on Oahu is the largest with the most demand, and fishers are able to move fish around easily. The outer islands are less fortunate with no wholesalers or auction, so once surrounding vendors stop buying fish, the fishers are left with a surplus. Additionally, fishers from the outer islands get $2/lb for their catch and hear that fishers on Oahu are getting $6/lb. These fishers want to access the market on Oahu but have no way to transport the fish. Additionally, since bottomfish generally have a higher value than pelagic species in Hawaii, fishers will preferentially target and sell bottomfish species unless the

pelagic species have a high price. Value-added products would be a great way for fishers to increase the revenue from their catch.

4. Plan Team Working Group on Bycatch Reporting Update

Bigelow presented the outcomes of the Pelagic Plan Team working group on bycatch reporting in the annual SAFE reports and, specifically, the generation of bycatch summaries using data from the Observer Program to supplement the existing bycatch data derived from federal logbooks. The working group met on January 14 and April 13, 2022, to facilitate the development of the Observer Program bycatch summaries, which were generated showing a total of 103 bycatch species in the region's longline fisheries from 2016 to 2020.

The Plan Team generally endorsed the inclusion of the Observer Program bycatch data into the Appendix of the annual SAFE report. A Plan Team member noted that the APT will report the top 10 bycatch species in a consolidated table in the body of the report, while the full table would be placed in the Appendix or online portal. Bigelow stated that a consolidated table presenting the top 90th percentile of bycatch would also be appropriate and suggested that the same working group work on both the Archipelagic and Pelagic Plan Team bycatch efforts. A Plan Team member noted that the variation in bycatch for an individual species and how it changes over time might be important information to include for utility. Thomas Remington, Lynker and Council contractor, clarified for the Plan Team that, for Hawaii and American Samoa longline fisheries, only logbook data are currently included in the annual SAFE report. There are bycatch summaries for small boat fisheries in American Samoa and the Mariana Archipelago but no descriptions for Hawaii pelagic small boat fisheries in the report. Council staff suggested that the bycatch working group also address the development of the non-longline bycatch summaries.

Bigelow stated that the working group also noted a stark contrast between bycatch data from the logbooks and Observer Program due to a downward bias in the logbooks stemming from underreporting of bycatch by fishers. Comparing the two data streams for 2020 showed that observer bycatch estimates are over eight times greater than the logbooks for billfish, nearly consistent for sharks, over four times greater for tuna PMUS, and 18.4 times greater for other PMUS. The only exception to this inconsistency is for albacore, which had more bycatch reported in the logbooks for 2020. The discrepancy exemplifies the idea that fishers do not self-report bycatch well. Bigelow also noted that if there is not 100% observer coverage for the fishery (e.g., all fisheries except the Hawaii shallow-set longline fishery), the observer data are expanded; This may be an issue for American Samoa, whose longline fishery only has one to two observed trips each year. Kobayashi suggested that if this informative comparison is not in the annual SAFE report, it should be included elsewhere for readers to reference.

Because the longline logsheets are biased downwards, Bigelow asked DAR representatives to the Plan Team if their commercial logsheets for small boat fisheries have similar biases associated with underreporting bycatch and asked the Plan Team if it is a good idea to present data that are known to be inaccurate. Several Plan Team members noted that there is no way to quantify the extent of underreporting for bycatch. Council staff noted that the Council's SBRM under the FEP provides direction that available bycatch data are summarized in the annual SAFE report and acknowledges limitations of self-reported data when estimating bycatch.

A Plan Team member stated that they were impressed that the comparison of observer data and logbooks suggested that fishers were not underreporting shark bycatch very much. Another Plan

Team member suggested that this pattern may have to do with how logbooks are set up, as they ask about sharks that are not being kept and the fishers have no problem with reporting. For target MUS, there are no separate columns for kept and released, and the fishers want their hold numbers to appear good. Bigelow suggested that if non-longline bycatch data are included, the narrative should express that the values are minimum estimates.

Additional Plan Team discussion under this agenda item included the following:

- Updating the logsheets to allow for the collection of more accurate species-specific data is not likely to occur since it is very difficult to alter the logsheet and it would have to go through several approval processes.
- The high level of swordfish bycatch may be due to depredation since there are high depredation rates in the shallow-set longline fishery.
- The inclusion of the number of fish caught and kept in addition to released as is done for the logbook bycatch data should be considered for the observer data (generated tables only show estimated number released). This extra information would provide the proportion of each species that were retained versus released to better understand the fishery context of the bycatch.
- Observer data include depredation events but typically not drop-offs unless they are directly seen by an observer. Generally, if the event is identified, it is counted.

5. Public Comment

There was no public comment.

6. Continued: Review 2021Annual SAFE Report Modules

A. Ecosystem Chapter

i. Environmental & Climate Variables

Phoebe Woodworth-Jefcoats, PIFSC Ecosystem Sciences Division (ESD), provided updates to the climate and oceanic indicators section of the 2021 annual SAFE report. The presentation began by defining indicators, reviewing flow charts that described the relationship between different indicators, and the aim of the section to move from observations and correlations to understanding the specific nature of interactions and developing capabilities to predict future changes. Environmental indicators were then reviewed, including atmospheric carbon dioxide (CO_2), oceanic pH, the Oceanic Niño Index (ONI) measuring the El Niño-Southern Oscillation (ENSO), the Pacific Decadal Oscillation (PDO), tropical storm activity, sea surface temperature (SST) and anomaly (SSTA), temperature at 200 to 300 meters depth, chlorophyll-a, and the North Pacific subtropical front (STF) and transition zone chlorophyll front (TZCF). Fishery-based indicators included fish community size structure, bigeye tuna weight per unit effort (WPUE), bigeye tuna recruitment index, and bigeye tuna catch rate forecast.

Notable changes in indicators included the continuing exponential increase in atmospheric CO_2 and commensurate decrease in oceanic pH, as the reduction of emissions during the COVID-19 pandemic did not impact the trends in any observable manner. A recent report from the Intergovernmental Panel on Climate Change (IPCC) indicates how short of time frame humans have to take action to reverse climate change. For oceanic pH, the highest values in 2020 were lower than the lowest values from 1989, which suggests that conditions considered at the beginning of the time series no longer exist. In 2021, there were prevailing La Niña conditions and a negative PDO. Tropical storm activity was generally below average in 2021, though the

time frame for the baseline average was changed from 1981–2010 to 1991–2020. SST and SSTA continue to increase in the areas in which the Hawaii longline fisheries operate, and though temperature at depth appears to be declining, the beginning of the time series is variable and uncertain due to a less robust ability to observe the ocean at depth at those points in time. The STF was north of average in the west, and the TZCF was north of average in the center. Other environmental indicators showed no significant change. Fishery-based indicators generally did not indicate a present recruitment pulse, but there may be increases in bigeye tuna CPUE and WPUE in 2025. With respect to size structure, both bigeye tuna and swordfish were slightly larger in 2021 than in the preceding year.

Plan Team discussion on the review of this section included the following:

- For the bigeye tuna recruitment forecasts, the size of phytoplankton is incorporated into the predictive model.
- Council staff discussed if the bigeye tuna recruitment index could account for additional indicators for regional depletion associated with the incidental harvest of juveniles caught south of 10°N by purse seine fisheries, as the Hawaii longliners fish north of this area. The high purse seine effort may result in a loss of yield per recruit stock-wide since there is a lack of controls to ensure reduction of juvenile bigeye catch and increases in purse seine fishing may come to the detriment of northern longline fisheries that harvest adults. Thus, a decline in recruitment could potentially be linked to catch in purse seine fisheries or other indicators. Johanna Wren, PIFSC ESD, recently examined recruitment estimates for different regions but ended not being able to match indicators very well. Wren will be examining purse seine records to get a better sense of how to quantify juvenile mortality. The bigeye tuna forecast is based on the idea that phytoplankton parameters indicate prey quality, but the hope is to improve the four-year time gap and the first step is to consider purse seine removals. Council staff noted that the effort may be important to generate science-based evidence that relaxed management for purse seine fisheries (like unevaluated exemptions from seasonal FAD closures) elsewhere in the Pacific could be at the detriment of U.S. longline fisheries.

ii. Habitat

Remington provided updates to the habitat section of the 2021 annual SAFE report. At the request of the Plan Team, Remington and Michael Parke, PIFSC ESD, evaluated if there are ways that the pelagic habitat section could be improved, but there does not seem to be any substantive pelagic habitat information that could be updated year to year. Thus, updates to the section in 2021 were minimal, as there were no pelagic EFH reviews completed and there are no other data streams presented in the section. The one portion of the section that was updated provides details on the ongoing projects and research needs associated with pelagic habitat. However, because a large number of research cruises were cancelled in 2021 due to the COVID-19 pandemic, data needed to move the projects forward were not collected; thus, many of the descriptions of ongoing projects remain similar to the 2020 report. These ongoing efforts include the bigeye tuna initiative, determining the distribution of feeding and spawning habitats and their response to anthropogenic climate change, and the Protected Species Ensemble Random Forest (PSERF) model, among several others.

iii. Marine Planning

Remington provided updates to the marine planning section of the 2021 annual SAFE report.

Other than updating text on the conclusion of litigation surrounding the LVPA, there were no other marine planning updates for American Samoa and no updates for the PRIA in general. For Hawaii, there were minor updates to aquaculture facilities, as Forever Oceans let their permit expire in December of 2021 and no in-water operations are occurring. For alternative energy facilities in Hawaii, the National Renewable Energy Laboratory published a study on planning for offshore wind around Oahu in October 2021. The Marine Corps Base Wave Energy Test Site had several power system deployments over the course of the year. For military activities in Hawaii, RIMPAC 2022 will occur as scheduled this summer, and the final environmental assessment for Naval Special Operations Training in Hawaii was released in May 2021.

For the Mariana Archipelago, there were no updates associated with aquaculture or alternative energy, but there were some minor updates to military activities, including the US Army Corps of Engineers publishing a final rule in October 2021 amending regulations to establish a danger zone in the Pacific Ocean adjacent to the Mason Live-Fire Training Range Complex at Camp Blaz. The report section also still provides the number of notices to mariners (NTM) around the archipelago, which is how the military issues warnings for vessels in particular training areas during live fire or other dangerous exercises. Lastly, updated FAD information as it was provided by the state and territorial resource management agency representatives were included in the section. Remington concluded by noting that the APT endorsed Council staff, specifically Zach Yamada, taking over the updates of this section going forward and asking the Pelagic Plan Team to do the same.

Plan Team discussion on the review of this section included the following:

- For military activities around Guam, DAWR used to receive summaries of the NTMs issued each year. The military began issuing weekly notices of what exercises are expected each week through July 2021. After that date, the DAWR were told they had to submit a Freedom of Information Act request to receive records of military activities for the last half of the year. However, the military resumed supplying weekly updates in 2022.
- Information about the draft programmatic environmental impact statement for the aquaculture management framework that had recently been published could be incorporated into the marine planning section.

iv. Socioeconomics

Minling Pan, PIFSC SEES, provided updates to the socioeconomics section of the 2021 annual SAFE report. Unemployment in Hawaii went from being the highest state-based unemployment rate in the country to returning close to the national average. Fuel price increased most notably in Hawaii in 2021 and is anticipated to increase region-wide in 2022. The cost of a trolling trip increased in each of the three territories from 2020 to 2021. The commercial pelagic fishery data in Guam were confidential in 2021 due to a lack of vendor reporting, but the landings and revenue from 2020 to 2021 were lower than the decadal average. In CNMI, there was a substantial increase in both pounds sold and revenue for the troll fishery despite there not being a commensurate increase in total estimate catch, perhaps due to recent improvements in commercial data collection; commercial landings were 75% of the total in 2021, whereas the average is about 53%. Data on pounds sold and revenue in the American Samoa troll fishery were confidential in 2021 but represented a decline despite the increase in total estimated landings. Pounds sold and revenue for the American Samoa longline fishery continued their decreasing trends despite both slightly increasing in 2021 relative to the previous year. The

average fish price for species sold to the cannery also declined in 2020 and 2021 to $1.14/lb and $1.10/lb, respectively, after reaching its peak in 2019 at $1.35/lb.

In Hawaii non-longline pelagic fisheries, there was a slight increase in pounds sold and revenue in 2021, but the values were still lower than the decadal average. The Hawaii longline fisheries showed a strong rebound in revenue from 2020 to 2021, with the Hawaii-based revenues alone accounting for $111 million (with additional contributions from fish sold on the U.S. west coast). There was an associated increase in price for bigeye tuna, yellowfin tuna, and swordfish, with an average fish price of $5.00/lb, a decadal high. Net revenue per trip increased in both the shallow-set and deep-set longline fisheries, primarily supported by the increased fish price for pelagic species, but not to the levels of the 2016 peak.

Plan Team discussion on the review of this section included the following:

- The American Samoa pelagic fisheries seemed to have a larger number of pounds sold than pounds landed, but the data made more sense when they were broken down by gear type using receipt book information.
- There was a decline in fish price from the StarKist cannery in American Samoa, which may be associated with the 2018–2019 increase in fish price as a result of the Marine Stewardship Council certification that gave fishers $200 more in revenue per metric ton. Cannery prices are also related to the international market.
- The reduction in average price for the Hawaii offshore handline fishery implies that fish were being sold for less than the competing fishers despite selling the same fish through the same avenues. Because the fishery is small, the usual vessels and captains are known and the issue would be easy to look into. Portions of the fishery seem to have performed well from a cursory glance.

Kirsten Leong, PIFSC SEES, presented on feedback received on the socioeconomic module following a user feedback survey sent to primary stakeholders. Key findings included that the socioeconomic modules appear to support a diverse suite of fishery management documents for some and are useful for educational purposes and to support proposal justifications to others. Broadly speaking, there was interest in updated information on the economic impacts of regional commercial and non-commercial fisheries and how they relate to the broader economy, culture, and community dependence on fisheries. In considering anticipated needs, survey respondents felt that Environmental Justice and shifting demographics were two key elements that warranted additional treatment in future modules. The most common responses for other suggested improvements relate to the temporal scale of analyses (i.e., extending beyond the current 10-year time series presented in the reports) and the desire for an online data analytics tool that would allow for more user-friendly access to the data and figures in the socioeconomic modules, which may already exist in the form of the Fishery Ecosystem Analysis Tool (FEAT). An additional request was to include a management/policy review into the module workflow to ensure the fisheries management information included is current and accurate. The Plan Team generally endorsed the improvements derived from the PIFSC SEES feedback survey and offered to provide its own feedback on the socioeconomic module and FEAT.

A Plan Team member emphasized the recurring suggestion to expand the time series to be greater than just the most recent decade, and Leong noted that PIFSC SEES must examine what time series make sense to show, as data collection has changed over time.

In response to inquiries by the Plan Team if PIFSC SEES would be able to produce another

special COVID section to be included in the 2021 annual SAFE report, Leong confirmed and presented a few slides regarding efforts associated with documenting impacts from the pandemic. NMFS published a number of reports in 2021 describing PIFSC and national efforts to monitor pandemic impacts on fisheries and fishing communities. For example, in addition to statistics on fishery recovery Hawaii visitor arrivals saw rebounded in 2021 to more than double of 2020 but still lower than pre-pandemic levels. Hawaii also had the largest improvement in unemployment rates after having the highest state-level unemployment during the pandemic. The Plan Team endorsed the inclusion of another special COVID section in the 2021 report.

v. Protected Species

Council staff provided updates to the protected species section of the 2021 annual SAFE report. The revision of the module is done by the protected species work team. Historically, the module has been generated with annual interaction tables based on vessel arrival data, but sea turtle hard cap uses interaction date and the Pacific Island Regional Observer Program has started using haul begin date for their online annual reports. The module may be overhauled for the 2022 annual SAFE report to present interactions based on haul begin date.

In 2021, the Hawaii shallow-set longline fishery retained 100% coverage through the pandemic, whereas the deep-set longline fishery coverage increased from 2020 to 17.8%. Shallow-set longline fishery effort increased after three years of partial effort due to closures associated with the turtle hard cap and the pandemic. There were 19 total loggerhead interactions and two interactions with olive ridleys, and no vessels in the fishery reached the loggerhead or leatherback trip limits. The fishery interacted with zero Guadalupe fur seals after having seven interactions in 2020, likely due to the lack of effort east as it was previously noted that pinniped interactions are greater east of 130°W in the fourth quarter of the year. The interactions with black-footed albatross in the shallow-set fishery was within the range of pre-2018 levels as effort rebounded, and oceanic whitetip shark (OWT) interaction rate was highest observed since 2011 which may be due to greater spatial overlap or potential increase in population density from WCPFC and IATTC shark conservation measures.

The Hawaii deep-set longline fishery had greater uncertainties surrounding the interaction estimates due to reduced observer coverage. The main interactions with sea turtles continued to be with olive ridleys, but the peak of 2016-2019 seems to have subsided. An apparent 2020 uptick in interactions with rough-toothed dolphins declined back down to two interactions. The number of false killer whale (FKW) interactions was the highest observed in 2021 and tied with 2019, and the Council requested analysis of interaction and depredation trends at the March 2022 meeting (also see item 7, this report). Elevated interactions for black-footed albatross continued in the deep-set fishery but were slightly lower than the preceding year, and the Council's final action in December 2021 recommending seabird measure revisions for the fishery was highlighted in the narrative. The OWT interactions were similar to the level observed in 2015. The prohibition of wire leaders and required removal of trailing gear were highlighted in the narrative, along with a figure showing the voluntary leader transition that occurring in 2021.

The American Samoa longline fishery had limited observer coverage in 2020 and 2021 at a rate of 4.65% of trips. Less than 3 vessels were observed in 2021, so the associated data are confidential. Expansion estimates based on past data were added to report. For non-longline pelagic fisheries, such as Hawaii troll, MHI handline, Hawaii offshore handline, and territorial troll fisheries, references for the Marine Mammal Protection Act List of Fisheries for each of the

fisheries were updated and the protected species work team is continuing to monitor them for any changes that might indicate shifts in interactions.

The identification of emerging issues was updated, and the work team identified two additional research, data, and assessment needs for Plan Team consideration and endorsement. The identified research needs were improving observer data collection for bite-offs and building species distribution models for protected species using existing telemetry data. Council staff requested the Plan Team to provide direction on converting data tables to summarize annual interactions based on haul begin data, as well as to endorse changes to the module. Council staff also suggested that protected species data be added to the Council's online portal for the annual SAFE report.

Plan Team discussion on the review of this section included the following:

- The Plan Team endorsed the data table overhaul for the 2022 year report to modify reporting to haul begin date, and also endorsed the additional research, data, and assessment needs identified by the work team.
- Progress on the Ecosystem-Based Fisheries Management (EBFM) model analysis to better describe variability in interactions could be included in the narrative of the protected species module. The main parameter that came out of the analysis was mean wind direction, which seems to have shifted during over the period of evaluation. Eddy kinetic energy and higher currents may have increased the probability of interactions as well, so it is possible that a more dynamic ocean could lead to higher interactions such that gear moves past the protected species or smaller individuals are more able come in contact with gear.
- Olive ridley turtle interactions are monitored despite the large nesting population because it is an opportunity to learn about what might be driving the protected species interactions. Rarer interactions can be examined to better understand how to incorporate the information into models; the monitoring is not solely in terms of concern for the population, but it acts as mechanism for understanding trends and patterns.
- Discussions surrounding the length of the pelagic fisheries time series continued, as the data presented for protected species extend much further than the recent 10 years while fishery performance and socioeconomic data are limited to 10-year time series. When the protected species module was developed in 2015, it was decided to include all available data since the split of the Hawaii shallow-set and deep-set longline sectors in 2004 and 2002, respectively. Data for American Samoa are included since observers began observing trips in 2006. Because interactions are rare and trends over the whole time series are informative, the module simply adds on a new year for each iteration of the annual SAFE report.
- The succinct administrative and regulatory action section of the pelagic annual SAFE report does not track a large amount of the effort by the Council and its Science and Statistical Committee (SSC) to address issues with protected species interactions. Presently, there is a narrative that describes recent and forthcoming actions. It may be helpful to illustrate that there has been a lot of historical work to implement regulations to reduce interactions, as this information is as relevant as current actions. Adam Ayers, PIFSC, included a list of regulatory changes for the Hawaii longline fisheries in a recent technical report, and there is value in doing something similar to capture all relevant management measures for pelagic fisheries.
- The turtle interaction regulations in 2004 resulted in a significant decline from the previous estimates of turtle interactions, and the regulations and fisheries adapting to the changes were a success story showing that both managers and fishers are working to try to solve the

problem. While the effectiveness of conservation measures is addressed and publications are emphasized in the protected species module, additional attention could be given to initial regulatory measures. Additional emphasis should also be placed on how regulatory actions have impacted the fisheries.

- A Plan Team working group previously formed to discuss the reasonable and prudent measures (RPMs) from the shallow-set longline fishery biological opinion has not reconvened in two years due to PIRO staffing changes. However, the group did generate some recommendations that led to TurtleWatch being used as a case study, for example. Progress is ongoing, and Plan Team members will follow up with PIRO staff.

7. False Killer Whale Interaction and Depredation Patterns

Robert Ahrens, PIFSC FRMD, presented an effort to examine patterns of interactions and depredation between the pelagic fishing industry and false killer whales (FKW) using the Protected Species Ensemble Random Forest (PSERF) model. Ahrens provided a brief overview of previous studies that contribute to the current understanding of FKW interactions and depredation. A study by Forney et al. (2011) suggested there were higher rates of depredation in the winter, at lower latitudes, and with higher fishing effort, but the explanatory power (i.e., deviance explained) of the generalized additive model (GAM) was low and no covariates were identified. These conclusions were also supported by Fader et al. (2021). Tagging work by Anderson et al. (2020) suggested that FKW behavior may change to foraging during the haul phase of a longline set.

Using PSERF to model FKW interactions, there were several indicators that were much better than random variables, including SSTA, current front, soak time, and lunar radius. Individual models were not effective, similar to the GAMs used in previous studies, but the ensemble approach provided an improvement. Increased SSTA, steeper current fronts, shorter soak times, and approaching a full moon all increase the probability of an FKW interaction, with some of these being directly counter to depredation events. Other contributing metrics could include those that characterize currents and energies within the water column; for example, the presence of an eddy will decrease the likelihood of an interaction (which is also opposite for depredation).

The strongest indicators of FKW depredation events based on the PSERF model outputs was the sine of Julian day, SST, soak time, SSTA, and lunar radius. The performance metrics for the model indicated that the outcomes were highly accurate, perhaps because there were 3,000 records for depredation versus the 92 records of interactions. Fishing earlier in the year, increased SST and SSTA, increased soak time, fishing during a full moon, and the presence of an eddy all increase the probability of a depredation event.

Overall, for predicting FKW interactions and depredation, a single random forest model is poor while an ensemble model is better since it has better predictive capacity than the previous GAMs. Future work will involve addressing the Council recommendation for PIFSC to analyze FKW interaction and depredation patterns and through 2021, including economic impacts from depredation as well as the effect on fishing effort and FKW interactions of the Southern Exclusion Zone (SEZ) closure. PIFSC sees the merit in the recommendation but believes the process should be conducted in coordination with the FKW Take Reduction Team (TRT). Ahrens asked the Plan Team to provide guidance on how to proceed for the requested analysis.

Kobayashi noted that many of the indicators utilized in the PSERF model were associated with

one another, such as the presence of an eddy as well as eddy kinetic energy, current vorticity and speed, and wondered if the distinct indicators resulted in a consistent signal. Ahrens noted that overparameterization is a concern, and some indicators are capturing the same thing. In the case of eddies, the general indicator specifies whether sets were located within an eddy or not, whereas other variables describe more subtle aspects of the eddy and its impacts on local ecology.

Council staff clarified that this effort came from a Council endorsement of a recommendation by its Fishing Industry Advisory Committee and discussion at its SSC. The last few years, from 2019 to 2021, the longline fishery had the highest number of observed FKW interactions at around 15, seemingly indicating an uptick over time given the rarity of interactions previously. Anecdotally, the Council continues to hear from the fishing industry that depredation has gotten worse over time. Council staff asked if there are temporal trends for interactions and depredation, and if there seem to be any changes in the way that depredation events have been coded over time such that the analysis may have been impacted. Ahrens noted that he has not examined the nature of the codes nor completed a time series analysis of the data, as spatial distribution modeling was the first step of the evaluation.

Council staff also noted that based on the observer data, it appears that additional coding categories were added in 2016 followed by a drop-off in records of marine mammal depredation events. Council staff wondered if the change is due to prioritized data collection during pandemic or onboarding of new observers. A Plan Team member indicated that the marine mammal codes were implemented before 2016 and have not changed; however, shark depredation codes changed in the past five years. The member suggested asking the Observer Program for more information about the change. There is no bait depredation code.

A Plan Team member asked if catch was examined as a predictor of depredation, and Ahrens replied that previous models (i.e., in the GAM framework) did but were not fruitful. The Plan Team member asked why there may be more FKW interactions in the winter and if it could be related to effort distribution. Another Plan Team member speculated that shallow-set longline effort is the highest from the fourth quarter of a year going into the first quarter of the next year, but the member was not aware if depredation is also higher during this time period. Effort generally moves closer to the islands as bigeye tuna season begins.

8. SAFE Report Discussion

A. 2021 Report Region Wide Improvements & Recommendations

Council staff led a discussion on region-wide improvements and recommendations for the annual SAFE report. A Plan Team member noted there is value in some recommendations but not others, and many of the recommendations allocate significant work for PIFSC FRMD with little application and noted there is recent attrition of their staff. Council staff agreed and suggested that the point of focus is for the Plan Team to ensure that the annual SAFE report provides useful information with respect to monitoring and rulemaking. Council staff suggested that the Plan Team take inventory of the annual SAFE report to determine what is useful and what can be removed from the document.

Further Plan Team discussion under this section included the following topics:

<u>Overall Improvements to the Annual SAFE Report</u>

- The annual SAFE report is a large document that the Plan Team needs to ensure is useful for monitoring, environmental assessments, and rulemaking in each island area as it continues to evolve. This year is the fifth that the report has existed in its current state, which warrants exploration into what can be improved and removed from the report going forward. Some Plan Team members indicated that they cannot use the annual SAFE report for rulemaking due to how data are presented, and the report could be made more consistent with how rules are developed (e.g., catch time series, Incidental Take Statement tracking, improving the narrative associated with regulatory actions, ACL tracking, etc.). It may be more efficient for those in need of data to simply submit a JIRA request to NMFS rather than updating the report with a wide range of information annually; however, incorporating information by reference in lieu of submitting JIRA requests for regular actions (e.g., data regarding catch attributed to the territories for the bigeye tuna Supplemental Information Reports). While the report will never be able to address all potential data requests, revising its organization would help its utility. Other Plan Team members noted the value of making the report more useful for rulemaking, but the way that regulatory impact reviews and environmental assessments are generated may not be able to be facilitated by the annual SAFE report since specific species and/or areas are being evaluated. A Plan Team member noted that the annual SAFE report does have utility for status reviews, five-year reviews, and recovery planning for listed species.
- National Standard 2 specifies the requirements of a SAFE report, and it seems that some current sections are not required. However, the SAFE reports in the Western Pacific region also double as annual reports for the FEPs to monitor the performance of regional fisheries for management. The most important consideration is if the document helps manage the fisheries under the FEP and inform Council management. There was a general consensus among the Plan Team to make the annual SAFE report more efficient by removing items and/or moving things to the online portal.
- The Council's online portal provides opportunity to incorporate more data without inflating the PDF versions of the report. Some improvements going forward can be housed in the online portal and referenced in the report. However, even if improvements are housed in the online portal, they would require the same amount of work to generate and update annually as if they were in the PDF versions of the report.
- There was concern regarding the number of possible Plan Team recommendations for PIFSC FRMD given their staffing capacity. However, each year the Plan Team develops recommendations that go to the Council to prioritize work for upcoming years, and the recent wire leader regulations were initiated in a Pelagic Plan Team working group.

<u>Tracking Non-Target Longline Catches Sold in American Samoa</u>

- There is both local and foreign longline incidental catches that are not sold to the American Samoa cannery that may make their way to local markets. DMWR does not collect information on whether the non-target catches are from American Samoa vessels or foreign sources, and there may be pitfalls in assuming commercial data are derived from the American Samoa longline fleet when they are actually from foreign longline fleets since the two sources are not distinguished in commercial receipts. Discerning local and foreign non-target longline species sales outside of the cannery is a priority to the DMWR and its director to better understand what non-target fish are transferred to the fishing community. A Plan Team member noted that, when examining commercial invoices, there are options for vendors to indicate whether the sales were "local" or "non-local", but these data are not often

captured. However, the vessel key may be able to be used to indicate foreign longliners. PIFSC SEES will work with DMWR and WPacFIN to determine if relevant data on non-target longline catches exist and attempt to clarify disposition. The SSPC would also be interested in contributing due to the effort's relevance to food security and fish flow.

- The issue of determining non-target longline catch that is sold to local markets may be related to the calculation of sales disposition (i.e., fish kept versus fish sold), which are done based on a PIRO port sampling project that stopped in 2015; the calculation may need to be revisited. Since that project ended, Kimberly Lowe calculated an average of previous years' longline dispositions, which showed most tunas go to the cannery. However, there is little disposition information for fish that do not go to the cannery; DMWR and PIFSC will need to further discuss how to better estimate disposition.
- The Plan Team discussed ensuring "bycatch" is appropriately defined in the annual SAFE report consistent with the Magnuson-Stevens Act relative to "non-target catch" for consistency with SBRM, though bycatch is already defined accurately within the report.

Including Graphical Depictions of Average Weight Values for Pelagic Species

- The Plan Team discussed the utility of generating figures for values included in the annual SAFE report currently in tabular form, such as average weights for pelagic species harvested by Hawaii longline fisheries, and some Plan Team members agree that graphical depictions may not be necessary. The data were originally decided to be included in a table because it is the smallest space that allows for the conveyance of the maximum amount of information.
- With respect to developing narratives that would accompany the figures, a Plan Team member expressed caution around using speculative language.
- The work item related to this topic was ultimately removed.

Incorporating Longer Time Series than 10 Years

- The length of time series data currently included in the annual SAFE report is based on an arbitrary number (i.e., 10 years), and the feasibility of extending the time series could be examined. A Plan Team member expressed support for the idea, suggesting that this update would not change figure or report size and would not take much more work to produce. Data points can be excluded as necessary. This effort would make the fishery performance modules more consistent with the protected species and environmental indicators sections that present full-length time series. Additionally, 10 years is short and does not cover the life span for some PMUS.
- Some Plan Team members did not agree with the proposed effort to elongate the time series presented in the annual SAFE report. There are over 100 time series figures current in the report that would need to be revised, and the incorporation of "longer" time series is vague. There would need to be an intentional starting point for each fishery decided on a case-by-case basis associated with regulatory and data collection changes throughout the history of the fisheries (i.e., deep-set and shallow-set designations in the Hawaii longline fishery), which may be confusing to readers. Several Plan Team members did not see an issue with selecting a best starting point for the time series describing each fishery, as similar efforts have been done in the past. However, other Plan Team members noted that many data points would need to be filtered out or caveated.
- Some Plan Team members noted that extending the time series would cause a slippery slope with respect to explaining changes in the data via a narrative. With data extending back several decades, there would need to be lengthy accompanying narratives to provide context

surrounding regulatory and fishery changes. A possible alternative would be to retain the 10-year time series but include a longer historical summary or simply state the length of the full time series exist elsewhere; if a layperson wishes to view the complete data, they can make a JIRA request.
- If there are concerns regarding including longer time series in the body of the annual SAFE report, the longer time series could be added to the Appendix of the report or in the online portal for the report.
- The Plan Team ultimately decided to retain the work item but revised it for members to "explore the feasibility" of including longer time series instead of requesting the effort.

B. Other SAFE Report Matters

The Plan Team discussed this agenda item during the preceding agenda item (8.A).

9. Pelagic Plan Team Action Items

A. Aquaculture Management Framework Alternatives (Action Item)

Council staff provided updates on the aquaculture management framework, including a description of the Programmatic Environmental Impact Statement (PEIS) that was recently released for public review and the alternatives provided for consideration within the document. The three alternatives for the aquaculture management framework include no action, a limited aquaculture management program, and an expanded aquaculture management program. The no action alternative would result in no aquaculture program. The limited program would offer a "one stop shop" for permitting, recordkeeping, and reporting. It would include a commercial permit valid for 10 years and a research permit valid for three years. Gear types would be limited, and target species would only be MUS and ecosystem component species (ECS). The expanded program would also offer a "one stop shop" for permitting, recordkeeping, and reporting. However, the commercial permit under the expanded program would be valid for 20 years and the research permit would be valid for six years. More gear types would be allowed, and target species would be any native species. The Plan Team was given an opportunity to provide comments before the Council takes final action on this item at its September 2022 meeting.

A Plan Team member asked if Remington would describe the outcomes of discussion from the APT on this action item. Remington noted that the APT endorsed Alternative 3 for an expanded scope of the management framework with concerns surrounding the 20-year duration for issued permits and ensuring appropriate monitoring plans are implemented. The Plan Team member moved for the Plan Team to accept APT recommendation and asked who which group could be overseeing the implementation of the management framework. Council staff clarified that PIRO would be in charge of the implementation of the aquaculture program.

B. Alternatives for NWHI Fishing Regulations (Action Item)

Council staff provided updates on the status of fishing regulations in the Northwestern Hawaiian Islands (NWHI) associated with the designation of portions of the Papahānaumokuākea Marine National Monument and expansion area as a national marine sanctuary. The Council agreed to develop fishing regulations for the proposed NWHI sanctuary and directed staff to respond to the Office of National Marine Sanctuaries 304(a)(5) package request with recommendations for permitting and reporting requirements for commercial fisheries (i.e., outside current monument

boundaries), non-commercial fisheries, Native Hawaiian practices, and research fishing within the sanctuary boundaries. The Plan Team was given an opportunity to provide guidance on fishing regulations for the area as the Council will take initial action on this item at its upcoming June 2022 meeting; final action will likely occur at the Council meeting in December 2022 or March 2023.

A Plan Team member asked if Remington would describe the outcomes of discussion from the APT on this action item. Remington noted that the APT deferred the development of any recommendations until the NOAA Office of National Marine Sanctuaries provides explicit boundaries for the proposed sanctuary relative to the Papahānaumokuākea Marine National Monument and would revisit the topic at a future meeting. A Plan team member noted if the APT has concerns about the proposed boundaries, then the Plan team should have similar concerns. It would not be useful to develop regulations now only to find that the sanctuary falls within the monument, and it does not make sense to attempt to manage an undefined area, whether there is general interest in generating regulations or not.

A Plan Team member asked if there are new aspects of the action that had not been previously described in the *Federal Register* notices, as the member thought that boundaries were going to be consistent with the Papahānaumokuākea Marine National Monument. The Plan Team member asked, in the process of transitioning from a monument to a sanctuary, if rules can be broadened with respect to the types of fishing allowed. Additionally, the Plan Team needs clarity regarding the possibility of the proposed boundaries changing. Council staff noted that the sanctuary boundaries can be anything, and the sanctuary process includes consideration based on public input; for example, some provided comments have suggested extending the proposed sanctuary to Middle Bank. With respect to commercial fishing, the Council could have input for commercial fishing regulations if the sanctuary boundaries extend past the existing boundaries of the marine national monument. Another Plan Team member clarified that the marine national monument would remain and simply be overlayed by the proposed sanctuary. If the sanctuary ends up being wholly within the marine national monument, the rules already in place would not change such that the regulations would remain consistent with the Presidential Proclamation establishing the monument. A Plan Team member noted that the Council suggesting regulations could be useful if a future administration reverses the proclamation that implemented the monument, leaving the sanctuary in place. The Plan Team reached consensus on deferring action on this topic until the sanctuary boundaries are more clearly defined.

10. Plan Team Discussion on Declining Trends for Some PMUS

A. Timeline of Notable Management Actions & Fishery Changes

Council staff provided an initial timeline of notable fishery changes and associated fishery management actions for select non-target PMUS with declining trends, focusing on Western Pacific mahimahi as a case study. Understanding these declining trends in non-target PMUS requires an understanding of changes in the fisheries over time, including fleet dynamics, economic drivers, management changes, fishery interruptions, and gear modifications. The goal of this effort is to develop narratives to offer explanations regarding the declining trends for these pelagic species and to better identify research plans and priorities. Mahimahi harvested by the Hawaii longline fishery has experienced a decline in both catch and CPUE in recent years. Considerations include that the area in which the fishery operates constantly shifts rather than remaining static, the fishery has been impacted from spatial closures, and the fishery has

experienced interruptions between the deep-set and shallow-set sectors. Recent closures, changes, and interruptions include the development of marine national monuments (e.g., Papahānaumokuākea), the SEZ closure, closure of the shallow-set sector due to turtle interactions, closure of the deep-set sector due to administrative issues, and gear modifications. Council staff requested the Plan Team assist in further populating the timeline of all fishery changes, interruptions, and management actions to date.

There was a study that found the impact of SST on mahimahi CPUE was notable such that deep sets in cooler waters were more likely to harvest mahimahi than those in warmer waters (Walsh et al. 2020). However, it remains unclear whether the mahimahi declines are attributable to ecosystem factors or regional exploitation. The ongoing Hawaii Incidental Pelagic Project, focusing on mahimahi, ono, monchong, and opah, looks to investigate the available data for these pelagic species to determine the feasibility of performing stock assessments. Council staff asked the Plan Team where narrative explanations could be provided, what information could be used to inform the narratives, and how the narratives could be folded into research priorities.

A Plan Team member noted that, last year, NOAA conducted an evaluation of stock assessments to provide NFMS with information that can help best meet regional needs by addressing the stocks that need assessment. Species such as ono, mahimahi, opah, and monchong ranked high for prioritization. PIFSC will work with its partners to develop research tracks under the Western Pacific Stock Assessment Review (WPSAR) framework.

B. Discussion on Data and Analyses to Inform Trends

The Plan Team discussed this agenda item during the preceding agenda item (10.A).

11. Forage Fish Act Discussion

Council staff led a Plan Team discussion focused on the Forage Fish Act of 2021 (S 1484 and HR 5770), which was introduced in the U.S. Senate on April 29, 2021, and in the U.S. House of Representatives in October 2021. The House bill was co-sponsored by Congressman Ed Case, Hawaii, and addresses the management and conservation of forage fish. The Council Coordination Committee (CCC) will provide a consensus statement on the Councils' perspective regarding potential provisions at its meeting in May 2022. The proposed legislation is concerned with unmanaged forage fish and ensuring they are protected through appropriate management. While most species are prey of others, forage fish maintain the unique role of a prey species throughout their life cycle and addressing the unique role of forage fish is necessary to sustain ecosystem function and sustainable fisheries. Ultimately, the bill would revise the MSA to allow the Secretary of Commerce (the Secretary) to define forage fish, solicit scientific advice from the SSC, and determine Council responsibilities.

In the Western Pacific region, most species that would be classified as forage fish are likely managed adequately already. When setting ACLs for forage fish fisheries, the Council must assess, specify, and reduce such limits by the diet needs of fish species and other marine wildlife. While this bill is a priority to Congress, the passing of Congressman Don Young, Alaska, delayed progress. If the bill does not pass this year, it would need to be reintroduced in the next Congress. A large consideration is the additional demands on the Council and NMFS, especially given what data are available for forage fish in the region. Council staff requested comments from the Plan Team on forage fish.

Kobayashi asked why Congressman Case co-sponsored the bill, and Council staff noted that Congressman Case has often accompanied Congressman Jared Huffman, California, in sponsoring fishery-related bills (e.g., regarding the MSA and blue water economies).

A Plan Team member asked if the proposed legislation would only be applicable to fish, or if it would be inclusive of other marine animals such as squid. Council staff stated that the answer is dependent on how the Secretary defines forage fish, but the definition may include squid.

12. Public Comment

There was no public comment.

13. Pelagic Plan Team Recommendations

Plan Team discussion on the draft recommendations is provided before presenting the final recommendations below. Additionally, several of the final recommendations from the Pelagic Plan Team make reference to APT recommendations, which are listed below the final recommendation list.

- Recommendation #1 on investigating the calculation of average price for Hawaii PMUS fisheries – the Plan Team endorsed the recommendation by consensus, with discussion on the recommendation summarized below:
    - DAR representatives to the Plan Team endorsed the recommendation and noted that "investigate" is the key word such that the effort would be to explore the possibility to look at different ways to evaluate price and revenue by gear. The evaluation will realistically involve comparing the current method of calculation against other methods.
- Recommendation #3 on generating bycatch summaries for Hawaii small boat fisheries – the Plan Team endorsed the recommendation by consensus, with discussion on the recommendation summarized below:
    - A Plan Team member noted that the data can simply be pulled from the DAR FRS, but the member was concerned about the downward bias of self-reported data.
    - Remington noted that providing these bycatch summaries are necessary for the Council to be consistent with its SBRM and that the uncertainties in the data would be explicitly acknowledged.
- Draft recommendation for a working group to examine the impacts of the LVPA and other external drivers on the American Samoa longline fishery – the Plan Team decided to forgo the recommendation following extensive deliberation, as summarized below:
    - A Plan Team member noted that there may be no need for the recommendation since the American Samoa longline fishery is relatively small and declining. Additionally, because the LVPA change happened only a few months ago, there are not much data to utilize. Previous studies have attempted to analyze ecosystem drivers of the fishery without much progress due to variability in the ecosystem indices and barriers associated with confidential data.
    - Council staff suggested that the size of the fishery is not good enough reasoning not to perform due diligence of looking at the regulatory impacts to the fishery. If the Council does not prioritize addressing the impacts on the declining fishery, it may

send the wrong message to the territories. The American Samoa DMWR representative to the Plan Team agreed and stated that the DMWR needs support to evaluate the fishery impacts to food security. Several other Plan Team members agreed with Council staff that such an effort would allow fisheries scientists and managers to look toward the future of the fishery, and while there might not be enough data the determine impacts at the moment, it may be something to analyze going forward.

- A Plan Team member stated that the reasoning against the draft recommendation is not to ignore the needs of the territories, but the concern is that the questions of what to look at or why are unclear and need to be thought about more specifically; framing the effort as a way to identify questions and refine scope would be more beneficial.
- Another Plan Team member questioned the utility of such an analysis on the American Samoa longline fishery and wondered who the end user(s) would be. The member agreed with comments about being prepared for the future, but it is not clear how far in advance fisheries scientists and managers should be prepared. The Plan Team member suggested deferring action on this topic for now to allow for there to be enough data to analyze and understand what is being analyzed.
- The American Samoa DMWR representative to the Plan Team agreed about deferring but also requested a balance of prioritization. The DMWR is currently working on the Governor's directive on food security, which is a priority to address. The member also noted that such analyses could be more qualitative in nature if quantitative data are lacking. Ultimately, the Plan Team decided to forego the recommendation.

Recommendations

Regarding the calculation of total estimated revenue and average fish price for Hawaii pelagic fisheries, the Pelagic Plan Team:

1. Forms a Plan Team working group composed of PIFSC Social Ecological and Economic Systems and Hawaii DAR staff to investigate calculations for average price of Hawaii PMUS by non-longline gear types and make recommendations for presenting this info in future SAFE Reports.

Regarding non-commercial data reporting in the annual Pelagic SAFE Report, the Pelagic Plan Team:

2. Requests the Archipelagic Plan Team (APT) include Pelagic Plan Team members and associated Council staff in development of non-commercial pelagic catch summarization procedures, as endorsed by the APT. The Pelagic Plan Team will defer development of a non-commercial data module until it is consistent with the APT.

Regarding the calculation of total estimated bycatch in non-longline Hawaii pelagic fisheries, the Pelagic Plan Team:

3. Expands the existing Plan Team bycatch working group composed of PIFSC, PIRO and Council staff to include Hawaii DAR staff, working in coordination with an Archipelagic Plan Team working group, to generate bycatch tables for the 2022 annual SAFE report for Hawaii non-longline pelagic fisheries consistent with the Hawaii bycatch tables in the Archipelagic SAFE Report, noting any associated uncertainties and to provide appropriate narratives associated with bycatch estimates for these fisheries.

*This recommendation references the Archipelagic Plan Team recommendation below.

Regarding bycatch estimates reported in the annual Pelagic SAFE Report, the Pelagic Plan Team:

4. Requests the existing Plan Team bycatch working group to address the development of the top-10 ranked species and/or top 90 percentile list approach for the longline observer bycatch data, consistent with the Archipelagic Plan Team.

Regarding the aquaculture management framework alternatives, the Pelagic Plan Team:

5. Endorses Alternative 3, which includes an expanded scope for the management framework, consistent with the Archipelagic Plan Team recommendation, inclusive of their concerns regarding the duration of the permits and the implementation of appropriate monitoring plans.

*This recommendation references the Archipelagic Plan Team recommendation provided below.

Regarding the alternatives for the NWHI fishing regulations, the Pelagic Plan Team:

6. Defers the development of recommendations until the Office of National Marine Sanctuaries provides explicit boundaries for the proposed sanctuary relative to the Papahānaumokuākea Marine National Monument. When the sanctuary boundaries are further defined, the Plan Team will revisit this topic at a future meeting.

*This recommendation references the Archipelagic Plan Team recommendation provided below.

Annual SAFE Report Work Items

- Council staff to incorporate text into the 2021 annual SAFE report regarding the reduction of the four size classes for American Samoa longline vessels (i.e., A, B, C, and D) to two size classes (i.e., small and large) under Amendment 9 to the Pelagic FEP. Additionally, Council staff should work with PIFSC FRMD to ensure that data presented in the 2022 annual SAFE report are reflective of this change.
- PIFSC and the Social Science Planning Committee to work with Council staff and American Samoa DMWR to better estimate non-target ('miscellaneous') catch from longline fisheries in American Samoa that go to local markets, impacting local food security.
- Council staff to include discussion from Plan Team reports as narratives in SAFE Report for items discussed or flagged by Plan Team members.
- Council staff to work with annual SAFE Report section authors and PIFSC FRMD, at the discretion of the authors, to explore the feasibility of including a longer time series of fishery data, on a case-by-case basis, made available the online pelagic annual SAFE Report, retaining 10-year tables in the standard SAFE report document.
- State and Territorial agency staff to work with PIFSC FRMD and Council staff to double-check that zeroes reported in the pelagic fishery data are true zeros and not non-disclosed values associated with data confidentiality rules.
- Council staff to remove data summaries for and references to transshipment data on Guam in the pelagic annual SAFE report.
- The Pelagic Plan Team requests members to follow the following best practices:
    - Ensure data points with confidential data not be included in graphical depictions and data tables;
    - Ensure proper axis labels are added to figures to avoid confusion; and

    - During the Plan Team meeting, prioritize the presentation of both tables and figures.
- Council staff to confirm which PMUS managed under the WCPFC and IATTC are covered under as PMUS identified in the Pacific FEP
- PIFSC FRMD to incorporate by reference international stock assessment summaries in the 2021 annual SAFE report through science committee reports or executive summaries in stock assessment reports, if they exist and have been adopted by the RFMO.
- The Plan Team endorses Council staff Zach Yamada as the section author in charge of updating the marine planning module in future report cycles.
- Pertinent Plan Team members to incorporate another special COVID-19 Section in the 2021 annual SAFE report.
- Protected Species Module Work Team to update the data tables to be summarized by haul start date in the 2022 annual SAFE report, consistent with the updated PIROP annual reports.
- Regarding the socioeconomic module of the annual SAFE reports, the Pelagic Plan Team endorses the improvements to the module identified by PIFSC survey feedback. Additionally, the Pelagic Plan Team should facilitate additional feedback from members on the utility of the socioeconomic module after review of the Fishery Ecosystem Analysis Tool.
- Plan Team endorses the addition of the protected species module data to the Council's online portal for the annual SAFE report and requests the Protected Species Module Work Team to coordinate with the SAFE report coordinator to establish the workflow.

<u>*Relevant Archipelagic Plan Team Recommendations</u>

Regarding the bycatch reporting improvements in the annual SAFE reports, the APT:
- Endorses the current bycatch tables, noting that fisher-reported data may be biased downward, and recommends adding a separate table to describe the type of bycatch (e.g., a top-10 ranked species list and/or top 90 percentile) that comprises the number released for non-target species in the archipelagic bycatch tables.
- Forms a working group comprised of Keith Bigelow, Brad Gough, Matt Seeley, Bryan Ishida, and Thomas Remington to address the development of the top-10 ranked species and/or top 90 percentile list approach and the issue of reporting non-target species bycatch for MUS fisheries that are targeted by multiple gear types (e.g., uku in the main Hawaiian Islands).

Regarding the aquaculture management framework alternatives, the APT:
- Endorses Alternative 3, which includes an expanded scope for the management framework, but notes concerns regarding the proposed 20-year duration for issued permits, non-native species, and ensuring there are appropriate monitoring plans implemented. However, the APT notes that at least a portion of these appropriate monitoring plans will be implicit through the permitting process.

Regarding the alternatives for the NWHI fishing regulations, the APT:
- Defers the development of recommendations until the Office of National Marine Sanctuaries provides explicit boundaries for the proposed sanctuary relative to the Papahānaumokuākea

Marine National Monument. When the sanctuary boundaries are further defined, the APT will revisit this topic at a future meeting.

14. Other Business

Valerie Post, PIRO IFD, provided updates on transitions and current happenings in IFD. There was a new NOAA deputy assistant secretary who transitioned to be the head of delegation for the WCPFC federal commission, and the new IFD chief, Jason Philibotte, will be moving to Hawaii in the next month. Emily Crigler, formerly part of IFD, now works at PIFSC, and it has not yet been decided who from IFD will sit on the PPT. With respect to updates from the WCPFC, observer waivers were extended until June for purse seine fisheries. A special session of the WCPFC will be held to discuss associated provisions, and the proposed meeting is schooled for June 8, 2022 (HST). WCPFC intersessional working groups, including for electronic monitoring and reporting, South Pacific albacore, labor standards, and compliance monitoring schemes have developed their work plans and will continue making progress. The WCPFC scientific committee (SC) will hold a virtual meeting in August, but it has not yet been determined if other WCPFC meetings will be virtual or in-person. The West coast region and PIRO recently held joint public meetings regarding North Pacific albacore and bluefin tuna. The Permanent Advisory Committee (PAC) was scheduled to be held on June 8, 2022, but if the WCPFC species session is held on that date, the PAC meeting time may need to be adjusted.

15. References

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