WESTERN PACIFIC REGIONAL FISHERY MANAGEMENT COUNCIL

Pelagics Fishery Ecosystem Plan Team Meeting

May 11-13, 2021
1:00 p.m. – 5:00 p.m.
Virtual via WebEx Conferencing
Honolulu, Hawaii

Final Report

1. Welcome and Introductions

Donald Kobayashi, meeting Pelagic Fishery Ecosystem Plan Team (Plan Team) chair, welcomed participants, led introductions, and reviewed meeting protocols. Plan Team members present via teleconference were Felipe Carvalho, Stefanie Dukes, Frank Villagomez, Bryan Ishida, Jason Helyer, Emily Crigler, Rob Ahrens, Melanie Hutchinson, Russell Ito, T. Todd Jones, Kirsten Leong, Domingo Ochavillo, Michael Kinney, Minling Pan, Brent Tibbats, Ashley Tomita, Phoebe Woodworth-Jefcoats (Johanna Wren as altnernate), Keith Bigelow, Frank Roberto, and Chelsey Young. Sean Felise, Rebecca Walker, and Frank Roberto were not present for the meeting, Villagomez was not present Day 2, and Wren and Woodworth-Jefcoats were excused on Day 3. Also in attendance via teleconference were Thomas Remington, Joshua Lee, Laura Damiani, Maria Angela, Danika Desai, Leinaala Ley, Dave Gershman, Natalie Barefoot, Brettny Hardy, and Mark Ladao. Clay Tam was present in person on Day 1. Western Pacific Regional Fishery Management Council (Council) staff present included Mark Fitchett, Asuka Ishizaki, Josh DeMello, Diana Kitiona, Felix Reyes, and Floyd Masga.

Council staff presented on updates to progress on Plan Team recommendations and work items from previous meetings, many of which were addressed in the agenda items for this meeting.

2. Approval of Draft Agenda

The draft agenda for the May 2021 Pelagic Plan Team meeting was approved.

At this time, Council staff also briefly provided an overview of the regulatory and administrative actions section of the Annual SAFE report.

3. Review 2020 Annual SAFE Report Modules

Kobayashi asked the Plan Team to provide narrative to accompany the description of trends for fisheries in each island area, including implications and possible explanations for changes. Trends could be due to COVID-19 pandemic impacts, resource availability, or unknown impacts. Kobayashi also noted the addition of a new section to the report on fisherman observations, which will likely be a regular inclusion to the annual Stock Assessment and Fishery Evaluation (SAFE) report into the future. A Plan Team member asked for further explanation of the new section, and Kobayashi replied that it is a section consolidating fishermen's observations from their fishing

activities for the past year. Council staff elaborated that there were recent meetings with fishermen that documented what they observed in 2020, and that the basic idea is to see if their observations can explain what the quantitative data show.

A. Fishery Data Modules

i. American Samoa

Domingo Ochavillo, American Samoa Department of Marine and Wildlife Resources (DMWR), presented on updates to American Samoa pelagic fisheries in 2020. There was a decrease in the number of longline boats, sets, and hooks in 2020, perhaps due to COVID-19 restrictions; however, the number of trolling boats increased despite the decrease in the number of trips and hours. The American Samoa longline fishery has been declining for many years, so the decline in 2020 was likely due to a combination of the long-term trend plus additional impacts from COVID-19 restrictions. Landings for the longline fishery and its primary target species, albacore, were at an all-time low, and reductions in catch were noted for most pelagic species. Species that did not have a notable decrease in estimated catch in 2020 were yellowfin tuna and mahimahi. Decreases in pelagic catch were accompanied by decreasing in revenues as well. Ochavillo also reported on data for American Samoa non-commercial fisheries, though the numbers were suspiciously high.

There was Plan Team discussion about figures that Ochavillo presented that indicated $0 in revenue for pelagic fisheries in recent years. Ochavillo clarified that there were no data, not that the revenue was zero. Thomas Remington, Council contractor and Annual SAFE Report Coordinator, noted that the revenue figures are not presented in the report, as revenue data has been shifted to solely be presented in the socioeconomics section. Ashley Tomita, Pacifc Islands Fisheries Science Center (PIFSC) Fisheries Research and Monitoring Division (FRMC) noted that the information was simply not provided for those figures since they are no longer reported in the fishery data modules, but revenue data are provided for the socioeconomics section of the report.

The Plan Team also discussed the non-commercial data presented and how the data were generated. Ochavillo explained that the numbers came from the difference between the total estimated landings from the creel survey expansion and the commercial landings from the commercial receipt books. Tomita noted that American Samoa pelagics are a special case where logbook data are combined with the boat-based creel surveys and commercial receipt books.

Kobayashi noted that albacore catch per unit effort (CPUE) declined, and asked if it is a seasonal impact or a legitmate data point showing a continuing declining trend. Ochavillo responded that reduced catch rates for albacore is not unique to American Samoa. Council staff elaborated that there has been a long-term decrease in catch rate for albacore in Hawaii and in the Exclusive Economic Zone (EEZ) of other Pacific Island fisheries. There have been discussions within the Western and Central Pacific Fisheries Commission (WCPFC) on better controls on fishing effort in the South Pacific since Chinese longline fleets have been fishing heavily around some Pacific Islands. The most recent stock assessment for South Pacific albacore concluded that the stock is healthy, but it did not include data from 2018 to 2020. One potential solution for American Samoa is seasonal fishery transitions between gear types (longline to high seas troll/jigging), but that

would have its own issues such as the steep learning curve for trolling for albacore. Kobayashi considered if the CPUE should be standardized to better identify if there are concerning trends, and Ochavillo suggested standardizing CPUE with respect to climate variables as well.

ii. CNMI

Frank Villagomez, Commonwealth of the Northern Mariana Islands (CNMI) Department of Fish and Wildlife (DFW) presented on updates to CNMI pelagic fisheries in 2020, which are characterized by data from the boat-based creel surveys and commercial receipt system. The creel surveys are limited by the understaffed situation at DFW, and the commercial receipt system is limited by vendor participation. While vendor participation is now mandatory due to regulations on licensing and reporting, the actual licenses have yet to be implemented. In 2020, there were more creel surveys conducted than 2019, but this is mostly because 2019 had a low amount of interviews due to a delay in grant funding for the program. Total pelagic landings decreased potentially due to increased fishing participation during the COVID-19-19 pandemic, which was indicated by the increase in fishermen, and trip. However, there was no charter fishing in CNMI in 2020 due to pandemic restrictions and the lack of tourism, and commercial receipts notably declined. Landings for both skipjack and yellowfin tuna increased, while mahimahi catches very slightly decreased. While CPUE in pounds per hour (lb/hour) was down for all three of these species, the catch rate in terms of pounds per trip (lb/trip) increased for both tuna species. Regarding fish aggregating devices, CNMI had 11 FAD systems deployed in mid-2020, but recently learned that only five are still deployed.

Kobayashi asked why the measure of CPUE for the CNMI pelagic fisheries (i.e., lb/hour and lb/trip) would differ for the same species with respect to increasing or decreasing trends. Minling Pan, PIFSC Socioeconomics Program, suggested looking at trends in both trolling trips and hours to see if they are trending opposite of one another (possibly due to longer trip durations). Remington noted that both trolling hours and trips for CNMI in 2020 from the creel survey expansion were anomalously high. The Plan Team agreed that these values require further examination, and Kobayashi and Council staff suggested that error bars may be a worthwhile inclusion for these data in the future.

iii. Guam

Brent Tibbatts, Guam Department of Aquatic Wildlife Resources (DAWR), presented on updates to Guam pelagic fisheries in 2020, which were heavily impacted due to COVID-19-related lockdowns on the island. The creel survey program missed several months of interviews because of COVID-19 restrictions from mid-March to May and then again from August to December. March and April are historically the months with the highest catches for mahimahi and yellowfin tuna while marlin are primarily harvested later in the year, so the lack of surveys during these period may have hindered DAWR's ability to monitor catch for these species. For example, while CNMI had an increase in catch of yellowfin tuna and Guam usually has similar trends, data showed that catch was down for almost all species in 2020. The only species that showed an increase in catch was wahoo, which is mostly harvested in January. Marlin catch stayed relatively consistent despite the shutdown of the charter fishery due to COVID-19-19 pandemic restrictions and the lack of tourists. In lieu of performing creel survey interviews as normal, additional participation surveys

were conducted from September to December and showed that fishing activity had increased despite the reduction in catch. Transshipment decreased from levels observed in 2019, and at the end of 2020, transshipment in Guam was halted entirely. Regarding FADs, there are six online with five scheduled to be deployed. Military closures in 2020 were less prevalent than in 2019.

Kobayashi asked if the lack of creel surveys for part of the year impacted expansion. Tibbatts confirmed, especially for March to May since that is a good season to harvest mahimahi. COVID-19-19 also impacted the fisheries by resulting in the closure of restaurants and other stores that sell fish. There may have been a reduction in commercial effort because there was nothing for commercial fishermen to do with their catch, whereas the end of the year had an uptick in commercial activity once restrictions were eased. Fishing for pelagic species also was not emphasized as much as harvests for bottomfish and reef species in 2020. The increase in trailers from the participation survey may indicate that some people were unemployed and had more time to go fishing, and that there was an increase in demand for fish to be consumed but not necessarily sold.

Council staff asked if the transshipment data this year is confidential. Tibbatts confirmed that transshipment data for 2020 are confidential. Council staff also asked about the effect of the of missing surveys for half of the year overlapping with seasonal fishery performanceand if there are ways to reconcile the gaps in coverage for a conspicuous three month period when catches of mahimahi and yellowfin are typically highest. This could be of concern, given the use of this data to monitor Guam fisheries. Council staff inquired of this gap could be reconciled or if data for certain species should be denoted as inadequate given the lack of surveys. Kobayashi noted that he has seen an imputation approach used for missing data with seasonal patterns in other projections. A Plan Team member noted that the missing data may not be a huge deal for stock assessments, as there are usually data workshops prior to the assessments that would all the assessment authors to address how the missing data should be handled. Council staff clarified that the numbers may be used more for things like environmental assessment documents or for monitoring fishery performance. The Plan Team agreed that extra exploration would be needed to determine how to deal with the missing surveys in Guam for 2020, whether it be filling in the gaps or, more likely, simply noting the data deficiency for the year. The Plan Tema also noted that better capturing uncertainty would be a good step forward.

iv. Hawaii

Russell Ito, National Marine Fisheries Service (NMFS) Pacific Islands Fisheries Science Center (PIFSC), presented on updates to Hawaii commercial pelagic fisheries in 2020 that were heavily impacted by COVID-19-19. Catch and revenue declined as a whole. The number of Commercial Marine Licenses (CMLs) for the fishery decreased across gear types, perhaps due to the lack of available crew during lockdowns. There was a total decrease in catch of six million pounds from the previous year and a reduction of $27 million in total revenue despite average price per pound staying relatively consistent for most of the year. Bigeye tuna was one of the primary species causing the decline due to volume sold, with the deep-set longline fishery realizing a majority of the lost revenue. Despite all of the changes from COVID-19, bigeye tuna composition of the total catch for Hawaii pelagic commercial fisheries remained consistent. Swordfish harvested by the shallow-set longline fishery continued its declining trend overall. Other pelagic management unit

species (PMUS), such as mahimahi, ono, moonfish, monchong, sharks, and oilfish also had a notable decline in catch in 2020. The Hawaii deep-set longline fishery had a decline in vessels, trips, hooks set, catch, and revenue, though revenue experienced the steepest decline. Tuna CPUE did not decline much, but other tuna species, such as yellowfin and albacore, did experience a more notable reduction. The shallow-set longline fishery had very little effort in 2020, though it was more than previous years due to the fishery closures associated with the loggerhead turtle hard caps being attained in 2018 and 2019. The Main Hawaiian Islands (MHI) troll fishery had a major decline in effort, a continuing trend since 2012, despite consistent catch and revenue The MHI handline fishery declined in both catch and effort, though tuna CPUE was stable. The offshore handline fishery had a small decrease in catch and effort, and revenue was relatively consistent.

Michael Kinney, noted that the discard rate of mako sharks was high in Hawaii longline fisheries, and wondered if these were normal levels or were due to COVID-19-19 impacts. Ito replied that, while there is a market in the mainland for mako sharks, there has been a decline in catches. Fishermen have become less interested in retaining sharks over time, whether it be due to shark conservation or safety concerns. The potential prohibition of wire leaders will likely result in an even higher discard rate since fishermen will be wary of line flyback. Ito also mentioned that high grading may be occurring for the species since average size has not changed much over time.

Pan asked if the revenue values presented were ex-vessel revenues only landed in Hawaii, and Ito confirmed, emphasizing the large impacts COVID-19-19 had on the deep-set longline fishery. There was concern among the fishery of spreading the virus if one person on a vessel had contracted it. The fishery ended up catching a large amount, but there was a reduced market to sell the landings for a part of the year.

Kobayashi asked about the increase in tuna CPUE in the shallow-set longline fishery despite it not targeting those species. Ito replied that it could be related to fishing area, as retaining tunas may help pay for expenses when fishing at higher latititudes. Council staff commented that the trend could be driven by the fishery only operating in the first quarters of 2018 and 2019 if there is a seasonal component in tuna catch rates. Ito agreed, but noted that there may have also been a change in the fishing behavior because the onus of managing interactions was on each vessel.

Jason Helyer asked about the increasing CPUE but decreasing CMLs for the Hawaii small boat fishery, and said that it might be due to non-commercial fishers dropping their CMLs to peddle fish instead. The incentive of reporting under a CML is selling to bigger dealers, but those dealers were not as active during the pandemic. Ito agreed, and noted that the cash component of the small boat fishery is uncertain in terms of size but it certainly exists. Even though hotels closed during COVID-19, supermarkets were selling fish quickly as well.

Council staff asked why deep-set longline swordfish catch may be declining despite the catch rate being stable. Ito responded that the COVID-19 shutdown in 2020 occurred in March, and the deep-set fishery peaks in the second quarter while the shallow-set peaks in the first quarter. Thus, the shutdown occurred right when swordfish would normally be caught by the deep-set fishery.

Council staff also noted the large decrease in mahimahi catch but the stability of the price per pound.. Additionally, Council staff asked if there is a constant demand for some of the incidental

species (particulary “white fish”) that are independent of restaurant or mainland demand, driven solely by local demand. Council staff noted it would be important to determin if there is an ideal or optimal supply of certain species for local markets for the purpose of food security. Ito replied that the discussion could be deferred until the presentation on the socioeconomics section occurs, but also that good quality fish maintained price and the price came back strong once the shutdown ended.

v. International

Keith Bigelow, PIFSC International Fisheries Program, presented on updates to international pelagic fisheries in 2020, which were sourced from the WCPFC, the Inter-American Tropical Tuna Commission (IATTC), and the International Scientific Committee for Tuna and Tuna-Like Species (ISC). The three notable fishery sectors are purse seine, longline, and pole and line, and the most recent year for which data are available is 2019. Estimated total catch of tuna species in the Pacifc Ocean was a record 3.7 million metric tonnes in 2019, most of which were skipjack tuna caught by purse seine. Pacific Islands fleet have been becoming a bigger component of the fishery, representing nearly half of all tropical tuna catch in 2019. Longline catches of tuna have been relatively stable over the past decade, whereas swordfish longline catches slightly declined in 2019. The pole and line fishery also had a slight decline in 2019. There 29 PMUS species in total, and stock assessments for four species were completed in 2020: North Pacific albacore, Western and Central Pacific Ocean (WCPO) bigeye tuna, Pacific bluefin tuna, and WCPO yellowfin tuna. All the assessments determined that the stock were not overfished nor experiencing overfishing except for bluefin tuna, which has shown some slight recovery as it rebuilds in its overfished and overfishing condition

Ito asked if the loss in demand for bluefin tuna will likely to help the stock recover. Bigelow refuted this, noting that a lot of demand from Japan is sourced from the Altantic and the waters off of Australia. Another Plan Team member commented that it is difficult to control demand, but the supply can be controlled in theory.

vi. Recreational/Non-Commercial Fisheries

Council staff presented on updates to non-commercial fisheries in 2020 for each of the island areas, and the Council is working with its Non-Commercial Fishery Advisory Committee (NCFAC) on future updates to the module. The summary of estimated landings were not available at the time of the meeting, but will be calculated using methodology that Paul Dalzell used previously. Charter fishing, for which there are only data from the Marianas Archipelago and Hawaii, varied across island area in 2020. CNMI had zero charter catch due to COVID-19-19 restrictions, and Guam only had just over 3,000 lb for the same reason. Hawaii charter fisheries were relatively more active with over 515,000 lb of catch. Hawaii Marine Recreational Fishing Survey (HMRFS) data indicated that there was over 14.5 million lbs of boat-based pelagic catch in 2020, a 13.7% increase from the previous year. Angler trips increased from 2019 to 2020 to approximately 743,000 trips. There was no Plan Team discussion on this agenda item.

vii. Fishery Observations

Clay Tam, Council Advisory Panel member, presented fishermen observations on pelagic fisheries during 2020 for each of the island areas. Meetings were conducted in February 2021 for fishermen's observations in 2020. The main concern was COVID-19-19 and impacts to the fishing community. Each of the territories had large impacts to COVID-19-19 due to a collapse in the market and reduced fishing access. In March 2020, there was a lockdown implemented in Guam and curfews put in place in CNMI, and these were not eased until the second half of the year. In American Samoa, the skipjack tuna run was late and poor, but big individuals were landed late in the year. Blue marlin were rare, and there were more frequent shark encounters. In Guam, military exercises led to area closures. Pelagic catch was not great, with mahimahi and marlin landings being down from the previous year perhaps due to calmer waters, loss of FADs, and warmer temperatures. In CNMI, curfews hampered the harvest of certain species and harbor access was limited. High fuel prices and reduced marketability of catch kept many fishermen from fishing. Additionally, the CNMI experienced more storms and high winds in 2020, and skipjack were harder to find. CNMI fishermen also noted an uptick in shark depredation. In Hawaii longline fisheries, COVID-19-19 had a big impact on the market due to the lockdown on travel and closure of restaurants and hotels, but this created new markets in direct sales to the public. Catch rates for ahi dropped late in the year. Fishermen typically rely on and water temperatures and their network of fishermen to locate idea fishing grounds, which was difficult with fewer people fishing. Hawaii's charter fisheries suffered from a lack of tourism, and many permits were taken away in the first half of 2020. Funding from the Coronavirus Aid, Relief, and Economic Security (CARES) Act was not sufficient to keep many charter operations from going out of business. There were two to three charter vessels operating per day in 2020 rather than the 15 per day, typical prior to the pandemic. The Hawaii small boat fishery had a mixed year depending on species; catches for marlin, akule, opelu, and ahi were good, and fishing for aku, mahimahi, and ono was poor. It is likely that many small boat fishermen did not report sales. Other 2020 observations included that tackle dealers did very well, many who were unemployed or working from home entered the local fisheries. Many fishing tournaments were cancelled, and there was initial confusion regarding the rules pertaining to fishing during COVID-19-19.

Kobayashi asked if Tam had any comments on spawning seasonality across pelagic species, and Tam noted that he could only answer in terms of bottomfish. However, he also noted that comments on crustacean fisheries suggested that traditionally sandy areas were rubble or hard bottom, indicating a shift in the environment that may be important for recruitment.

Tibbatts commented that, in Guam, there was no fishing restrictions during COVID-19 as it was deemed an essential activity. Tam agreed, but added that there was reluctancy to get on the water with other people during the pandemic. Ito also agreed with Tibbatts, noting that there was uncertainty surrounding the fishing rules. Once the rules were clarified, many people bought large amounts of fishing supples.

The Plan Team discussed the future of fishermen observation data collection. Helyer suggested quartly meetings with the Council's Advisory Panel and the fishermen to glean information about the fisheries to see if the observations corroborate the quantitative data (and vice versa). Tam agreed, and Remington asked if there were any thoughts about standardizing the questions that get asked to the fishermen going forward. Kirsten Leong, PIFSC Socioeconomics Program, agreed about standardization but suggested to keep it relatively broad as well. She also suggested a

hybridization for questions about the fishery and the socioeconomic aspects to generate more use for management, and mentioned that there is national guidance on crowdsourcing and citizen science to get information from people out on the water.

Regarding placement of the new information within the annual SAFE report, the Plan Team ultimately reached consensus to remain consistent with the Archipelagic Plan Team by incorporating the fishermen's observations as their own section in the Fishery Ecosystems chapter of the report.

4. Public Comment

There was no public comment.

5. Continued: Review 2020Annual SAFE Report Modules

B. Ecosystem Chapter

i. Environmental & Climate Variables

Johanna Wren, PIFSC Ecosystem Sciences Division, presented updates to the environmental and climate variables section of the 2020 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. Wren then reviewed the presented environmental indicators, including atmospheric carbon dioxide, oceanic pH, the Oceanic Niño Index measuring the El Niño Southern Oscillation (ENSO), the Pacific Decadal Oscillation (PDO), tropical storm activity, sea surface temperature, temperature at 200 to 300 meters depth, chlorophyll-*a*, the North Pacific subtropical front, and transition zone chlorophyll front. Fishery-based indicators included fish community size structure, bigeye tuna weight per unit effort, bigeye tuna recruitment index, and bigeye tuna catch rate forecast. The presentation also included some consideration for the feasibility of adding American Samoa albacore indicators to the report, but gathering data was challenging due to so few vessels fishing. There was no size structure, which is the basis for recruitment indices at first glance. PIFSC will work to incorporate more data streams for the 2021 annual SAFE report.

Ito commented that successful fishermen base their strategies on environmental factors. Regarding the flow charts shown at the beginning of the presentation, Ito wondered if there could be different flow charts to show different scenarios based on the different ENSO and PDO phases. These flow charts could convey a forecast to fishermen and would be helpful in corroborating anticipated and observed outcomes. Wren indicated that they would work to incorporate these types of flow charts.

Thomas Remington, Council contractor, next presented on the inclusion of the data for the environmental and climate variables section to the online SAFE report portal maintained by the Council. The portal includes all of the same text and figures that are in the annual SAFE report section itself, but also includes interactive data tables that allows users to download the data in .csv file. There are some small issues regarding the scaling of axes in the tables. Remington ultimately

sought the approval from the Plan Team on including the environmental indicator information in the online portal.

The Plan Team discussed the best way to market the portal to be used by fishermen, and Tibbatts commented that he shared a link to the portal on a Facebook page frequently trafficked by local fishermen. There were suggestions to place a link to the portal on the CatchIt-LogIt application and to perhaps add a search engine to the website if possible. When asked about the workload to update the portal, Remington indicated that he performed all of the updates manually. The day-to-day maintenance of the portal, however, is minimal.

ii. Habitat section

Remington presented updates to the essential fish habitat (EFH) section of the 2020 annual SAFE report, of which there were few. The only changes to the section were the inclusion of new and ongoing efforts by PIFSC associated with habitat for pelagic species, including the bigeye tuna initiative. Dynamic habitat for pelagic species could be further explored in the future. A Plan Team member noted that the environmental and climate variable section of the annual SAFE report is also closely tied to habitat for pelagic species.

iii. Marine Planning section

Remington also presented updates to the marine planning section of the 2020 annual SAFE report. Information on FADs was incorporated into the section for each island area as described by the local management agencies. There was no new marine planning information for American Samoa or the Pacific Remote Island Area (PRIA). In the Mariana Archipelago, there were several updates on military training and testing activities that mostly had to do with Environmental Impact Statements being released. In Hawaii, there were several minor updates for alternative energy initiatives, such as the seawater air conditioning project being discontinued and the Bureau of Ocean Energy Management (BOEM) putting out a call for recommendations on environmental studies regarding offshore wind facilities. The aquaculture operation owned by Forever Oceans is currently in a process to renew its permit to continue harvesting kampachi. At the end of the presentation, Remington asked the Plan Team about a previous work item in which it was suggested that the marine planning section incorporate information about cumulative impacts to the region's pelagic fisheries, and if the Plan Team still wanted to pursue this effort to assist in the development of future environmental assessments.

Ito suggested incorporating emergency information into the section, such as what vessel owners should do in case of a hurricance. Another Plan Team member commented that cumulative effects are typically action-specific, so incorporating this information into the annual SAFE report could get unwieldy.

iv. Socioeconomics section

Minling Pan, PIFSC, presented updates to the socioeconomics section of the 2020 annual SAFE report. Fuel price, which is the most impactful factor for fishing costs, was down from the previous year for all four island areas. Illustrating the impactsof COVID-19-19, unemployment in Hawaii

went from being below the national average to having the highest unemployment rate across the country. In CNMI, there was a decline in both pounds sold and revenue for the troll fishery despite catch increasing by 48% in 2020. Similarly, Guam had a decrease in both pounds sold and revenue for their troll fishery, but commercial landings decreased. In the American Samoa troll fishery, both pounds sold and revenue dropped significantly in 2020, and commercial catch also continued its declining trend with a steep reduction. However, it was noted that the pounds sold was nearly equal to the pounds caught. Trolling trip costs were down for each of the territories. Similarly, the American Samoa longline fishery had a 39% reduction in landings and 49% reduction in revenue from the previoys year. The fish price for species sold to the cannery declined from $1.35 to $1.12 per pound, and the economic performance of individual vessels decreased.

In the Hawaii longline fishery, revenue decreased by $20 million, or 25%, with a 22% reduction in pounds sold. Bigeye tuna represented 69% of the revenue, but had a decrease in price along with yellowfin tuna, while swordfish price increased. Net revenue per trip decreased in both the shallow-set and deep-set longline fisheries. Because revenue decreased so dramatically but other fixed costs remained consistent, the burden to vessel owners of those fixed costs relatively increased. In Hawaii non-longline pelagic fisheries, there was also a decrease in pounds sold by 34% and a comparable decrease in revenue.

Ochavillo noted the difference in estimated commercial versus non-commercial landings relative to the data he presented on Day 1 for American Samoa and assumed the difference would be from bycatch by the longline fishery. Pan replied that the catch cannot be considered non-commercial if it goes to market, but Ochavillo clarified that the bycatch (incidental catch) could be taken home by the fishing crew for consumption. Ochavillo followed-up by asking about the dynamics behind the price for albacore. Pan guessed that there may have been other fisheries with more fish that they were not able to sell, and the cannery can lower its price as needed. Ochavillo then asked why American Samoa had the lowest fuel price in the region but the highest trolling trip cost, and Pan replied that the American Samoa troll fishery had the highest relative amount of trolling hours. Ochavillo noted the possible effect of the subsidy on reporting since fishermen would receive more fuel the more they fish, as they could be self-reporting more time fishing but not be landing more fish.

Bigelow noted an action item from the Plan Team last year to investigate why pounds sold for the American Samoa troll fishery made up such a high percentage of total pounds caught. Tomita noted that the pounds sold is from the boat-based creel survey expansion rather than the commercial receipt books. Pan indicated that she would double check the source data with PIFSC FRMD. It was not clear to the Plan Team why the pounds sold would be derived from the creel surveys over the receipt books. Another Plan Team member asked if catch from non-longline pelagic fisheries can get sold to the cannery as well, and Ochavillo clarified that all of the albacore sold to the cannery are from the longline fishery. The trolling pelagics are usually sold by the roadside.

Council staff commented that there is a cooperative research project this year to look at incidental PMUS such as mahimahi, and that the reduction in mahimahi over the past five years is concerning. In 2020, the catch of mahimahi was cut in half but the price remained stable. Council staff asked if there is a constant level of demand in Hawaii for white fish like mahimahi, and if an

optimal amount of catch to serve the local market could be calculated based on demand. Ito noted that it is likely that what was actually sold was the premium product that kept the price high despite the volume being lower. Pan commented that it is not clear if local demand for mahimahi was supplied more by small boat fishieries or the longlinners, so she will look into that more further to determine how the price performs relative to landings. Council staff noted the split in supply, and expressed concern about the declines in both fisheries in recent years. Helyer commented that there are different price points for mahimahi that vary greatly, and asked how ex-vessel values for non-longline pelagic fish are calculated and how the calculation impacts the interpretation of those values. Tomita responded that the dealer data are used to determine the values based on percentage of gear and area fished for each fishery.

Leong commented that the PIFSC Socioeconomics Program had been tracking COVID-19-19 impacts that showed that non-longline commercial fisheries had an increase in revenue over the summer, which may account for some of the price stability.

Remington asked the Plan Team if there was any opposition to including a one-time COVID-19-19 section into the report to mirror what is being done in the archipelagic reports. The Plan Team generally agreed that the same thing should be done in each of the Archipelagic Reports and the Pelagic Report.

v. Protected Species

Council staff presented updates to the protected species section of the 2020 annual SAFE report. In 2020, there were varying levels of observer coverage in each fishery due to impacts from COVID. The Hawaii shallow-set longline fishery remained open through 2020, but the fleet voluntarily reduced effort in the first quarter of the year due to loggerhead interactions in January to prevent reaching the hard cap. The fishery started operating under new individual trip interaction limits for loggerhead and leatherback turtles in September 2020, and a new tracking table was added to the report. The fishery interacted with one false killer whale and seven Guadalupe fur seals. New narrative has been added to the report to describe potential operational and oceanographic factors that may be affecting pinniped interaction patterns in the shallow-set lognlien fishery. Interactions with black-footed albatross was lower in 2020 compared to recent years, and oceanic whitetip sharks (OWT) interactions observed in 2020 were within the expected range.

The Hawaii deep-set longline fishery had 15.25% observer coverage instead of its normal 20%, so there are greater uncertainties surrounding the expansion estimates. The main interactions with sea turtles continued to be with olive ridleys, and there was higher interactions with rough-toothed dolphins for marine mammals than in typical years. Elevated interaction rates for albatross species continued in 2020, and the Council's continued efforts to develop alternative mitigation measures were updated in the report. In the American Samoa longline fishery, observer coverage was 2.13%, and interaction data are not presented due to data confidentiality rules. Minimal updates were made to the non-longline pelagic fisheries sections of the report. Council staff asked the Plan Team for guidance on the impact of lower observer coverage on total estimated interactions.

Council staff asked about the listing petition for mako sharks, noting that the catch for the US is relatively small in the North Pacific, and the stock assessment in the North pacific found that mako

sharks are not overfished or experiencing overfishing. Chelsea Young, PIRO Protected Resources Division, will be the regional point of contact for NMFS' status review team for responding to the mako listing petition. She noted that the petition was focusing on the status of the stock in the northwest Atlantic with some caveats.

6. SAFE Report Discussion

A. 2020 Report Region Wide Improvements & Recommendations

Council staff led Plan Team discussion on improvements and recommendations regarding the improvement of the annual SAFE report. Helyer initially presented on the possibility of validating the fishermen observation with quantitative data and vice versa by showing a collection of summary figures that could be shared with the fishermen. Helyer asked the Plan Team if they had any direction on how to integrate the fishermen's observations with the available data.

The Plan Team was interested in this idea, and thought it would be good to be able to give something back to the fishermen in the form of data summaries. The information could perhaps be posted online for them, but it would also be good to get feedback from the fishermen to better understand what sort of data they would like to see. The Council's advistory panels could help provide this information.

Leong commented that integrating local ecological knowledge into western science is contentious in the literature. Sharing the data with fishermen could be a way to generate conversation, and could inspire changes in how data are collected or for time scales that should be analyzed. The big question is how to standardize the conversation. Council staff agreed that the fishermen's observations could be used to validate the data rather than the other way around.

B. Other SAFE Report Matters

Kobayashi also led a brief discussion on other matters relevant to the annual SAFE report, which including encouraging people to utilize the online SAFE report portal more and instructing module leads to double check the data for their modules on the online portal.

7. Standardized Bycatch Reporting Methodology in Pelagic FEP

Council staff provided an overview of the standardized bycatch reporting methodology (SBRM) and bycatch summaries in the annual SAFE report. The Council is in the process of reviewing SBRM in the region's fishery ecosystem plan (FEP) against new guidance. SBRM is a procedure to collect, record, and report bycatch data to assess amount and type of bycatch. The FEPs identify standard data collection programs as SBRM for each of the fisheries. The annual SAFE report should have sufficient information from the data collection programs to present the amount and type of bycatch. Longline bycatch tables in the SAFE report are currently based on logbook data with no observer data, and logbook data tend to be less reliable than observer data. The National Bycatch Report includes longline bycatch data based on observer data, but the report is not published annually and is several years behind. Council staff requested the Plan Team to look at ways to fold observer program data into the bycatch summaries.

Bigelow stated that it is unreasonable to have expanded observer bycatch estimates by May of the following year, and suggested expanded data could be provided for the previous year or unexpanded observed data could be presented. He also noted that there would be hundreds of species identified in a single table if the data are reported in this way. Council staff indicated that Plan Team should consider what species or species groups should be a priority for monitoring bycatch, and that a one-year lag may be acceptable. Bigelow replied that he is hesitant to assign work for the bycatch estimations. T. Todd Jones, PIFSC FRMD, commented that a path forward would be to identify priority species to track, such as those that are especially fishery relevant, as well as those that can have a longer lag. Automation of the expansion estimates for some species could improve the situation for reporting data. Jones also noted issues from the lack of observer coverage in 2020, and added that the EBFM project could help estimate years with limited data in the future. The Plan Team then deliberated on the inclusion of raw observer data, noting that the expansion would not occur until the following year. Several Plean Team members noted that observer data is the "gold standard", so which dataset to base the bycatch information depends on whether the Plan Team prefers more uncertain data from logbooks that cover the entire effort or the sampled observer data that is more accurate. Plan Team discussed forming a working group to look into bycatch species that are high priorities for management. Tomita commented that there are no bycatch data for the Hawaii small boat fisheries this year because it is not clear how to produce the summary in terms of what is being targeted and what is bycatch.

8. Factors Contributing to Observed Sea Turtle Mortalities in the Hawaii Shallow-set Longline Fishery

Kobayashi and Council staff presented on factors contributing to sea turtle mortalities in the shallow-set longline fishery explored during a project to examine gear configuration and its relationship to turtle mortality, per recommendation of the Plan Team in 2020. Floatline, branchline, leader, and dropper length were analyzed to determine variability over time. Then longline catch and CPUE were examined across sets and gear configurations using observer data to determine what factors are related to turtle mortality. Total catch, catch per float/bastket, and dropper length were all determined not to impact turtle mortality, and while floatline length was a compelling variable, it was not associated with significant differences. It also remains possible that the overall catch rate could be related to floatline length.

Robert Ahrens, PIFSC, asked whether the fisheries may have changed the spacing in between hooks as well to try to get their gear deeper into colder waters, noting the northward shift of the convergence zones from the oceanography data of the SAFE report. He also asked if there was a difference in size for the turtles that were observed dead. Kobayashi replied that the spacing of hooks was not closely examined, and Council staff noted that the recent turtle interactions were in the typical size range.

9. Alia, Longline, and Small Boat Fishery Performance since American Samoa LVPA modification

Council staff briefly presented on fishery performance in American Samoa since the modification of the large vessel prohibited area (LVPA). The LVPA was removed in September 2020, so longline vessels are no longer precluded from fishing in waters 12 to 50 nm from shore. There were

complaints from some of the small boat fisheries regarding interference several years ago, but the small boat fisheries currently outnumber the longliners who just had their worst year on record in 2020. Going forward, the hope is that DMWR will talk to fishermen for anecdotal information to act as a starting point to evaluate the LVPA intervention in 2016 and associated impacts to the small boat fisheries following the relaxation of the LVPA. There was no Plan Team discussion on this agenda item.

10. Public Comment

There was no public comment.

11. 2022 US Territorial Bigeye Tuna Catch and Allocation Limits

Council staff presented on the 2022 Territorial bigeye tuna catch and allocation limits for the three US Territories. Annual limits are set for the Territories to allocate to US flagged vessels under the Pelagics FEP Amendment 7 framework. At the 186th Council meeting, the Council will make a recommendation on 2022 catch and allocation limits for US Participating Territories: American Samoa, CNMI, and Guam. The prior recommendation continued with the 2,000 mt limit per territory while allowing allocation of 1,500 mt per territory with a maximum total allocation of 3,000 mt. A new WCPFC tropical tuna measure may be adopted in December 2021, but is not expected to change impacts to the bigeye tuna stock. The specification options for 2022 include no action and a second option of 2,000 mt catch limits with 1,500 mt transferrable per Territory with a 3,000 mt transfer limit total, which would keep the expected environmental impacts the same as previous specifications. A third option is to allow up to 2,000 mt transfer to allow for more flexibility. The most recent stock assessment in 2020 indicated that WCPO bigeye tuna is not overfished or experiencing overfishing, and stock projections on a 30 year horizon had very few model runs that breach the limit reference point. In the WCPFC, bigeye tuna catch limits for distant water fleets (such as Japan and China) are much larger than than the US. Small Island Developing States, including US Participating Territories do not have catch limits under the WCPFC, though the Council initiated 2,000 mt catch limits for US Participating Territories if they are to allocate a portion of catch to US vessels, as a precautionary measure to prevent overfishing . Council staff then briefly reviewed potential outcomes and impacts of the action before requesting the Plan Team to discuss ideas for analyzing impacts of foreign versus domestic supply of bigeye tuna and other possible ways to look into changes in future catches.

Tibbatts asked how allocation transfers are decided if all three territories want to make a transfer to Hawaii. Council staff responded that the onus is on the US vessel owners and the Territories themselves to negotiate the level to be 1,000 mt, but sometimes there are requirements to specify agreements by a certain time and a territory can miss out on a transfer. The process is not designed to make the Territories compete with one another.

Council staff asked to hear from Plan Team members familiar with impacts from foreign supply on Hawaii supply to better understand the economic implications. Ito stated that there are paper trails when tuna would arrive at US ports (usually through Long Beach), but once the fish is in the country, it is hard to determine the final destination. Foreign tuna far exceeds local Hawaii production, but it is hard to quantify and is a frozen value-added product. Council staff noted a

Council Coordination Committee recommendation to control the amount of “tailpipe” tuna being imported into Hawaii. Pan agreed with Ito, noting that transshipment makes it difficult to quantify foreign imports.

12. Prohibition of Wire Leaders in Hawaii Longline Fisheries

A. Monte Carlo Analyses of Hawaii Deep-Set and Western and Central Pacific Longline Fisheries

Bigelow presented on the Monte CarloMonte Carlo analyses performed on the action to prohibit wire leaders for the Hawaii deep-set and WCPO longline fisheries. A process model was utilized to determine how oceanic whitetip sharks interact with fishing gear with key factors influencing mortality, and there were both catch components and fate components. There were three scenarios to quantify mortality: the status quo, use of monofilament leaders, and use of monofilament leaders with no shallow hooks. The first catch component indicated that removing shallow hooks can reduce catchability, as a large portion of oceanic whitetip sharks catch occurs on the three shallowest hooks. The second catch component indicated that there are catchablity changes for some PMUS with the transition from wire to monofilament leaders. The first fate component indicated that gear type was not significant in determination mortality at retrieval. The second fate component based on at-vessel handling indicated a mortality rate of 0.88 to 1.45%. The third fate component for post-release survival estimates indicated that monofilament leaders resulted in a better survival rate after release. Thus, the completel Monte Carlo framework indicated that monofilament leaders with no shallow hooks would result in the smallest amount of mortality at retrieval and released. The economic impact for transitioning from wire to monofilament leaders is relatively small, but there would be a large decrease in revenue with the removal of shallow hooks. There was no Plan Team discussion on this agenda item.

B. Regulatory Amendment and Effects Analyses

Council staff presented on a draft regulatory amendment and effects analyses for the action on implementing gear and release requirements in the region’s longline fisheries to improve the post-hook survivorship of oceanic whitetip sharks. The Council, at its March 2021 Meeting, recommended the prohibition of wire leaders in the Hawaii deep-set longline fishery along with a requirement to remove trailing gear from oceanic whitetip sharks, but the recommendation to remove trailing gear was not specific on which fishery the requirement would apply. Previously, the Plan Team recommended implementing training on handling and gear removal for sharks, and the Council to work with NMFS and the State Department to progress best handling practices into internationally binding measures. The Oceanic Whitetip Shark Working Group provided specific information on the length of line and best practices.Removing trailing gear increases the survivorship of oceanic whitetip sharks according to Hutchinson et al. 2021. Regulations for Western Pacific fisheries could require leaving the animal in the water, using line cutters, and leaving less than one meter of gear attached to the hook. However, safety and enforcement are also important aspects of the action. Council staff sought Plan Team discussion on details for the regulatory specification for the removal trailing gear and how to monitor implementation.

Melanie Hutchinsoncommented that it is important to remember that there is a 45 gram weight within one meter of the hook. It is ideal to remove the weight so the animal is not dragging it around. There is a data form being developed for observers to record the length of trailing gear as well. The Plan Team came to a consensus that the regulation should specify the requirement to remove the weight from the trailing gear.

Bigelow asked why oceanic whitetip sharks are specified but giant manta rays are not, and if the regulations will be applied to all longline fisheries in the region to make them consistent across fisheries. Council staff replied that oceanic whitetip sharks is the current focus because the Council's directive was derived from the FIAC recommendation. The justification for focusing on oceanic whitetip sharks is to alleviate the initial burden of the regulations by not having too many species of concern, and giant manta rays were not included because their interaction rate is small compared to oceanic whitetip sharks. Young also agreed that the regulation should be consistent across fisheries, and commented that a specific length of trailing gear should be detailed while considering safety concerns. Bigelow reiterated that the regulations should be applied to all longline fisheries since it would be a better negotiation stance for international recommendations if there is consistency across US sectors.

Regarding monitoring the implementation of the regulations, Jones asked if there is information on "bite offs", noting that records of missing hooks could be a useful metric to monitor for analyzing if there is a change in catch rates due to bite offs. Hutchinson noted that there is now the capability to use environmental DNA (eDNA) on monofilament lines to identify species involve in bite offs. Council staff stated that at minimum, observer data on the number of hooks missing could be collected, with measuresments of remaining line length on the subset of bite-off lines collected if possible. Ito noted that bite offs could occur due to a variety of species, and fishermen are likely to have an idea of which species caused it, such as by determining whether the branchline has a non-abrasive feel to it or is severed clean. Plan Team members recognized that collecting this data would create an additional burden on observers, but noted that it would be important not to limit the information that quantitative scientists can use to evaluate the effect of leader material. Dukes commented that the observer program currently does not record data on missing hooks, and measuring the length of line left would be difficult. Ito agreed that this would be too much work for observers, and lso expressed concern about how to determine if a fish bites off a hook instead of a shark.

13. Updates of the Oceanic Whitetip Shark Working Group

Council staff presented on updates from the Plan Team's Oceanic Whitetip Shark Working Group. The working group held numerous meetings and developed several recommendations that were adopted by the Council in pursuit of addressing Magnuson-Stevens Fishery Conservation and Management Act (MSA) 304(i) obligations. The working group also reviewed stock projection analyses and the Monte Carlo analysis previously presented. Next steps include a Council recommendation for the working group to continue, and perhaps address Endangered Species Act (ESA) issues. Council staff asked that the Plan Team continue to think about what other scientific products and management issues the working group can address..

14. MSA 304(i) Obligations for WCPO Silky Sharks

Council staff presented on obligations for WCPO silky sharks under MSA section 304(i). While the relative impacts of fishing on silky sharks is low, the species still requires management priority. The WCPO silky shark stock was assessed in 2018 that found the stock was not overfished but subject to overfishing. PIRO notified the Council of its obligations under MSA 304(i) to develop domestic and international recommendations for regulations to address the overfishing of the species considering the relative impact of US vessels. The previous stock assessment in 2013 found that the stock was both overfished and experiencing overfishing. Internationally, silky sharks are listed as "vulernable" and may not be retained in WCPFC fisheries. The proportion of WCPO catches of silky sharks from US longline fisheries is less than 1% of the total, but the Council is still obligated to take action within one year under the MSA. Council staff asked the Plan Team if the low impact of US fisheries relative to foreign fisheries warrant the obligations under MSA 304(i) and if the oceanic whitetip sharks actions are sufficient for silky sharks as well. Additionally, it was asked if there are any international regulations that can be made applicable to WCPO silky sharks.

Hutchinson asked why US purse seine fishery interactions are not a topic of note, as juvenile silky sharks are 90% of the bycatch for the purse seine fishery on FAD-associated sets. This is notable because juvenile mortality has a greater impact than mortality at other life stages. Council staff clarified that, while an international recommendation can be made, the Council does not manage the US purse seine fishery. Hutchinson agreed that an international recommendation should be made, and that suggested action could be similar to action being taken for oceanic whitetip sharks. Bigelow agreed the Council should apply their recommendations regarding oceanic whitetip sharks to silky sharks.

15. Discussion: Research Needs for Western Pacific Region Small Pelagics & Management

Kobayashi and Council staff led discussion on research needs and management for small pelagic species in the region. A bill (S.1484), introduced by senators from Connecticut and Missouri, aims to amend the MSA to recognize the importance of forage fish and invertebrates for their role in the ecosystem. Forage fish undergo dynamic change over time and space (e.g., anchovies and sardines off the West Coast). "Forage" is generally species that are consumed by predators throughout their life history. Large predatory fish may be eaten when they are small larvae, but here, "forage" means the whole life cycle, associated with a low trophic level. The bill would involve developing a list of forage fish in each region. In the Western Pacific region, species such as anchovies, herrings, scads, mullets, shrimp, flying fish, micronekton, lancetfish, etc., could be included. However, many of these species are data poor, so data gaps would need to be identified.

Council staff noted that there is some ambiguity as to what is a forage fish, as it would seemingly include species at a low trophic level that contributes to the diet of other species. Because this bill would include invertebrates, squid may be necessary to consider. The bill may require monitoring of catch for forage species with the idea that there must be appreciable biomass of forage fish for to fulfill sufficient food for other PMUS. For example, in fisheries where squid is bait, there is ambiguity how much impact the use of ika has on the acceptable biomass for other indirect species. This would be difficult to do for fisheries that are not targeted toward forage fish species. Council

staff asked for feedback Plan Team on the potential mandate. Kobayashi noted that perhaps the proposed act could provide resources to fill data gaps for some forage fish species. Council staff noted that nehu were important for aku boats in the past before access to Pearl Harbor was shut down after September 11, 2001. Ito agreed, saying Honolulu Harbor was also restricted.

The Plan Team briefly discussed which species in the region could be classified as forage fish, including akule and flying fish but not milkfish. There may be some difficulties associated with some forage fish being classified as ecosystem component species under the FEP. Ochavillo noted that some species that may be considered forage fish in other regions may not fit for American Samoa, as akule have different ecological roles depending on area. Kobayashi agreed, also noting it is not clear if the goal should be to argue species off of the list or to use the proposed act as a way to get more resources to fill data gaps for the species. Council staff added an additional concern that, in the first few iterations of the proposed bill, it was suggested that if there is no capacity to manage a forage stock, then a directed fishery should not be had for that species.

Leong commented that the consequence of listing something as a forage fish is not clear, and if doing so would simply mean more data need to be collected for the species. She also noted that because forage fish are listed from an ecological perspective, the Western Pacific region may need to factor in cultural importance.

16. Progress on Implementing Electronic Reporting in Hawaii and American Samoa Longline Fisheries

Ito presented on progress on implementing electronic reporting in the Hawaii and American Samoa longline fisheries. As of May 2021, there were 105 vessels with tablets and 40 vessels without tablets. Three tablets were sent to American Samoa for testing, and some test data has already been transmitted. Instructional materials have beent translated, and PIFSC has 28 replacement tablets in case of failures. Reliable data are starting to come in, with at least one notification of data transmittal per day. Issues with the implementation of electronic reporting include COVID-19 protocol preventing the deployment of more tablets, timing of intercepts for deployments, the reluctance of a few captains to adopt new technology, and some vessel monitoring system (VMS) connectivity issues. The biggest hinderance, however, is the high turnover rate of captains, as some captains move from boat to boat every fishing trip. While coverage is not yet complete, the system itself is working adequately.

Council staff commended the team for continuing tablet deployments during COVID-19, and noted that there has been a slight delay in PIRO going through the rulemaking, but it would be ideal to have all the boats transitioned to electronic reporting by the time the regulation becomes effective.

17. Public Comment

Dave Gershman, Ocean Foundation, commented on efforts being taken regarding oceanic whitetip sharks in the Pacific Ocean, suggesting that the results of the Monte Carlo analysis seem to indicate that options are available to reduce impacts on the species. He hoped that the study would be presented to both the Council as well as the Scientific Committee of the WCPFC since

international action will be needed to allow the species to recover. Gershman also commented that it would be interesting to know, regarding the removal of shallow hooks, if the redistribution of these hooks would mitigate the economic loss expected from removing the hooks completely.

Bigelow responded that he led a study around a decade ago for American Samoa longline fisheries assuming the redistribution of the hooks instead of complete removal. It was determined that redistributing the hooks would result in a longer set (distance-wise), which would create substantial additional work for the fishing crew; thus, the redistribution of hooks was not considered further.

18. Pelagic Plan Team Recommendations

The Plan Team Recommends

Regarding bycatch data tables in the Pelagic Annual SAFE Reports, the Pelagic Plan Team:

1. Forms a Plan Team working group composed of PIRO, PIFSC and Council staff to consider inclusion of longline bycatch data using observer data for future reports. The working group may identify priority species for generating expanded estimates from the prior year in time for the SAFE report, and a list of species and species groupings for remaining fish bycatch to supplement the existing tables based on logbook data.

Regarding the regulatory amendment to prohibit wire leaders and require removal of trailing gear from oceanic whitetip sharks, the Pelagic Plan Team:

2. Recommends that the Council consider applying the requirement to remove trailing gear to all US longline vessels operating under the Pelagic FEP. This would provide a strong basis for the US to promote similar measures at the RFMOs to address impacts in foreign fleets.
3. Recommends that the Council consider specifying a target length of trailing gear removal as part of the requirement to be less than 1 meter, while not impeding crew safety. For the deep-set fishery, the Plan Team recommends that the line be cut as safely as possible below the weighted swivel.
4. Recommends Pacific Island Regional Observer Program (PIROP) consider recording data on bite-offs . At minimum, branchlines with missing hooks should be recorded. The Pelagic Plan Team further recommends the Council and PIFSC support improving research to determine sources of bite-offs in collaboration with the fishing community and PIROP.

Regarding addressing the Council's MSA304(i) obligations on WCPO silky sharks, the Pelagic Plan Team:

5. Recommends the Council adopt its previous domestic and international recommendations to address MSA 304(i) obligations on oceanic whitetip sharks as applicable to its obligations to address the overfishing status of WCPO silky sharks.
6. Recommends the Council work with NMFS and the US State Department to encourage the reduction of fishing mortality of silky sharks, especially juveniles, resulting from object-associated purse seine fishing effort.

Regarding the development of the non-commercial modules in the Annual SAFE report, the Pelagic Plan Team:

7. Recommends the Council requests PIFSC analyze the fishery-dependent data: 1) total estimated creel catch minus commercial receipts for non-commercial catch and 2) expand the creel intended sold and unsold, and determine which approach could be used for the non-commercial estimates in the Annual SAFE Reports. The Plan Team notes that there may also be discrepancies in the commercial data for the American Samoa non-longline sector stemming from the estimation of pounds sold from the creel survey expansion.

Regarding the Fishery Observations Section of the SAFE Report, the Pelagic Plan Team:

8. Recommends that the Council consider directing its Social Science Planning Committee to work with the Advisory Panels to explore conducting periodic check-ins with the fishing communities to provide information for this section.

Work Items

Plan Team members agreed to carry out the following module improvements and action items for the Annual SAFE Report:

1. Indicate annual estimates of non-longline fishing effort or catch that are anomalous (such as for CNMI in 2020 annual estimates of troll effort that varied significantly) and may be associated with uncertainty. This should also include means of characterizing uncertainty.
2. Given the lack of sampling for two three-month gaps that coincide with prevalence of two major PMUS, to reconcile annual estimates of PMUS in the Guam fishery data module for 2020 to either determine alternative means to estimate PMUS in Guam, or to conclude if 2020 estimates for certain PMUS in Guam are flagged as unreliable based on sampling issues.
3. Include a Fishery Observation section to the Pelagic Plan SAFE Report as a separate section within the Ecosystem chapter to be updated annually, independent from data modules, and explicitly noting source of information. This may include instances in which local knowledge and observations corroborate trends in available data sources in future years. This information should come from periodic check-ins with fishing communities and with the advisory panels.
4. PIFSC, state and territory management agencies, and Council staff to work on determining local and external demands for incidental PMUS, such as mahimahi, and explore drivers impacting price per pound related to catch in non-longline and longline fisheries. This work should include consultation with Council advisory bodies and in concert with local knowledge provided in the new Fishery Observation section.
5. PIFSC Socioeconomics Program and Plan Team members to work with state and territorial management agencies in documenting the COVID-19 impacts to the fishery performance, data collection, and fishing communities for inclusion in the new special COVID-19 section within the 2020 annual SAFE report. The PIFSC Socioeconomic Program and Plan Team members are to determine feasibility of including such a section in the 2021 annual SAFE Report.

19. Other Business

There was no other business.