



**149th Meeting of the Scientific and Statistical Committee  
September 12-14, 2023  
Hybrid Meeting  
Council Office, Honolulu HI**

**FINAL REPORT**

**4. Pacific Islands Fisheries Science Center Director Report**

T. Todd Jones provided the Pacific Islands Fisheries Science Center (PIFSC) Director's report. He highlighted the recent publication of the American Samoa Small Boat Fishing Study survey conducted in 2021; the bottomfish stock assessment report-out in Manu'a; a project to determine post-release conditions of protected species using electronic monitoring; modern computing and tackling technical debt; Council-PIFSC Fisheries Research and Monitoring Division (FRMD) planning meeting, planning for the BioSampling Summit; main Hawaiian Islands (MHI) uku pilot project planning; International Scientific Committee for Tuna and Tuna-like Species; updates on the International Biological Billfish Sampling (IBBS) Program; Hawaiian monk seal Toxoplasmosis Risk Management Scenario Workshop; the Hawaiian Islands Cetacean and Ecosystem Survey (HICEAS); updates from the green sea turtle field research at Lalo (French Frigate Shoals); leatherback conservation projects in Indonesia; and PIFSC staff participation in the 5th Symposium on the Effect of Climate Change on the World's Ocean.

SSC members expressed appreciation to PIFSC for sending their staff to the villages in American Samoa to report out on the stock assessments. An SSC member asked whether there was any discussion on adaptive protected areas at the Symposium on the Effect of Climate Change on the World's Ocean, noting that key impacts of climate change on fisheries is shifting distributions and traditional models are outdated. Jones referred to the written report from PIFSC for further details on the symposium, and suggested further follow-up with Phoebe Woodworth-Jefcoats. An SSC member encouraged PIFSC to replicate the small boat survey done in American Samoa to other parts of the region, and asked why the survey focused on 2020. Jones responded that PIFSC was trying to understand where fishing was taking place in the territorial and federal waters following the overfished determination, and the survey looked at COVID impacts in 2021.

**The SSC recommends the PIFSC Social-Ecological and Economic Systems Program's small boat fishing survey be replicated in other jurisdictions including Guam and the CNMI to explore the importance of fishing in the communities for food security and as a source of income.**

## 5. Island Fisheries

### A. American Samoa Bottomfish Management Unit Species (BMUS)

#### 1. P\* and SEEM Working Group Reports

Domingo Ochavillo, SSC member and chair of the P\* and SEEM working groups, provided a report on the working group meetings convened in person in American Samoa on August 28 and 29. The working group comprised assessment scientists, fishery managers, and bottomfish fishermen. The working group scored the four scientific uncertainty dimensions: 1) assessment information; 2) uncertainty characterization; 3) stock status; and 4) productivity-susceptibility. The group reviewed the information in the 2023 benchmark stock assessment for the American Samoa bottomfish fishery and quantified scores for the nine species assessed. The P\* working group quantified a single score for assessment information, uncertainty characterization and stock status. For assessment information, the group agreed that it was characterized as a perfect assessment that provides the estimates of exploitation, biomass and MSY derived benchmarks. The total assessment aspects point was 4.0, which is a scaled equivalent of 1.1. Uncertainties were carried forward into the projections quantifying a 3.5 percent reduction. For stock status, the nine assessed species are not overfished nor experiencing overfishing although *A. virescens* and *E. coruscans* were close to the overfished limits during a single year of the fished time series. The scores for productivity and susceptibility ranged from 3.8 to 6.3. The shallow bottomfish species have a moderate productivity with higher spawning rates and low susceptibility compared to the deep bottomfish that are more long lived species.

The SEEM working group utilized standardized SEEM dimensions and criteria. SEEM analysis quantified a reduction of 0 from the SEEM dimensions and a management uncertainty reduction was quantified at four percent. Although there is mandatory licensing and reporting to the creel survey, there is a high uncertainty in the catch expansion in the data limited fishery. For example, in 2022 PIFSC was not able to do a catch projection expansion for the AS BMUS until October 2022 due to the limited amount of surveys. For management, there has been an improvement with the development of the territorial fishery management plan and willingness of the agency to use their annual proclamation. Under management uncertainty, a reduction of 2.5 was made for monitoring and 1.5 for management uncertainty.

An SSC member asked for updates on the ehu complex (*Etelis carbunculus* and *E. boweni*) as they are an important part of the fishery. Council staff noted that the P\* and SEEM did not assess *E. boweni* and *E. carbunculus* because the former is not a part of the American Samoa BMUS and there are identification issues between the two species. The Council will be taking final action to revise the American Samoa BMUS that will include *E. boweni*, and will manage *E. carbunculus* utilizing *E. coruscans* as an indicator species.

The SSC thanked Ochavillo for his presentation.

#### 2. Discontinuing the Rebuilding Plan and Setting Acceptable Biological Catch for 2024-2026 (Action Item)

Council staff provided a presentation on the options for discontinuing the American Samoa bottomfish rebuilding plan and setting the acceptable biological catch (ABC) for 2024 to 2026. The options took into consideration the outcome of the P\* analysis that quantified the scientific uncertainty in the 2023 benchmark stock assessment that generated nine uncertainty scores that

will be subtracted from the 50 percent risk of overfishing. The options presented were: 1) No Action - continue the rebuilding plan; 2a) Discontinue the rebuilding plan and set an aggregated ABC for the nine assessed BMUS based on their respective P\* analysis that will used indicators for *E carbunculus* and *P filamentosus*; 2b) Discontinue the rebuilding plan and set single species ABCs for *E coruscans* and *A virescens* and aggregated ABC for the other seven assessed species with the same caveat of option 2a; 2c) Discontinue the rebuilding plan and set nine ABCs with the same caveats of option 2a; and 2d) Discontinue the rebuilding plan and set the ABCs lower than the P\* analysis. The SSC weighed in on accountability measures for the American Samoa bottomfish fishery that includes in-season monitoring through the creel survey and post-season overage adjustment based on a single year or a three year average.

An SSC member commented that the use of Samoan and Hawaiian names combined can be confusing and suggested using NOAA species codes, Latin names, or having a standardized key to represent species. Others asked about the relatively small changes to future annual catch limits when risk to overfishing is halved from 50% to 25%. Council staff stated that weight differences were low since the MSY levels were low. Other comments encompassed issues revolving around the low fishing participation in American Samoa, in-season monitoring using creel surveys, and aggregating species ACLs.

In regards to the low fishing participation issues, one SSC member asked how the fishery expansion data was affected. An SSC member stated that the low fishing participation affected the expansion since it required enough data for the strata. It was noted that there is a general trend of a declining fishery in American Samoa leading many highliners to exit the fishery due to the high cost of fuel and operations, community dependence on non-target fish from local and foreign longliners, and the effects of COVID-19.

SSC members raised concerns on accountability measures as it related to in-season monitoring using creel surveys. An SSC member stated that in-season monitoring of the Uku fishery in Hawaii presented challenges to the creel surveys, collecting the data, and summarizing the data in a timely manner. Therefore electing not to do in-season monitoring should be justified. A SSC member agreed that in-season monitoring is challenging and that the Science Center is currently not set up to conduct in-season monitoring. Council staff noted that the SSC could choose not to do in-season monitoring, but an alternative accountability measure must be decided.

There were lengthy discussions on aggregating ABCs versus single species ABCs, a combination of the two, and potentially setting single species ABCs lower than the P\* values. An SSC member asked how the whole fishery complex would be affected under Option 2d if a single species was overfished (i.e., if one species went over the ACL, would the whole fishery be closed?). Council staff stated that if the affected single species goes over the catch limit, then the fishery for that complex will be closed. An SSC member stated that it is difficult to discontinue targeting a single species if it reached its overfishing limit. A SSC member responded that despite it being a multispecies fishery, fishers in American Samoa shared that they can and do target bottomfish at different depths. Although some members favored aggregating the species complex to one ACL, SSC members were reminded of the WPSAR assessment and aggregating the species to one ACL would bring up the same issues presented in 2019, and would not satisfy National Standard 2. An SSC member stated that maximizing the long term yield for this complex as a whole is ideal, but should operate within the bounds of the law while selecting an option that has the least impact on the fishery.

SSC members stated that the best scientific information available must be used, and future stock assessments plan to utilize single species assessments so it's best to begin with that process. An SSC member stated that careful consideration is advised when designing the single species monitoring protocol so that good estimates of that particular species are provided.

**The SSC recommends Option 2c which discontinues the rebuilding plan and sets 9 single species ABCs based on the P\* analysis for fishing years 2024-2026. The SSC recommends *E. coruscans* and *P. flavipinnis* be used as indicator species for *E. carbunculus* and *P. filamentosus*, respectively. Noting the challenges in implementing in-season monitoring using creel surveys, the SSC recommends implementing a 3 year average average adjustment accountability measure.**

### **B. MHI Deep 7 Bottomfish Stock Assessment WPSAR Terms of Reference**

Felipe Carvalho, PIFSC, presented on the Terms of Reference (TOR) for the review of 2023 Main Hawaiian Island Deep 7 bottomfish benchmark stock assessment. The WPSAR is scheduled for December 11 to 15, 2023. The WPSAR TOR would cover data sources, CPUE standardization, assessment models, uncertainty and whether the results are scientifically sound. The TOR would consider if an opakapaka stock assessment could be used to provide more information on the overall status of the complex.

An SSC member asked for more clarification on TOR number 10. Carvalho said opakapaka accounts for 70 percent of the catch for the MHI Deep 7 complex, and implications for a single species assessment were not included in the present study. PIFSC will conduct a separate study for Deep 7 assessment to find trends and improve the evaluation of the complex.

An SSC member stated that if PIFSC compares a production model to a more complex single species model, that may lead to conflicting conclusions on stock status.

To address this comment, the SSC Chair suggested the WPSAR steering committee work with the SSC to revise the language for TOR 10.

Following consultation with Brett Schumacher, PIRO, the language for TOR 10 was changed to indicate that the single-species assessment portion of the document for opakapaka was supplementary information for supporting the conclusion of the aggregated stock-complex surplus-production model, and not as a potential competing assessment that could contradict the management advice from the surplus-production model.

An SSC member requested that more information about harvest policy and the overall status of the complex is added to the TOR.

**The SSC endorses the TOR and recommended a change to TOR 10 that included specific language noting the single-species model is supplementary and not to be used for status determination.**

**The SSC nominates Steve Martell as the Chair for the WPSAR Tier 1 for the MHI Deep 7 Bottomfish Stock Assessment.**

### **C. MHI Uku Ecosystem and Socioeconomic Profile Report Cards**

Adam Ayers, PIFSC Social Scientist, presented the MHI uku ecosystem and socioeconomic profile (ESP) report cards. The ESP report card is a standardized framework to refine key ecosystem and socioeconomic indicators that bridge the gap between climate science, ecosystem-based fisheries management and next-generation stocks assessments. This report is an initial attempt to develop an ESP in the Western Pacific for uku to highlight the social importance, variation in markets, dynamics of the fishery and its role as part of the small-boat fishing strategy.

An SSC member stated that the biggest uku fishery in Hawaii is located at Penguin Bank and the greatest impact to this fishery and fishing efforts is shark depredation.

Another SSC member asked if revenue per trip, characterizing fishing trips, and the fishing diversity within the uku fishery was considered as an option in the report card. Ayers said understanding what drives those different decisions in terms of the uku fishing diversity was challenging. He said a focused economic study would be needed to further sort out the diversity of motivations for the uku fleet.

SSC members commended PIFSC's research design and suggested that the same approach be used to profile opakapaka and other Deep 7 species in the next species report card as it is good information for the community. Noting some quotations from fishers in the report, one SSC member asked if there was anything else that was considered the same level in terms of "status fish". It was noted that any pelagic fish in addition to uku are sought after and would be shared on social media.

**The SSC supports ecosystem and socioeconomic profile report cards and recommends expanding the use of ESP report cards to opakapaka and other Deep 7 species.**

### **D. Public Comment**

Roy Morioka, Hawaii commercial fisherman, agreed with expanding the ecosystem and socioeconomic profile report cards to the Deep 7 bottomfish, and recommended leaving it as a complex compared to uku. He also commented that depredation continues to be an issue, and encouraged the SSC to pay attention to the effect of depredation on the stock and fishing effort. He said he shifts between targeting Deep 7 and uku, and he has experienced trips in which 60% of the fish caught is depredated. He said on a normal trip he would travel up to 60 miles, but would travel up to 120 miles at sea to avoid shark depredation. He said that the impacts of depredation need to be taken into consideration in the socioeconomic analysis.

Clay Tam commented on shark interactions with bottomfish fishers in Hawaii. Depredation has been a major issue over the past few bottomfish seasons and recent fisheries independent surveys (BFISH) have also reported shark depredation events. Tam revealed that depredation has even affected efforts to collect environmental data at fishing locations as several temperature and depth recorder instruments attached to bottomfishing rigs have been lost.

## **6. Pelagic and International Fisheries**

### **A. American Samoa Longline Fishery Report**

Jenny Stahl, PIFSC, presented on the fishery performance (catch and effort) of the American Samoa longline fishery through the first half of 2023. Effort in this fishery continues to decline while albacore CPUE remains relatively stable. Vessels are participating in electronic reporting (ER) and PIFSC FRMD is looking to hire on-site staff to provide ER support.

SSC members discussed the declining fleet and possible causes. Russell Ito (PIFSC) responded that it is unclear why the fleet is small. An SSC member noted the low effort suggests that trips might not be economically viable. There was discussion and support for the creation of a survey or questionnaire for vessels, captains, and boat owners to better understand declining effort in this fishery. Executive Director Kitty Simonds emphasized concerns about the declining albacore fleet noting the US could negotiate expanding fishing privileges with neighboring Pacific Island countries if the fleet was interested in expanding their fishing footprint.

The SSC thanked Stahl for the informative presentation.

### **B. Hawaii Longline Fishery Report**

Russell Ito, PIFSC, presented on the fishery performance (catch and effort) of the Hawaii deep-set and shallow set longline fisheries through the first half of 2023. The number of hooks set by the fleet continues to increase. Overall, bigeye tuna CPUE was below average and yellowfin tuna catch and CPUE was lower than the previous year. Swordfish effort and catch was slightly higher but catch rate has been relatively stable. The longline fleet has experienced a higher number of fish with damage from cookie cutter sharks this year resulting in a costly reduction in revenue. External influences on the fishery in the first half of 2023 included higher than normal vessel breakdowns, climatological switch from a strong La Nina to El Nino, Maui wildfires, and a weakened Yen possibly causing a decrease in eastbound visitors to Hawaii.

The SSC discussed alternative approaches to presenting catch and CPUE data to aid interpretation of species-specific trends and relationships with other species caught by the longline fleet. The SSC requests that PIFSC explore multivariate approaches to characterize longline catch trends in future reports. The SSC also discussed walū (escolar), a species with historically high discards. Ito noted high prices of walū at the auction. An SSC member asked about the bluefin tuna species distinction in longline catch. Ito also provided more detail on the bluefin catch in the recent year.

The SSC thanked Ito for the informative presentation.

### **C. 2024 US Territorial Bigeye Tuna Catch Limit and Allocation Specification (Action Item)**

Council staff presented options for specifications of longline bigeye tuna catch limits for U.S. Participating Territories and allocation with U.S. longline vessels. For fishing years 2020 through 2023, the Council specified territorial bigeye longline catch limits up to 2,000 mt for each territory and allocation transfer limits up to 1,500 mt per territory, with total allocations from all U.S. Participating Territories not to exceed 3,000 mt. Under these specifications, U.S.-flagged vessels operated through the entire fishing year. A new stock assessment found the stock

to still be not overfished and not experiencing overfishing, however biomass relative to unfished conditions declined from 41% unfished recent biomass in 2020 to 35% unfished biomass in 2023. Impacts of the fishery operating under agreements will not have a significant impact on the stock. At its September 2023 meeting, the Council will consider taking final action on the specification of the 2024 U.S. territorial bigeye longline limits for American Samoa, Guam and the CNMI. The Council will also consider limits on the amount of catch that could be transferred under specified fishing agreements by the U.S. Participating Territories to vessels permitted under the Pelagic FEP.

SSC member Shelton Harley recused himself from this item.

The SSC discussed depletion impacts by fishery in Region 2 and how to reconcile patterns with Hawaii longline CPUE trends. Council staff indicated that other fisheries and/or regions may influence Region 2 via fishing effects on recruitment and/or migration and that trends may not be consistent across data streams. Additional SSC discussion included the potential for increased protected species interactions under scenarios with increased fishing effort. Executive Director Kitty Simonds asked when allocation projections would be completed and whether NEPA analysis was needed to evaluate multi-year allocations. Council staff clarified timing.

After brief discussion the SSC as a group agreed that there was no scientific reasoning to deviate from the current option used since 2020 (Option 2A).

**The SSC recommends Option 2 (the status quo), which specifies 2,000 mt longline bigeye limits for each US Participating Territory, with up to 1,500 mt transfer limits per US Participating Territory, and a limit on total transfers to 3,000 mt.**

#### **D. Scenarios for Implementation of Electronic Monitoring in Western Pacific Longline Fisheries**

Council staff with Heather Nelson, PIRO Sustain Fisheries Division, presented goals and objectives of a pre-implementation plan for electronic monitoring (EM) in Pacific Island fisheries. The presentation addressed the benefits and drawbacks of implementing EM as a priority in Hawaii (deep-set and shallow-set sectors) and American Samoa. Monitoring objectives that were reviewed included a) protected species monitoring and estimation, b) retained catch monitoring, and c) discard monitoring. For executing a pre-implementation EM program, the Council and its advisory bodies may recommend and prioritize: (1) region, American Samoa and/or Hawaii; (2) fishery sector(s), deep-set and/or shallow-set; and (3) overarching monitoring goals, with primary and possibly secondary monitoring objectives. The monitoring goals and objectives will frame a ‘purpose and need’ for Council action in the future. Any guidance on what information is needed from a pre-implementation program can inform a future decision to implement EM in the U.S. longline fisheries in the PIR.

The SSC acknowledged the work of the Electronic Technologies Steering Committee noting the efforts as some of the best to date for planning EM implementation. An SSC member asked about camera configurations and how multiple cameras are positioned. Council staff responded that PIFSC has characterized capabilities and constraints with respect to camera layouts and different camera setups are required for different goals (i.e. accounting for discards vs retained catch). An SSC member asked about the collection of turtle size information by human

observers. PIFSC staff responded that accurate size data is possible for loggerheads because they are hauled aboard, but for leatherbacks, which remain in the water, precision of size estimates remains a challenge. The SSC member noted that precision of in-water turtle size estimates are a challenge for both humans and cameras, adding that data challenges that are relevant to both data collection methods should not detract from implementation planning.

An SSC member asked about the future of EM in the region with regard to the cost of human observers. Council staff and Nelson responded that EM is intended to supplement, not replace, human observers. The SSC member suggested that more paired trips should be conducted to better understand strengths and weaknesses of each approach to monitoring. Jenny Stahl (PIFSC) clarified that PIFSC has already completed such comparisons and the report is available in the briefing document. An SSC member asked about the use of AI for video review. Stahl responded that protected species interactions will be reviewed by humans post-trip. An SSC member asked about costs of EM versus human observers. Nelson responded that the pre-implementation will help characterize costs which at this point are proxied from other programs. PIFSC staff further responded that there is a team working on better understanding how changes in the uncertainty envelope for protected species monitoring and compliance with regulations might be impacted with EM. An SSC member asked if any cameras are underwater. Nelson responded no.

The SSC discussed the importance of considering fisher reporting requirements in program planning (e.g., protected species reporting, ensure monitoring has accountability), noting that verification of fisher reporting would likely require less human review (typically the most expensive part of any camera program) than simply using review as an alternative to observer data. An SSC member noted challenges of identifying species of sharks from video and noted the current guidelines on releasing sharks with minimal trailing gear may make it easier to identify sharks using EM (e.g., bringing sharks closer to the vessel prior to release). An SSC member noted that the presence of EM may change fisher behavior. SSC chair noted that the Pelagic Plan Team proposed a Hawaii longline hybrid approach for EM pre-implementation with protected species as the primary monitoring objective and discard accounting as a secondary monitoring objective. After short discussion the SSC agreed with this proposal.

**The SSC recommends that the Council and NMFS proceed with an EM Pre-Implementation Program. The SSC further recommends the focus remain on the Hawaii longline fishery, as a hybrid approach between fishery sectors, with a primary monitoring goal for protected species monitoring with secondary objective being for discard accounting.**

The SSC thanked Nelson for the informative presentation.

#### **E. Feasibility of Stock Assessments for Incidental Pelagic MUS**

Erik Franklin, University of Hawaii, presented on data summaries to help infer the feasibility of stock assessments for currently unassessed and incidentally caught pelagic management unit species (MUS). Species considered included mahimahi, ono, pomfrets (monchong), and moonfish (opah). Data from the federal longline logbooks, Pacific Island Region Observer Program (PIROP) Longline Reports, Hawaii small boat fish catch reports, and the non-commercial catch from the Marine Recreational Information Program (MRIP) were used to explore data availability and trends. Preliminary results suggest that mahimahi and ono would be



the most feasible candidates for exploring stock assessments. Next steps include investigating spatial-temporal patterns and environmental covariates.

The SSC inquired about the PIROP data set. Council staff clarified that the PIROP data presented was raw data and not expanded catch. Several points related to Hawaii small boat fisheries were discussed including seasonal signatures of highliner fishers, reviewing trolling effort according to the gear used (lures vs. bait) and general observations by the fishing community that local mahimahi abundance is declining. An SSC member reminded the committee about previous concerns raised by the SSC regarding non-commercial catch data from MRIP. Another SSC member suggested an in-depth review of MRIP data and exploration of alternate catch expansion methods may address some prior concerns with MRIP catch summaries. An SSC member pointed out the paucity of life history information noting the fish auction may be explored as an option for collecting such information. Council staff asked about species distribution shifts in response to climate change. T. Todd Jones (PIFSC) informed the SSC that starting in 2024, FRMD will be recruiting for a 2-3 year funded position to work on progressing this project past the feasibility stage towards a research stock assessment.

**The SSC recommends that PIFSC continue to develop research assessments for unassessed incidental pelagic MUS and that estimation of non-commercial pelagic catch and effort be made a priority.**

The SSC thanked Franklin for the informative presentation.

## **F. International Fisheries**

### **1. WCPO Longline Management Workshop**

Council staff presented on outcomes of the recent WCPFC tropical tuna workshop and the Council-convened longline management workshops. The WCPFC formal workshop provided a prioritized list of requests for the WCPFC Scientific Services Provider (SSP). Once the SSP provides the analyses, the follow-up formal workshop to be held September 29 and 30, 2023 will be able to provide insight on allocation and possible revisions to the tropical tuna measure. The next formal workshop is provided with a list of allocation criteria to consider. The Council and the Marshall Islands Marine Resources Authority (MIMRA) will co-convene a one day workshop focused on longline tropical tuna fisheries in the WCPFC, and will take into account analyses expected from the SSP. The Council and MIMRA had previously discussed the earlier workshops at formal WCPFC meetings, for which there is recognition to increase longline catches for bigeye tuna for countries listed in Table 3 of the tropical tuna measure, including the U.S.

An SSC member asked about the climate change justice rationale. Council staff responded that small island countries realize that geographic shifts of pelagic fish may impact fishing access fees and their GDP.

### **2. 19th WCPFC Science Committee**

Council staff will present on outcomes of the 19<sup>th</sup> WCPFC Scientific Committee (SC19) which was held August 15-25 in Koror, Palau. New stock assessments for yellowfin tuna and bigeye tuna were provided. Both stocks are not overfished and not experiencing overfishing and had their models successfully converge for the first time since the model configurations were made.

However, the stocks are slightly less optimistic than from the 2020 assessments. There will be a new stock assessment for South Pacific albacore in 2024. Terminal biomass estimates in the previous assessment show retrospective bias, so there is reticence to make recommendations on projected catch scenarios to reach candidate target reference points (TRPs). The SSP provided analyses of candidate TRPs and there is a need to progress on harvest strategies. The US may want a harvest strategy that will ensure enough vulnerable biomass to increase the American Samoa longline fishery CPUE to historical levels, noting the decline in fishery performance.

### **3. 19th ISC Meeting**

Felipe Carvalho, PIFSC, presented on the 19<sup>th</sup> International Science Committee for Tuna and Tuna-like Species in the North Pacific Ocean (ISC19).

An SSC member asked about the striped marlin overfishing status and the overfishing definition given that the 2020 estimate was very close to the threshold. Carvalho responded that overfishing definitions are clearly specified in the assessment document. An SSC member asked about the different stock status phase plots in the presentation (e.g., Kobe, Majuro, and La Jolla plots). Carvalho and SSC member clarified differences between the plots and their respective uses. Council staff asked about the stock projections and the utility of a phased approach. Carvalho clarified the specifications for the projections which included many different scenarios, including a phased approach.

The SSC thanked Carvalho for the informative presentation.

### **G. Public Comment**

Clay Tam commented on perceived declines of local mahimahi in Hawaii. Tam noted a possible decline in debris such as logs from the Pacific northwest that typically attract baitfish and mahimahi and commonly drift around regions of the Hawaiian Islands. Tam noted that highliner fishers often venture offshore looking for such debris and set up their vessels with reels of pre-made leaders which aid fishers in effectively targeting an entire school of mahimahi if one is located. Tam also mentioned that fishers of La Paz, Mexico in the Sea of Cortez are reporting some of the best mahimahi catches in recent years adding a potential connection with shifting climates and referencing shifts in albacore abundance off the US west coast and changes to predominant currents off Kona, HI. Tam echoed concerns over the accuracy of MRIP catch estimates for mahimahi commenting on the unlikely scenario that non-commercial fishers catch more than the commercial small boats. Tam also noted that longline catch patterns might be impacted by shortage of sanma bait which may have been preferred by some pelagic species.

Eric Kingma, Hawaii Longline Association (HLA), supported option 2A for 2024 US Territorial Bigeye Tuna Catch Limit and Allocation Specification which specifies 2,000 mt longline bigeye limits for each US Participating Territories, with up to 1,500 mt transfer limits per US Participating Territory. Kingma noted there are two existing agreements in place for 2023-2025. Kingma indicated HLA support for the electronic monitoring pilot project, specifically the hybrid approach for shallow- and deep-set trips, priority for protected species and secondary objectives for discarded species. Kingma also noted the recent identification of the purse seine fisheries impact on the bigeye stock assessment. Kingma added that the longline fishery could be negatively affected by non-target catch of juvenile bigeye tuna by the purse seine fleet.

## **7. Protected Species**

### **A. Green Sea Turtle Critical Habitat Proposed Designations**

Lasha-Lynn Salbosa, USFWS Honolulu, and Jenny Schultz, NMFS Headquarters, provided overviews of each agency's proposed rules to designate critical habitat for populations of green sea turtles listed under the Endangered Species Act (ESA). Critical habitat is defined as an area that contains habitat features that are essential for the conservation of a species. USFWS is proposing to designate critical habitat on land where green sea turtles bask, nest, incubate, hatch and travel to the sea, which includes beaches, sandy shoals, and coastal vegetation between the mean high water line and the beginning of dense vegetation, cliff or coastal structures. NMFS reported that they intend to designate marine critical habitat from the mean high water line to 20 meters depth to protect important feeding, staging, breeding, and resting areas. Some areas owned or controlled by the Department of Defense may be excluded from designation if the area is subject to an integrated natural resources management plan (INRMP) prepared under the Sikes Act.

An SSC member noted that there is a great deal of departmental expertise and information available relevant to sea turtle sightings and surveys useful for the designation of critical habitat. Salbosa agreed and noted that these information sources would be included as data resources in support of the designation of these areas.

Another SSC member asked for clarification regarding critical habitat designations in relation to management of private lands. Salbosa emphasized that the ESA designates that consultation processes only pertain to activities that are federally funded, permitted, or authorized, and that the designation of critical habitat simply guides the conservation of sea turtles by the federal government in the context of ESA consultations.

An SSC member questioned whether this process considered and consulted local territorial agencies and offices. Salbosa noted they work with those agencies but the process is primarily involved with federal agencies and permitting.

An SSC member noted that prior consultations between Guam based territorial and federal offices on critical habitat issues had not reached resolution and did not appear to have been considered in the current consultation process. Shultz agreed to contact and consult with Guam on the critical habitat designation process and incorporate these concerns.

An SSC member asked why virtually the entire coastline of Guam had been proposed as green sea turtle critical habitat, noting that such a broad designation is a false assumption which is based upon ecological principles which do not apply to a compromised ecosystem. Shultz responded that the designation followed the federal definitions of critical habitat and all those areas fit a defining criteria.

Later during the following discussion regarding FKW population boundaries, an SSC member pointed out the "dichotomy" between NMFS-logic which takes 100% of all possible habitat available to the green sea turtle, yet then employs a "more frugal" approach to define FKW areas.

## **B. Update on the Hawaii Pelagic False Killer Whale Assessment Approach**

Erin Oleson, PIFSC, provided an update to the presentation from the June 2023 meeting on the new assessment approach for Hawaii pelagic false killer whales (FKWs) that accounts for their occurrence and overlap with U.S. fisheries outside the U.S. EEZ. Since the last meeting, PIFSC completed the draft Technical Memorandum describing the approach used to delineate the ‘management area’ boundary. All data used in the analysis are available online at the links in the Technical Memorandum. The management area boundary for the pelagic FKWs remains unchanged from the June meeting, and is defined by a minimum convex polygon with 35km buffer, using available biological data, with general outline of space supported by genetic samples and telemetry locations from known pelagic FKWs. Depredation observations are not considered to define boundary because depredation records cannot be confirmed to FKWs or a specific stock. Next steps include publishing the management area abundance and PBR in the draft 2023 Stock Assessment Report (SAR), and NMFS will consider well-justified alternatives to the management area boundary that are submitted as part of the public comment period on the draft SAR. NMFS will also form a working group to consider approaches for estimating foreign fleet fishing effort and FKW bycatch, and invited SSC member participation in the working group. NMFS also plans to collect additional biological data to reduce uncertainty in population structure in and around the management area.

SSC members expressed concern that the proposed FKW management area was overly restrictive in geographic size in relation to the fishery, with direct influence on resulting PBR levels. SSC members sought further clarification on why areas to the west of Johnston Atoll and to the south were not included in the management area, and whether observer’s FKW sighting data were factored into the delineation of the management area. It was also noted that the proposed management area relied heavily on a small tagging/tracking data set.

Oleson stated that there are no false killer whale data in the areas west and south of the proposed area, and that a survey conducted in the EEZ around Johnston Atoll in 2005 did not have any false killer whale sightings. Observer sighting data were not used because of uncertainty with identification of FKWs, and those observations could not be positively assigned to the pelagic stock.

The SSC noted that this work was ultimately comprised of two steps: (1) determination of the FKW management area; and (2) estimation of abundance and the resulting PBR. With respect to the approach used to estimate abundance within the area, the SSC recalled discussions at its 135th meeting in March 2020. In particular, it recalled its concerns regarding the model-based estimates and its recommendation that both design and model-based estimates be considered when determining key management quantities. The SSC noted that the model-based abundance estimate for the proposed FKW management area (5,528) is only marginally higher than the design-based estimate for the EEZ based on survey data (5,106) and suggested that this indicates that the model-based estimate could under-estimate abundance in the proposed area.

Overall the SSC expressed concern that available data, in particular the restricted spatial extent of the surveys, is insufficient for the task at hand and that there have been numerous decisions made by the assessment team (e.g., choice of approach for abundance estimation, the decisions on the reliability of the model-based predictions for particular areas, and inclusion and exclusion of different data sets) which likely have an impact on the resulting key management quantities.

The impacts of these decisions are not clear and as a consequence it is also unclear what critical research areas are necessary to improve our understanding. **It is difficult for the SSC to endorse the current approach and results. The SSC forms a working group comprising of Shelton Harley, Milani Chaloupka, Ray Hilborn, and David Itano to work with staff to respond to PIFSC's response to the June 2023 recommendations, as well as to provide comments on the draft 2023 SAR when it becomes available. The SSC recommends that Council's comments on this matter also be sent to the Pacific Scientific Review Group.**

The SSC acknowledged that the Technical Memorandum addresses the SSC's previous request to provide documentation of data sources. **The SSC requests PIFSC to include additional documentation in the final report on the reason for not including the observer sighting data.**

The SSC inquired how the working group on foreign fishery impacts may help to reduce uncertainty, and received clarification that the recovery factor could be revised if the working group is able to develop a framework to estimate pelagic FKW take across all fleets and reduces the bycatch estimate coefficient of variation (CV) to below 0.8. **The SSC nominates the following members to participate in the working group: Shelton Harley, Ray Hilborn, David Itano, and Graham Pilling**

### **C. Public Comment**

Eric Kingma, Hawaii Longline Association, questioned the selective use of data and information used to define the proposed management area for pelagic stock FKW. He noted a large amount of observer sightings that identify or are very likely to be false killer whales, particularly from areas north of the Hawaiian Islands that are likely to be of the pelagic stock. Depredation of tuna on the line is also documented by observers and logbooks that is either identified as or very likely to be from false killer whales and this information should be considered. It was also noted that a significant data input used to define the proposed management area relies on a very small number of tags and tracking data of pelagic stock false killer whales. He recommended using all sources of data when considering the extent of the pelagic stock management area.

## **8. Program Planning and Research**

### **A. NMFS Draft Climate Governance Policy**

Kiley Dancy, Mid-Atlantic Fishery Management Council (MAFMC) staff, presented on NOAA Fisheries Climate Governance Policy. The draft policy is intended to provide guidance on when and how the Secretary will review and assign management authority over existing (and potentially new) fisheries found across more than one Council jurisdiction. The MAFMC SSC reviewed and provided feedback on the draft policy, including the lack of flexibility on changing responsibilities with respect to catch and effort percentages between Council jurisdictions and distribution shifts that may be temporary.

SSC members questioned the applicability of the procedural directive to the Pacific Islands and supported the critically evaluative findings of the Mid-Atlantic SSC report. **The SSC recommends that the Council join the Mid-Atlantic and other Councils in addressing the procedural directive.**

The SSC thanked Kiley Dancy for the informative presentation.

### **B. Inflation Reduction Act Overview**

Jones provided an overview and priorities under the Inflation Reduction Act (IRA) funding. IRA funds include \$349 million to support Climate-Ready Fisheries, of which \$105 million is being allocated toward Essential Data Collection/Advanced Technologies (EDC/AT).

[Additional details on the regional IRA funding priorities were presented and discussed under 8.C.3.]

### **C. Priorities for Addressing Climate Change in Fishery Management**

#### **1. NMFS National Activities and Priorities**

No presentation was provided on the NMFS National Activities and Priorities, but the Ocean Climate Action Plan and NMFS Climate Science Strategy were included in the SSC briefing materials for reference.

#### **2. NMFS Regional Activities and Priorities**

Phoebe Woodworth-Jefcoats, PIFSC, presented on the regional activities and priorities for the Pacific Islands, and specifically on the Pacific Islands Regional Action Plan (PIRAP). It was structured around five themes: 1. Baselines and shifting distributions, 2. Impacts to life history and biology, 3. Ecosystems, habitats, and humans, 4. Regional coordination and operations, and 5. External partnerships and resources. Four of the five themes have associated action items, and each action item has at least one metric. Metrics are specific, quantifiable, and time-bound with at least one point-of-contact at PIFSC, PIRO, and the Council.

The SSC thanked Phoebe Woodworth-Jeffcoats for the informative presentation.

### **3. PIFSC Funding Priorities for Climate-Ready Fisheries**

T Todd Jones (PIFSC) detailed the EDA/AT funding program under the IRA. Approximately \$105 M in total funding is being allocated for EDA for FY23–FY26. Strategic initiatives under the EDA funding pool include supporting uncrewed monitoring platforms, active and passive acoustic monitoring systems, remote sensing, and social science. EDA funds will also be used to charter protected species surveys and modernizing data acquisition and management in the region. PIFSC IRA priorities under the EDA/AT include electronic reporting for creel surveys and biosampling, as well as a pilot fishery-independent survey in the territories. Pacific charter funds for protected species surveys will also free up days at sea for the white ship surveys for a potential pelagic FKW management area survey. Jones also provided an overview of the Climate Ecosystems and Fisheries Initiative (CEFI), which will support decision support teams and a network of PIFSC scientists working on climate-ready fisheries.

An SSC member suggested a potential CEFI project could be examining fluctuations of albacore stocks in American Samoa in relation to ocean currents. SSC members also discussed the potential of using the EDA to fund AI-assisted electronic monitoring. Jones noted that the priority is to develop capacity for electronic reporting for the region. An SSC member noted that cloud computing may have a large carbon footprint, potentially offsetting gains from climate mitigation.

Regarding CEFI funding, an SSC member suggested creating a consortium comprising NOAA and other key institutional partners to strategically implement these initiatives and support them beyond the IRA funding horizon. The SSC also discussed using IRA funds to create scholarships and other training opportunities to increase capacity in critical IRA initiatives.

**The SSC recommends forming a consortium comprising PIFSC, the Council, regional academic and research institutions, in order to strategically address the IRA project initiatives and maintain the viability of these programs beyond the IRA funding horizon. The SSC also supports allocating funding for student scholarships to build local capacity in disciplines that are critical to the IRA initiatives.**

The SSC thanked Jones for his presentation.

### **4. Council Management Priorities for Addressing Climate Change**

Council staff presented on Council management priorities with respect to climate change. The Council has incorporated climate indicators in SAFE Reports, completed the Pacific Islands Vulnerability Assessment, shifted to place-based management, allowing for holistic regional planning along the island areas, improved data collection and placed pelagic life history monitoring on the radar. Remaining broad challenges include climate informed reference points or risks from stock assessments, address risks; completing scenario planning, information to discern/monitor shifting stocks, and policies to address shifting stocks, planning for diversification across areas, and policies incorporating climate in NEPA, ESA, etc.

Council staff developed 2024-2029 Program Plan Emerging Themes: Climate Change Resiliency, Strengthening U.S. Pacific Fishery Competitiveness, Domestically and Internationally, Emerging Technologies in U.S. Pacific Fisheries, Equity and Environmental

Justice, and Capacity Building and Fishery Development. Drivers for these include national level plans, Executive Orders, RFMO policies, MSA mandates, legislation, and other relevant documents. The SSC was asked to review these research priorities and identify MSRA research projects and related activities by March 2024. The SSC was also encouraged to consider which potential partners might be able to execute these projects in an appropriate and timely manner.

**The SSC forms a Working Group comprised of SSC members Franklin, Camacho, Itano, Kobayashi, and Jones to work with Council staff in order to identify MSRA research priorities by March 2024.**

## **5. SSC Discussion on Climate Change and Fisheries Science Priorities for Management**

[SSC discussion for this section is summarized in the respective agenda items above.]

### **D. Proposed Designation of a Pacific Remote Islands National Marine Sanctuary**

#### **1. Updates from Federal Agencies**

Brady Phillips, NOAA Office of National Marine Sanctuaries (ONMS), provided an update on the status of the proposed Pacific Remote Islands National Marine Sanctuary (PRINMS). He provided an update on the timeline and designation process for the proposed sanctuary and a summary of scoping comments. Approximately 57,000 comments were received during the public comment period by 360 people attending public comment meetings and 179 attending virtually. The comments ranged from support to opposition of the proposed sanctuary with suggestions for regulations, boundaries, opportunities, and improvements. The ONMS will draft sanctuary designation documents, including a draft Environmental Impact Statement and management plan, at the end of 2023 and going into 2024. Phillips also provided an overview of the proposed sanctuary goals and objectives, which includes establishing the most comprehensive and lasting level of protection for the significant resources of the proposed sanctuary.

Phillips said the sanctuary model is more like the forest service than the national park service, meaning there is a level of human primary activities that may be allowed. Phillips also noted that the Presidential directive specifies “comprehensive protections” but did leave that process up to the Sanctuary process, which does provide more flexibility beyond the Presidential order. He also noted that a sanctuary can add conservation value using various tools, such as habitat restoration, education and outreach, above and beyond what is currently done.

The SSC reiterated its position that further restricting, including up to a complete prohibition on commercial fishing in the proposed sanctuary would provide no additional conservation benefit to the pelagic fisheries within or beyond the proposed Sanctuary boundary and that climate change remains the real threat to those ecosystems. The best available scientific information indicates that the impacts of existing fisheries as managed under current fisheries regulations are well below the measurable and objective thresholds established by NOAA pursuant to requirements set forth under the Magnuson-Stevens Act, Endangered Species Act and other applicable laws. Furthermore, the proposed Sanctuary would create a disproportionate socioeconomic burden to American Samoa and the fleets that fish in the proposed Sanctuary



area. SSC members also emphasized that a goal of the Sanctuary is to support cultural heritage and that fishing is central to the culture of Pacific island communities. SSC members also highlighted that the foundational purposes and policies of the National Marine Sanctuaries Act include wise and sustainable uses and questioned why sustainable fishing was not considered as an option in the PRINM Sanctuary proposal. An SSC member noted that most other national marine sanctuaries are managed as multi-use zones that include commercial and non-commercial fishing activities.

## **2. Review of Existing Fishing Regulations and Options for Developing Fishing Regulations (Action Item)**

Council staff provided a presentation on the development of fishing regulations for the PRINMS. As part of the National Marine Sanctuaries Act 304(a)(5) process, the Council may recommend that existing fishing regulations are sufficient to meet the goals and objectives of the proposed sanctuary, recommend new or additional draft fishing regulations, or choose not to act. Staff reviewed the existing fishing regulations under the Council's FEPs and other requirements applicable in the PRIA, commercial and non-commercial fisheries data, and fishery impacts on target stocks, protected species and habitat. The SSC was asked to consider whether additional regulations beyond what is in place for the PRIA was needed and whether additional information or analysis was needed for consideration.

The SSC discussed the U.S. domestic fleet as one of the most highly-regulated and conservation-focused fleets in the world. An SSC member noted that the Council would need to ensure that any changes to regulations, including those promulgated through RFMOs, continue to meet the goals and objectives of the Sanctuary.

**In general, the SSC agrees that the existing fishing regulations are sufficient to meet the goals and objectives of the proposed PRI national marine sanctuary and are the best practices for fisheries in the Pacific. The SSC recommends that fishing be included in alternative management options. The SSC recalled previous presentations on deep-sea mining and notes that this activity may negatively impact on the goals of the NMS in addition to impacting on fisheries. The SSC recommends that the sanctuary team consider the potential impacts of non-fishing activities such as deep-sea mining.**

### **E. Council Five-year Program Plan Updates**

Council staff presented on the status of updating the Council's 5-year program plan. The current plan is for 2020-2024, and the Council is scheduled to review and approve the next 5-year plan and budget in March 2024. The current plan priorities focuses on improving support for island areas and FEPs, which included the shift from three to four SSC and Council meetings per year and expanding the Plan Team membership to incorporate broader ecosystem expertise. Staff also reviewed the list of current Council advisory bodies, policies and agreements. near- to mid-term priorities. Additional SSC input will be sought as the plan is developed.

An SSC member encouraged the Council to review the large volume of meetings that take place, and asked whether the number of SSC meetings per year may be changing in the future. The Executive Director responded that there are ongoing internal discussions, and noted that the number of meetings needed would also depend on management actions.

## **F. Review of Council Research Priorities**

Council staff presented on the status of developing the updated research priorities that are cross-cutting across Council programs. Staff focused on the current suite of Cooperative Research priorities among the different jurisdictions. These include enhancing local community capacity to develop fisheries socio-economic profiles in American Samoa, an ongoing shark mark-recapture project examining the movements of sharks in the Guam and Saipan small boat fishery, working with CNMI's small-boat bottom fishery to improve bottomfish stock assessment, and the continuation of the bottomfish tagging study in the BRFA and the cooperative biosampling through bottom fishers and PIFG in Hawaii.

The priority for pelagics is the study to determine longline fishery post-hooking mortality of marlin and secondarily of other species, as appropriate. Priorities for protected species are developing solutions to mitigate protected species interactions in the Hawaii longline fishery and improve understanding of the extent of marine mammal and other protected species depredation in pelagic non-longline fisheries, including improving estimates of post-hooking mortality rates. Other past cooperative research priorities are for pelagics, the effects on fisheries from spatial closures and large-scale marine protected areas, and for shark depredation, determine the shark species, their apparent abundance, and extent of depredation events in the Mariana Archipelago. Council staff also shared potential MSRA revisions.

An SSC member noted the shark depredation recommendation should move towards deterrence and mitigation rather than quantifying the problem. Another SSC member noted that there are ongoing mark-recapture studies of sharks in the Marianas that would provide information on the behavior and movements of sharks in that region. SSC members felt that the BRFA bottomfish tagging project was no longer necessary now that the BRFAs are open to fishing. However, the SSC expressed support for continuing the Cooperative Research-based biosampling program in Hawaii, which is the primary source of biosamples from the Hawaii bottomfish fishery.

**The SSC recommends Cooperative Research priorities include:**

- **expanding research to include ways to avoid and deter shark depredation in the regional fisheries, including fishing techniques**
- **continued support of existing bottomfish biosampling programs and development of such a program in American Samoa**
- **focus research on improving life history sampling and analyses of unassessed pelagic species**
- **discontinue tagging of the Bottomfish Tagging Study with respect to the BRFAs**
- **inclusion of a tagging network in the Marianas archipelago**

**The SSC also recommends the SSC working group evaluate and update the current suite of Cooperative Research projects with other advisory groups.**

## **G. Review of SSC Plan 2021-2023 and Development of 2024-2026 Plan**

Council staff provided a progress report on the SSC's 2021-2023 plan, and reviewed the process for developing the 2024-2026 plan. The SSC has reviewed activities related to the current (2021–

2023) research priorities throughout the current plan period. These include supporting science for fisheries management, climate change mitigation, workshops to change the management paradigm, protected species, etc. The SSC Chair and Council staff will develop a draft strawman plan to be reviewed by the SSC at the December 2023 meeting and will be seeking input from SSC members on priorities in advance of the meeting.

#### **H. National Standards 4, 8 and 9 Review Working Group Report**

Craig Severance, SSC member, and Clay Tam, AP Chair, presented a report on the Council's working group established to review the Advanced Notice of Proposed Rulemaking (ANRP) regarding potential future adjustments that NMFS may make to the implementing guidelines for National Standards 4 (Allocation), 8 (Communities), or 9 (Bycatch), of the Magnuson-Stevens Fishery Conservation and Management Act (MSA). The working group's reports were incorporated into the Council's comments in response to the ANRP, which was due on September 12, 2023.

The SSC thanked Severance and Tam for their informative presentation.

#### **I. NASEM Committee on Assessing Equity in the Distribution of Fisheries Management Benefits**

Severance provided a report of the National Academy of Sciences, Engineering, and Medicine (NASEM) Ad Hoc Committee to determine what data and information are required to assess equity in the distributions of federal fisheries management benefits. This work parallels the NS4 and 8 evaluative efforts by the National Standards Working Group. The NASEM Committee has met several times to hear perspectives from the Regional Administrators, Science Centers, Council staff, and researchers, and a draft report is expected to be available during fall 2023. The Committee will finish the draft report following in the upcoming months and will be looking for reviewers to provide feedback on its report. The Council and its SSC has an opportunity to provide feedback. This could provide an opportunity for inclusion of consideration of equity issues in the formation of the limited entry programs, permit transfers, commercial and non-commercial programs, and effects of monument designations in the Western Pacific.

The SSC thanked Severance for the informative presentation.

#### **J. Public Comment**

Clay Tam provided support for continued tagging efforts, noting that tagging will be important to validate information on shifting stocks.

## **9. Other Business**

### **A. December SSC Meetings Dates**

The next SSC meeting dates will either be the week of November 27 or December 4 (currently expected as a virtual meeting). Staff will follow up with a poll for the date options.

### **B. 2024 National SSC Meeting Sub-Themes**

Council staff reported that the Scientific Coordination Subcommittee of the Council Coordination Committee (CCC) will be convening its 8th workshop (SCS8; formerly referred to as the National SSC meeting), August 26-28, 2024. The New England Fishery Management Council (NEFMC) will be hosting the meeting in Boston. The CCC at its May 2023 meeting approved the main theme for the SCS8 as “*Applying ABC Control Rules in a Changing Environment.*” The SSC was asked to provide input on the subthemes for SCS8 as well as suggests for keynote speakers.

SSC members who attended the 2022 SCS7 in Sitka, Alaska, noted disappointment that the SCS8 theme is similar to that of SCS7 where there was considerable discussion about national rules that limit the SSC and Council’s ability to do their job and adapt to the changing climate. Given interest at the SCS7 meeting from other region’s SSCs, this Council’s P\* and SEEM process for data-limited applications could be presented as a case study. An SSC member noted that this Council could also streamline its P\* and SEEM to provide more flexibility within its process.

The SSC provided the following input on the subthemes:

- Support subthemes that place emphasis on social science
- A subtheme related to food security, noting that only about 25% of US fisheries are managed under a TAC-based system
- A subtheme focusing on identifying areas in which greater flexibility is needed in the ABC control rule and associated guidance and regulations