WESTERN PACIFIC REGIONAL FISHERY MANAGEMENT COUNCIL

155th Meeting of the Scientific and Statistical Committee
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Kailua-Kona, HI

FINAL REPORT

4. Pacific Islands Fisheries Science Center Director Report

T. Todd Jones presented the Pacific Islands Fisheries Science Center (PIFSC) Director's report on behalf of Director Charles Littnan. He highlighted the Deep-sea Ecosystems of Sponges and Corals (DESCENT) science planning workshop, Marianas fishing community engagement and jurisdictional agencies trainings and workshops, Open Science initiatives with the International Scientific Committee (ISC), and collaboration to expand data collection for the International Billfish Biological Sampling (IBBS) Program.

An SSC member asked if there was an opportunity for the IBBS program to include shortbill spearfish as it is a species important to the Hawaii fleet. Jones noted that he would provide the request to the program and get back to the SSC on the possibility of adding the species.

In response to an SSC member inquiry on the impacts of recent Executive Orders on PIFSC, Jones reported that PIFSC contracts and grants are being reviewed as required and that eight probationary staff were lost. He had nothing to offer in terms of impacts on PIFSC at this time but noted that it will become clearer, particularly with the work force reduction, in the future.

An SSC member requested PIFSC hold data limited workshops in American Samoa. Jones said that the workshops held in the Marianas were done in collaboration with the CNMI Division of Fish and Wildlife and the Guam Division of Aquatic and Wildlife Resources and there are plans to do something similar with the Department of Marine and Wildlife Resources in American Samoa.

5. Island Fisheries

A. Setting Acceptable Biological Catch (ABC) for the Main Hawaiian Islands (MHI) Uku (Action Item)

Council staff presented the options to specify acceptable biological catch (ABC) and accountability measures for the MHI uku fishery for fishing years 2026 to 2029. In December 2024, the SSC received a presentation on the 2024 uku stock assessment update that found the fishery was not overfished nor experiencing overfishing. The SSC endorsed the stock assessment update as best scientific information available (BSIA) and recommended the Council direct staff to develop options to set ABCs and specify annual catch limits (ACL). Council staff provided an overview of the options for Council consideration. Under option 1, the SSC would not set ABCs for fishing years 2026 to 2029. This option serves as a NEPA baseline although it does not comply with National Standard 1 of the MSA and the Hawaii Fishery Ecosystem Plan (FEP). Under option 2, the SSC may set ABCs based on the 2020 benchmark stock assessment and the findings of the 2020 P* working group at 43% risk of overfishing correlated with 297,624 lb. This option would not comply with MSA National Standard 2 which states that management should be based on BSIA. Under option 3, the SSC may set ABCs based on the 2024 stock assessment update and the findings of the 2020 P* at 43% risk of overfishing at 408,957 lbs. The SSC may recommend accountability measures (AMs) consistent with previous specifications that include in-season monitoring for commercial catch based on the Hawaii Commercial Marine License (CML) and Hawaii Marine Recreational Fishing Survey (HMRFS) data where the National Marine Fisheries Service (NMFS) could close the fishery in federal water if they project that the fishery may approach or exceed the proposed ACL or annual catch target. As a post-season AM, the SSC may recommend a post-season three year average overage adjustment if the fishery exceeds the ACL. This is not expected based on the recent fishery history.

SSC members discussed the proportion of commercial catch versus non-commercial catch in federal versus state waters, as well as seasonal targeting of uku aggregations. It was noted that since 2020, the average annual non-commercial catch is 3.8 times higher than the commercial catch, while the level of uku catch in federal versus state waters was not known. Furthermore, the fishery is open all year but targets aggregations during summer so fishing is seasonal. The SSC also discussed the efficacy of in-season accountability measures, but determined that this would not be feasible due to data reporting limitations for non-commercial catch through HMRFS. The SSC noted that Option 3 would recommend an ABC that is approximately 40% greater than the 2024 MSY estimate, which likely would result in declining catch rates and population size at those levels of catch over the medium to long-term, and suggested communicating this concept to fishers.

The SSC recommends Option 3, to set an ABC of 408,957 lbs based on the 2024 stock assessment update and the findings of the 2020 P* analysis. The SSC notes that this level of catch is above MSY and that catch rates will likely decline at those levels. The SSC further recommends maintaining the 3-year overage adjustment as a post-season accountability measure.

B. Review of ABC for Precious Coral and Deep-water Shrimp (Action Item)

Council staff presented the specification of the main Hawaiian Islands (MHI) deepwater shrimp and precious coral ABC for fishing years 2026, 2027, and 2028. The effects analysis showed no significant adverse effects on the physical and biological resources, socio-economic and management setting, and cumulative impacts. The SSC was presented with the alternatives of no action (do not set ABCs) or status quo (re-specifying the existing ABCs) for its consideration.

An SSC member described the potential destabilizing effect that the high ACLs and low historical catch rates may have on these fisheries, such as if a new entrant was able to harvest these stocks in a highly efficient way. SSC members also expressed a desire to review confidential data when fishery participation is low, as is the case with these fisheries. Council staff noted that there is a provision that could allow SSC members access to data when necessary.

The SSC recommends Option 2, maintaining the current ABCs (status quo) for Precious Coral and Deep-water Shrimp. The SSC further recommends that the assessments of these fisheries be updated.

C. CNMI Bottomfish Stock Assessment Update WPSAR Terms of Reference

Felipe Carvalho, PIFSC, presented the Terms of Reference for the review of the CNMI Bottomfish Update Stock Assessment. These TORs were based on the Guam bottomfish update stock assessment TORs that were adopted in 2024 and were considered appropriate. Focus on the TORs are data input applicability and explanations for each component.

The SSC agrees to the Terms of Reference for the 2025 CNMI Bottomfish WPSAR. The SSC nominates members Milani Chaloupka (Chair), David Itano, and Keena Leon Guerrero to the 2025 CNMI Bottomfish WPSAR panel.

D. Public Comment

Gil Kuali'i, commercial fisherman, expressed that the SSC needs to understand the concerns of commercial uku fishermen. He described the broad range of habitat of uku and the diverse gear used to catch this stock. He was particularly concerned that the non-commercial catch is poorly known; lots of fish are caught that are not reported and therefore not included in the total catch. He mentioned that the value of the commercial fishery is declining due to shark depredation and the current economic features of the fishery, for example, that restaurants are shifting to imports. The combination of low investment return and shark depredation makes it risky to further invest in the fishery. He encouraged SSC to make recommendations on allowable catch that ensure long-term sustainability for uku.

6. Pelagic and International Fisheries

A. Electronic Monitoring Status Update

1. Update on EM Program Implementation

Council staff presented on the status of developing a proposal for the Pelagic FEP to implement electronic monitoring (EM) in longline fisheries. The Council took initial action at its December meeting, directing an Action Team to develop an amendment to authorize the use of EM in pelagic longline fisheries for reliable estimation of protected species interactions and to phase it in as an optional program through 2027 until permanent resources are available to implement a mandatory program. The Action Team is in the process of developing a proposed amendment for final action at the Council's June 2025 meeting.

Lesley Hawn, Pacific Islands Regional Office (PIRO) Sustainable Fisheries Division (SFD), reported on NMFS plans for funding systems for an EM program for longline fisheries that could be phased in over three years (2025-2027) that may eventually replace human observer programs. Funding for human observers remains uncertain, given the increased costs and observer coverage is expected to decline to 5%, which is the current international minimum.

Staff discussed components needed for developing an authorized EM program, such as a vessel monitoring plan and changes to the FEP to use EM as a standardized bycatch reporting mechanism. The proposed purpose and need for an EM program is primarily for protected species estimation, addressing a need to account for a declining observer program and prevent non-compliance with statutory requirements that could result in interruptions to the fishery. Draft alternatives for future considerations were presented as a status quo no action, a mandatory program (with three sub-alternatives) and for an optional program.

The SSC agreed a focus of the program should be on protected species estimation and that outreach is important to engage the Hawaii and American Samoa longline fisheries. An SSC member with experience with implementing a fleet-wide EM program emphasized that early engagement with the industry is critical.

The SSC noted that the operational cost of EM is becoming critical with future funding uncertainty. The development of vessel-specific Vessel Monitoring Plans is a critical requirement for the adopted EM program. It was noted that Vessel Monitoring Plans must be detailed and provide direction in the event of gear malfunction with contingency plans.

An SSC member asked for clarifications on how various activities such as biosampling will be accommodated if EM replaces human observers. Council staff acknowledged that there are various monitoring tasks that can be accomplished by port sampling or other means and that some NMFS studies have examined some of these issues.

An SSC member highlighted the importance of simultaneous data collection from both EM and at-sea observer monitoring for determining if there are any changes in apparent catch rate associated with the implementation of EM. This would be relevant to the monitoring of protected species interactions and potentially of fish species catches if there are associated changes in form structures and catch type designations with the implementation of EM.

An SSC member sought clarification on who is responsible for observer and EM costs. Council

staff noted that NMFS should be responsible for observer costs as they cover protected species monitoring and is also responsible for the cost of the voluntary EM program currently in place. However the industry covers incidental costs for observer food (until reimbursed) and housing. Specific costs on EM implementation were described in Section 6.A.3.

SSC members stated that there are numerous aspects of EM development that need clarity (i.e., regulatory burden, costing, maintenance responsibility, and budgetary responsibilities) in order for the SSC to endorse EM and inform a Council decision in June 2025.

The SSC recommends that the Council provide analyses on how proposed alternatives to implement EM can minimize regulatory and financial burden to the longline fisheries, and how these compare to the current observer program.

2. EM Sampling Strategy and Planning

Rob Ahrens, PIFSC Fisheries Monitoring and Research Division, provided a presentation on their plans for EM sampling design, which addresses a SSC recommendation from its 154th Meeting in December 2024. The recommendation states that EM coverage will replace the current observer program coverage and be subject to the same expansion procedures applied currently to the observer coverage for the Hawaii shallow-set and deep-set longline fisheries. This effort calls for evaluation of an EM sampling design of rare events (e.g. protected species interactions). In order to do so, a sampling strategy would be developed to ensure estimates are robust. Ideally this strategy would optimize sampling power to reduce costs of review while reducing uncertainty in rare event estimates extrapolated to the entire fishery. Stratified sampling of human observer data to generate estimates of bycatch provides a simplified basis to sample EM data in order to generate these estimates. Ahrens provided the similarities and differences of using EM data versus human observer data. Ahrens also explained how both data streams will be used to provide two combined estimates for bycatch and rare events while both data streams are available and as human observers are phased out.

An SSC member inquired as to why the effort was design-based rather than model-based with spatial considerations. Ahrens noted that a design-based approach will be utilized initially but a parallel model-based study is being considered.

Some SSC members noted that there were alternative approaches to using EM data to get estimates of catch and bycatch which would likely give greater levels of precision at lower levels of review (and EM program costs). For example, in New Zealand and Australia, EM data are used to audit fisher logbook data, which is used as the basis of bycatch estimation, and this can be done with 5-10% EM record review. This has often led to fishers reporting interactions that are not observed in EM, indicating fishers are being earnest in self reporting likely due to the potential repercussions of being audited.

Also, it is possible to use model-based approaches to get more reliable bycatch estimates. An analysis of leatherback turtle bycatch in a New Zealand longline fishery showed that by using a model-based approach it could be possible to get very precise estimates of bycatch with ~20% EM record review (see ref below).[1]

[1] Siders ZA, Murray C, Puloka C, Harley S,Duffy C, Long CA, Ahrens RNM and Jones TT(2024) Potential of

The SSC noted the importance of continued monitoring of longline trips with simultaneous observer and EM onboard to further evaluate the strengths and weaknesses of data collection by each method for different protected species and in different conditions (e.g., day-time hauls common in the shallow-set and night-time hauls common in the deep-set).

SSC members described dramatic improvements in reporting of protected species interactions when an EM program was implemented in other longline fisheries. Logbook under-and- non reporting was greatly reduced. It was suggested that a new EM program should not limit the possibility of addressing other areas of monitoring in the future as needs and priorities may change over time.

Jones, PIFSC, noted that EM systems have been installed on 20 Hawai‘i based longline vessels since 2017 on a voluntary basis. PIFSC has examined camera placement, review speed, data comparisons between EM and human observers and other issues of EM implementation and published results in a series of NOAA Technical Memorandum.

The SSC requests that PIFSC provide a presentation summarizing the EM related Technical Memorandum content to the 156th SSC.

3. Socioeconomic Impacts Analysis for Council Action

Justin Hospital, PIFSC Social Economic and Ecological Sciences Program lead, presented on the economic performance of the Hawaii and American Samoa longline fisheries. Differences in the two longline fisheries were underscored with Hawaii longline fisheries reported to have consistent profitability. The presentation highlighted the declining profitability of longlining in both Hawai‘i and American Samoa. The Hawai‘i longline participation has remained fairly consistent, with similar net profit per trip for shallow and deep-set (in percentage). American Samoa longline has declined 89% in revenue in recent years.

SSC members noted concern for economic impacts resulting from EM implementation to vessels already operating at low profit margins. An SSC member inquired on the importance of the longline observer program within American Samoa for national employment, noting that the replacement of observers by EM systems would have direct implications for this. Hospital responded that while he did not have figures for the observer program, around 20% of jobs in American Samoa related to fisheries.

David O’Brien, PIRO SFD, presented on costs and cost allocation for EM. Cost allocation policies for EM that may or may not require industry to partially cover the cost of an EM program require careful socioeconomic analyses. NMFS published a policy directive 04-115-02 in 2019 that outlines scenarios for industry cost-sharing. The Pacific Islands Electronic Technologies Implementation Plan (ETIP) for 2021 to 2025 provides detailed cost estimation for reviewing percentages of EM footage at varying sampling rates, administrative costs, hardware costs, and data storage costs. The ETIP estimated an operational EM budget, including data review of 25% of all longline sets, and camera replacement every three years, would cost just

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dynamic ocean management strategies for western Pacific leatherback sea turtle bycatch mitigation in New Zealand. Front. Mar. Sci.11:1342475

over $2.44 million per annum (approximately $1.93 million in sampling costs and $0.52 million in administrative costs). PIRO previously reported to the SSC (June 2024) that the human observer program cost has been $8.2 million as a maximum with recent costs being $7 to $7.5 million annually.

The presentation clearly stated that data collection will not be approved if funding is unavailable. NMFS currently cannot guarantee funding for EM beyond 2027. NMFS will fund initial EM system costs and replacement costs could be shouldered by the industry in the future. The cost to replace EM for a total of 160 vessels in Hawaii and American Samoa longline fisheries is $1.6 million, at $10,000 per vessel (once per three years, ~$3,333 per vessel per year).

An SSC member inquired about whether the costs in the presentation were updated to 2024. PIRO staff confirmed that the costs were updated to Fall 2024.

SSC members questioned the cost estimates as being too low, noting that significant expenses can be incurred by vessel specific camera installation issues and other factors.

An SSC member inquired whether Artificial Intelligence/Machine Learning (AI/ML) has been considered to reduce review costs. PIFSC has been working on these methods during the pilot study but efforts recently have pivoted to focus on operationalizing the program as quickly as possible.

An SSC member inquired about focusing on the footage via a model-based approach regarding interaction likelihood to save costs of reviewing. This could include protected species specific review and full review on different levels of coverage.

An SSC member noted that decisions needed to be made on the precision levels that are needed from these data. This will dictate the level of coverage from reviews and would be species dependent. PIFSC noted that there have been various technical reports addressing the issues of precision and level of review needed and that some of these issues are addressed in the Vessel Monitoring Plans.

An SSC member noted that, given the American Samoa longline fishery is experiencing economic hardship, any additional costs associated with EM will be difficult to support.

Council staff noted that human observers can provide real time data collection, which is the intent of monitoring sea turtle interactions in the shallow-set fishery, but EM may not have real-time capability at its current state. PIFSC noted that the anticipated turnaround time from video collection to uploaded data is around 6 to 10 weeks. An SSC member stated EM is more effective during the day than at night, and observers can still provide a wider range of data than EM.

An SSC member noted that if EM technology enables the existing payer to achieve sufficient monitoring results at lower cost, then that seems like a good thing for the existing payer. It does not logically follow that an observer cost reduction should also trigger a change in who bears that cost.

An SSC member made the point that there is a need for further discussion regarding the strategic

long term plan in regard to the use of EM to monitor the longline fisheries, namely whether it is for data verification capability or for data collection requirements. Other issues such as logbook verification, catch verification, review rates, and the use of AI are additional discussion points to consider.

An SSC member inquired if there are redundancies/overlap between logbook and human observer data collection and coverage. PIFSC noted a high degree of overlap, stating the intent of logbook reporting was to record all catch including interactions. Verification of logbook data was by the observer program and to monitor protected species with retained catch verified in port.

The SSC recommends formation of an EM special projects group (with representation from PIFSC and PIRO SFD) to inform scientific, social, and economic aspects affected by the switch to EM in the Hawaii and American Samoa longline fisheries.

B. Public Comment

Eric Kingma, Hawai‘i Longline Association provided comment related to the Hawai‘i and American Samoa longline fishery. He noted that HLA is generally supportive of moving toward EM. However, he questioned the policy stating that the industry would be responsible for replacement equipment costs, stating that NMFS should continue to cover the costs for protected species monitoring as is the case with the current observer program. He also questioned the characterization of net income in the Hawai‘i longline fleet that claims vessels are clearing an average of $35k per trip but supported the estimate of a low 5% profit margin in the fishery. He stated that the fleet is suffering economically with historically low revenue in recent years (2021 - 2023).

7. Program Planning and Research

A. PIFSC Activities associated with MSRA Research Priorities

Jones provided an update on PIFSC's activities related to the 2025 priorities recommended by the SSC at the 153rd meeting in September 2024. PIFSC addressed the 2025-2029 MSRA priorities highlighted for 2025 and their statuses. Some of these priorities will be completed in 2025, some will resume in 2025 which will spill over into 2026.

The two highest 2025 PIFSC priorities that were also identified at the 153rd SSC meeting are: (1) addressing mitigation of shark and FKW depredation and (2) improved FKW assessments including use of eDNA sampling to improve knowledge of the FKW genetic spatial structure. Other priorities include assessing the socioeconomic impact of spatial closures and mitigating OWT post-release mortality.

PIFSC also implemented ongoing surveys like the small boat economic survey in the Marianas and the uku mail survey in Hawai'i. These surveys intend to improve the understanding and estimations of commercial and non-commercial catch and effort data.

The SSC thanked Jones for the informative presentation.

B. SSC Strategic Planning

1. Overview of the SSC Special Project List

Jim Lynch, SSC Chair, provided an update on the SSC special project list. The SSC at the 154th meeting adopted the strategic plan and initiated development of a list of special projects intended to inform the Council regarding the effects of fishery management actions on cultural resources, fishery economics, and fish and protected species populations. Two process-related projects were initiated in advance of the March meeting and were presented later in the agenda (7.B.3 and 7.B.4). A work session has been set aside for this meeting for members to plan for the projects for the remainder of the year.

SSC members shared their experiences of this process and noted that it was a valuable opportunity to share learnings together across new, current, and past SSC members. Use of shared online resources helped facilitate the process, but there were some challenges collaborating across different time zones and with people with different day to day responsibilities to navigate around.

SSC members expressed value in setting aside time during SSC sessions for the different working groups to meet as was scheduled for the current meeting.

There was discussion about where best to discuss Electronic Monitoring (EM) and it was recommended that a standalone working group be established for this topic. It was recognized that it touched on many aspects of the work around the region's longline fisheries including significant consideration of the human-dimension elements.

The SSC thanked Lynch for the informative presentation.

The SSC held work sessions during this meeting to plan out the special projects for future meetings. The updated special projects list is included in Appendix A.

2. SSC Historical Perspective

Craig Severance, retired SSC member, provided a historical perspective of the SSC's role in the Council process, particularly from the standpoint of a social scientist. Severance highlighted the mandates and importance of incorporating social sciences into the Council's advisory process, particularly within the Western Pacific Council. The MSA includes several mandates for social science, such as in section 302(g) and National Standards 8 (communities) and 4 (allocation). SSC social scientists should provide scientific advice on possible social and economic impacts of pending management actions, and advise on research priorities as well as adequacy of existing data sets. Severance encouraged the SSC to strive to develop coherent and cogent recommendations to help guide the Council to take or not take actions in ways that support sustainable fisheries and fishing communities.

There was discussion about the challenges that arise, in instances where there is significant uncertainty in the available scientific data, when avoiding overfishing (NS1) has significant cultural, social and economic impacts on fishing communities (NS8). It was further noted that 'avoiding overfishing' is often interpreted in a single-species maximum sustainable yield context which does not reflect the mixed-species nature of almost all fisheries.

It was noted that NS8 talks about minimizing economic impacts, but not cultural and social impacts and therefore this definition may be too narrow to truly reflect the benefits that fisheries can provide to fishing communities.

The SSC thanked Severance for the informative presentation.

3. Special Projects Presentation: SSC Process

Robin Waples and Alister Hunt, SSC members, presented on the SSC Process special project working group (additional members included Carothers and Guerrero, with Severance advising). The working group was tasked with developing a presentation on methods to communicate and integrate biological, economic, social, and cultural considerations into recommendations. The intent of this project was to conduct a review of how the SSC should operate and to invite discussion from the full SSC on next steps.

SSC members discussed the different terminology used in SSC reports and how it might be useful to better standardize language in the future. The different categories of decisions identified in the presentation could support this type of work.

SSC members had wide ranging discussions regarding topics such as the different fields of science that fit within the remit of the SSC and what 'taking the science into account' means, especially when considering the human dimensions, and how the P* and SEEM processes help incorporate different scientific aspects.

The SSC thanked Waples and Hunt for the informative presentation.

4. Special Projects Presentation: Human Dimensions

Courtney Carothers and Debra Cabrera, SSC members, presented on the Human Dimensions special projects working group. The working group was tasked with developing a presentation on how cultural and social information has been obtained and integrated into SSC recommendations. The intent of this project was to conduct a review of SSC practice to date and

to invite discussion from the full SSC on next steps.

SSC discussed how it might better capture how cultural, social and economic considerations formed the basis of our decisions and recommendations. Next steps included reviewing the inclusion of social science in the SSC and Council processes, with an interest in fostering interdisciplinary collaboration in projects.

The SSC thanked Carothers and Cabrera for the informative presentation.

C. Public Comment

No public comment.

8. Protected Species

A. Council Protected Species Update

Council staff provided an overview of the Council's protected species program, highlighting the mandates for addressing protected species interactions in the Council process, past successes in reducing interactions through gear mitigation measures and technology transfer, recent Council management actions, and SSC working groups on protected species topics. Upcoming activities include seabird measure research in the Hawaii shallow-set longline fishery, EM implementation, and workshops planned through the Inflation Reduction Act (IRA) projects.

An SSC member queried the frequency with which the serious injury determination policy was reviewed and the options for SSC input into that process. Council staff noted reviews were not performed at regular intervals, but SSC comments could be submitted by Council staff into that process. Related to this, an SSC member noted that the Ryder et al. technical memorandum from 2006 on marine turtle longline post-interaction mortality warranted review based upon the latest information.

SSC strongly supported the enhanced longline crew training on protected species handling and release methods, which was initiated in April 2024.

SSC queried the process for the review of protected species 'assessments', noting the WPSAR approach for targeted stocks allowed in-depth evaluation that was not available for the protected species review process. NMFS and Council staff noted that review for Pacific marine mammals occurred through the Pacific Science Review Group (PSRG), but this was a very different form of review to that of a WPSAR. An SSC member noted that some assessments of sea turtles developed by PIFSC go through considerable review, including by SSC members, but those for marine mammals do not.

The SSC thanked Council staff for their presentation.

B. ESA and MMPA Updates

1. Final 2023 False Killer Whale Stock Assessment Report

Erin Oleson and Amanda Bradford, PIFSC, reported on the final 2023 False Killer Whale Stock Assessment Report (SAR) as well as an overview of the Survey for Continued Observation of Pseudorca Extent (SCOPE). Changes from the draft SAR for the pelagic false killer whale stock included changing the name of the "management area" to "assessment area" to better reflect the intent of the area; and increasing the recovery factor from 0.40 to 0.44 to better reflect the level of uncertainty in total mortality and serious injury (MSI) inside and outside of the EEZ, with the potential biological removal (PBR) adjusted as a result from 33 to 36 individuals. The SCOPE survey conducted April-May 2024 resulted in 12 false killer whale encounters, all of which were acoustically-detected and five were visually detected. Data processing and analysis are in progress, including processing of three eDNA samples.

An SSC member queried Oleson on the sensitivity of results to assuming alternative spatial distribution models (SDMs) used for pro-rating the recovery factor, based on the estimated population size inside and outside of the EEZ. Oleson noted that sensitivity analyses were performed during development of the model published in 2020. Noting that NMFS are updating

the SDM, an SSC member queried whether the SSC would be able to input into the model development process. Oleson indicated that model development had not progressed sufficiently to be worthy of review at this time, but that as much information as possible would be posted on GitHub. Furthermore, it may be possible to share the data used in the spatial distribution modelling for independent analysis, although this is to be confirmed.

An SSC member queried when the 2023 HICES boat-based survey estimates of FKW population size would be made public, noting that this can have implications for the appropriate recovery factor to use. Oleson replied that this analysis has not yet been finalized, although it is the intention to include this in the 2025 SAR, which is currently being updated.

Regarding the recent SCOPE survey, an SSC member inquired on the potential reasons behind the short tag duration on the FKW and the next opportunity for tagging. Bradford noted that the reasons behind the short tag duration were not yet clear. More tags had been deployed since the SCOPE survey, but the next main opportunity was not until the 2026 HICES survey.

An SSC member sought clarification on the use of acoustic data within the SDM. Bradford indicated that acoustic detection data have been collected as part of surveys for a long time. The integration of acoustic data into the modelling framework is now underway as part of the second stage of the 'toolbox model'; sufficient data are now available to inform the probability of detection as a function of distance.

An SSC member noted that the foreign fleet analysis produced by Ahrens et al. indicated relatively low effort and annual mortalities occurring in the assessment area outside of the EEZ, and this should have been included in the calculation of the Recovery Factor. Oleson clarified that this analysis will be accounted for in the 2025 SAR, which is currently under development.

The SSC thanked Oleson and Bradford for their presentations.

2. Status of ESA and MMPA Actions (Listings, Critical habitat, Take Reduction Plan)

Council staff provide an overview of ongoing Endangered Species Act (ESA) and Marine Mammal Protection Act (MMPA) actions that may impact fisheries or fishing communities. Relevant actions include revisions to the longline Biological Opinion (BiOp) Reasonable and Prudent Measures (RPM) Terms and Conditions, critical habitat designations for coral and green sea turtles, proposed listing of giant clams, oceanic whitetip shark take prohibition proposed rule, and the False Killer Whale Take Reduction Plan (FKWTRP).

With reference to ESA and MMPA actions the SSC wished to hear more about the next meeting to facilitate coordination with NMFS on protected species topics, the SSC highlighted following key areas of interest:

- Potential implications of diminishing observer coverage starting in 2025 and the transition to EM, e.g., with respect to: CVs associated with MSI estimates, information to support the designation of serious/non-serious injury status, etc.
- Implications of potential giant clam ESA listing, given their importance to the Territories.
- the House Natural Resources Committee's review of the ESA and MMPA.
- Update on the coral recovery plan.

- Updates on the false killer whale TRT, the efficacy of the weak circle hook approach, and the efficacy of the fighting line device being trialed in the Hawaii longline fisheries.
- Updates on oceanic whitetip shark issues, including how interactions are being considered following changes in gear configuration, and noting the important discussions on shark interactions with Kona small boat fisheries.

The SSC thanked Council staff for their presentation.

C. Public Comment

Robin Baird (Cascadia Research Collective) commented on the assumed recovery factors inside and outside the Hawaiian EEZ. He noted that depredation interactions with non-longline gears (e.g. troll fisheries) had been noted inside the EEZ, but further bycatch information was not available. Baird also noted that satellite tagged FKWs have so far yielded an average of 45 days' worth of information, but that there was a lot of variability in this duration.

SSC Special Projects (2025)

Updated: March 18, 2025

Topic	Deliverable	Members	SSC Meeting
1. SSC Process	Presentation on methods to communicate and integrate biological, economic, social, and cultural considerations into recommendations.	Members: Waples, Hunt, Carothers, Leon Guerrero, with Severance advising PIFSC and PIRO subject matter experts (SMEs) invited as needed.	March, 2025 ***Completed***
2. Human Dimensions and Social Science	Presentation on how cultural and social information has been obtained and integrated into recommendations; proposals for next steps to improve process.	Members: Cabrera, Carothers PIFSC and PIRO SMEs invited as needed.	March, 2025 ***Completed***
3. Integration of biological, economic, social, and cultural considerations	Develop paper on communicating technical information (synthesizing economic/social/cultural information) providing essential information to Council members for management decisions. Final deliverable will be a framework for incorporating competing objectives and considering weights for those objectives. The framework will be presented as a paper and presentation.	Members: Hunt (lead), Waples, Carothers, Leon Guerrero, Lynch Staff: Ishizaki PIFSC and PIRO SMEs invited as needed.	June, 2025
4. Integration of climate information into decision making	Initial presentation synthesizing available information linking to IRA project; identifying next steps for integration.	Members: Roberts, Suca (co-lead), Cabrera, Pilling (co-lead) Staff: Fitchett PIFSC and PIRO SMEs invited as needed.	June, 2025

Topic	Deliverable	Members	SSC Meeting
5. BMUS complex	Develop the general framework and process for decision matrix on single-species, indicator species, and use of a complex - including monitoring through catch composition or other indices. Hold as a topic at an SSC meeting with invited experts from other SSCs/Science Center (e.g., SEFSC / Caribbean Council/SSC) as they have similar issues on data-limited approaches, to talk about general framework or process to deal with current situation with complex of species. Final deliverable will be a framework to apply to the State and jurisdictions on how to manage Species complex.	Members: Chaoupka, Itano, Dichmont, Hilborn (lead), Camacho, Jones, Harley, Franklin, Ochavillo Staff: Yamada PIFSC (Felipe Carvahlo and others), PIRO SMEs invited as needed.	Initial presentation at June; Main presentation at September, 2025
6. Protected species	Presentation on alternative risk assessment approaches for FKW and other protected species, and mechanisms for SSC engagement with NMFS on protected species assessments.	Members: Roberts (lead), Jones, Suca, Harley, Hilborn, Cabrera, Waples Staff: Ishizaki PIFSC and PIRO SMEs invited as needed.	Initial presentation in June September, 2025
7. Efficacy of MPA/closed areas for HMS conservation	Presentation on how closed areas have affected catch and catch rates of a number of target, non-target, and bycatch species in the Hawai‘i longline and a discussion on the available information concerning climate impacts to fixed area management.	Members: Hilborn, Camacho, Suca (lead), Carothers, Harley, Hunt, Pilling, Franklin Staff: Fitchett PIFSC and PIRO SMEs invited as needed.	September, 2025
8. EM	TENTATIVE: Develop advice on 1) minimization of regulatory burden on participating fishers with Vessel Monitoring Plans and 2) pathways to integrate EM data in monitoring scheme to most effectively meet stated objectives	Members: Itano, Harley, Courtney, Hunt, Lynch Staff: Fitchett PIFSC and PIRO SMEs invited as needed.	December 2025