WESTERN PACIFIC REGIONAL FISHERY MANAGEMENT COUNCIL

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Web Conference

FINAL REPORT

4. Report from Pacific Islands Fisheries Science Center Director

Michael Seki provided the PIFSC Director's report, providing a COVID-19 update on research cruises and activities, and highlighting the ongoing Marianas Archipelago Cetacean Survey, territorial bottomfish stock assessment improvement efforts, and the fall 2021 main Hawaiian Islands (MHI) bottomfish survey and analysis. Other updates included the false killer whale acoustics research, Hawaiian monk seal toxoplasmosis research, monk seal and sea turtle field research, and the spring charter mission for removing marine debris from the marine national monument in the Northwestern Hawaiian Islands. Seki shared information on the establishment of the Asia-Pacific Marine Turtle Genetics Working Group (APMTGWG). The working group seeks to strengthen the technical capacity to conduct turtle genetic studies in Southeast Asia and the Western Pacific region. Working group members will standardize methodologies, identify research priorities, and establish a regional collaborative network to facilitate marine turtle genetic studies.

SSC members emphasized that most marine debris is not from Hawaii and do support efforts to determine the origins of the debris. An SSC member also highlighted the importance of validating data from citizen scientists. The SSC thanked Seki for his presentation.

5. Program Planning and Research
A. Monitoring of the Commercial and Non-Commercial Uku Fishery

Council staff presented the issues associated with the monitoring and management of the uku fishery. Incorporating the Hawaii Marine Recreational Fishing Survey (HMRFS) data into the benchmark stock assessment allowed for estimating an annual catch limit (ACL) with the commercial and non-commercial fishery combined. The monitoring issue for the commercial fishery is the monthly level reporting, and for the non-commercial fishery is the bi-monthly wave estimation for catches. There is a high level of uncertainty associated with the HMRFS bi-monthly wave estimation. These have ramifications on tracking the catch in-season to project and close the federal waters before the Annual Catch Target (ACT) is reached. The management issues include developing parallel management strategies between the federal and state jurisdiction. For example, allowing the recreational uku fishery unmanaged relative to the catch limit will result in an overage adjustment that would affect both sectors. Allocating the ACT by sector also presents its own sets of problems like how much catch limit each sector gets and the ability to track the catch against that limit. There is also a discrepancy between the state and federal management approaches. The state is more interested in using bag limits rather than catch limits to manage the non-commercial fisheries.

SSC discussed the relative importance of this stock being managed as a whole or managed through sector allocation. This issue is both a science and policy issue. From a science perspective, sector allocations can have differential impacts on the age-specific fishing mortality rates if the selectivity curves are significantly different. However, if there are no differences in selectivity, then sector allocation is purely a policy issue. The recreational fishery is harvesting smaller-sized individuals than the commercial fishery. The SSC noted that this is a function of the recreational fishermen's fishing location and gear type compared to the commercial fishery fishing at greater depths and offshore bank areas. SSC members also noted that the mean length of uku derived from HMRFS is based only on approximately 180 samples collected between 2003 and 2019.

SSC members discussed the relatively poor quality of the Marine Recreational Information Program (MRIP) data for uku and other data issues for the non-commercial component of the catch. The SSC cautioned that combining data sets from different sources (HMRFS and FRS) may not be appropriate for this species as the data quality and quantity is markedly different between the two data sources. These uncertainties should be quantified and accounted for in managing the fishery. There was further discussion that variability in shark abundance could impact the catchability of this species in the recreational and commercial sectors.

Given the robust status determination (neither overfished nor is overfishing occurring) from the recent benchmark assessment, the SSC recommended that the Hawaiian uku be managed as a single stock. If the Council decides to manage the commercial and non-commercial sectors separately, the SSC recommends that PIFSC conduct a risk assessment and include characterizing the size-frequency and selectivity of the two sectors and specifically address the data issues from the non-commercial sector to support the risk analysis.

B. 2020 Annual SAFE Report and Recommendations

1. Archipelagic Report Overview and Highlights

T. Todd Jones, Archipelagic Plan Team Chair, presented the highlights of the 2020 Archipelagic Annual Stock Assessment and Fishery Evaluation (SAFE) Reports for American Samoa, Guam, CNMI, Hawaii, and the Pacific Remote Island Area. BMUS catch, effort, and participation generally declined for all areas except for CNMI in 2020 relative to historical averages, with impacts due to the COVID-19 pandemic likely being a contributing factor. In addition, there were impacts to fishery-dependent sampling due to the pandemic, especially in Guam, where nearly half of the scheduled creel surveys for the year were unable to be completed. As a limited-time section, a module on the impacts of COVID-19 on fisheries and fishing communities was added to the 2020 reports. Additionally, a new permanent section on fishermen's observations was added, describing the fishermen's information regarding their "on the water" experience over the previous year. Oceanic and climate indicators were updated for 2020, including indicators such as CO_2, which has been increasing exponentially throughout its historical trend, and the El Niño Southern Oscillation, which transitioned from neutral to a La Niña phase in 2020. Area-specific indicator information also presented included parameters such as sea surface temperature, which was increasing and contributing to mass mortality events for the region's corals, and ocean color, which slightly decreased but was in line with climatological values for each island area.

The SSC discussed data issues over the past year, given the COVID-related shutdowns. However, data are now accumulating on fisher observations. The SSC discussed the potential to use these fisher observations and develop standardization methods to address how interactions, e.g., shark depredation, could impact how these CPUE data are interpreted.

SSC members discussed how bycatch is defined, mainly for non-target species that are depredated. There was also a discussion about how the COVID-19 pandemic affected the fisheries' performance and data collection efforts. These fishermen observations can be used as clues to encourage more formal evaluation of the fishery and environmental conditions. The SSC noted that these observations should be representative of the fishery. **The SSC supported the inclusion of fishermen observations to this module in the SAFE reports but recommended to standardize the topics covered by the fisher observations to allow for archipelagic comparisons.**

The SSC thanked Jones for an informative presentation.

2. Pelagic Report Overview and Highlights

Don Kobayashi, Pelagic Plan Team Chair, presented the 2020 Pelagic Annual SAFE Reports highlights for the domestic and international fisheries. The report was updated with fishery performance data from pelagic fisheries in Hawaii, Guam, CNMI, and American Samoa in 2020. There were impacts to commercial pelagic catch in all island areas except CNMI due to the COVID-19 pandemic, and fishery-dependent sampling on Guam was inhibited due to lockdown restrictions. Additionally, the ecosystem considerations chapter was updated with the same new sections as the archipelagic reports on COVID-19 impacts and fishermen observations. The

ecosystems chapter was also updated with information from 2020, such as socioeconomic data, protected species interaction and ESA consultation information, and oceanic and fishery indicators such as the spatial orientation of frontal zones and the bigeye catch rate forecast.

SSC commended all of the Pelagic Plan Team members, council staff, and contractor for putting together and summarizing a very lengthy report. The SSC also noted the importance of the input from commercial fishers and recognized the time and expertise they bring to the discussions based on real in-water experience that cannot be replicated by NOAA science.

C. Standardized Bycatch Reporting Methodology Review (Initial Action)

Sarah Pautzke, a Council contractor, provided an update on the review of fishery management plans (FMPs) for consistency with the new Standardized Bycatch Reporting Methodology (SBRM) requirements. NMFS published a final rule in 2017 providing guidance on the requirement of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) that all fishery management plans (FMPs), with respect to any fishery, establish a standardized reporting methodology to assess the amount and type of bycatch occurring in a fishery. The final rule establishes requirements and provides guidance to regional fishery management councils and the Secretary of Commerce regarding the development, documentation, and review of such methodologies. The rule also requires that the Council consult with its SSC and/or the regional NMFS Science Center on reporting methodology design considerations such as data elements, sampling designs, sample sizes, and reporting frequency. PIRO-SFD and Council staff reviewed the existing SBRM provisions in the Council's five Fishery Ecosystem Plans (FEPs). The draft review document concluded that the bycatch reporting methodologies described in the FEPs are mostly adequate to meet the requirements of SBRM. However, there are some elements that need to be updated to be consistent across the FEPs and the SBRM rule.

Council staff provided the MSA definition of bycatch. The SSC noted that certain discards are not necessarily a bad thing. Kahala, for example, is discarded due to the ciguatoxin. Another SSC member asked if "prohibited species bycatch" is used as a category for bycatch in the Western Pacific. Prohibited species bycatch is currently not defined in the FEP.

The SSC thanked Pautzke for an informative presentation.

D. SSC Working Group Report on Fisheries and Protected Species Resilience to Climate Change

Council staff presented a summary of the second set of recommendations developed by the SSC Working Group to address Section 216(c) of President Biden's Executive Order 14008 on enhancing the resilience of fisheries and protected species to climate change. The Council sent a letter to Secretary Raimundo of the Department of Commerce regarding the initial comments. The recommendations revolved around understanding better the baseline condition and dynamics of the species and the ecosystem. Improvements to the fishery-dependent monitoring and increasing the resolution of the environmental and climate products are needed to develop ecosystem models that could be used to support fisheries and protected species management. Basic life history and physiological response to a changing environment underpin achieving ecosystem-based fisheries management. As an archipelago, understanding the source-sink

dynamics is essential and allows managers to develop strategies to conserve the stock and support sustainable fisheries. A better understanding of the shift in species distribution would provide insights into the fleet's potential displacement and the economic impacts of the displacement.

The SSC thanked the working group for the comprehensive comments.

E. SSC Three-Year Plan

Jim Lynch, SSC Chair, presented the elements of the revised SSC Three Year Plan. The plan provides the framework on the issues and topics the SSC will be tackling in the next three years. The current version of the plan addressed the comments from PIFSC, additional socio-economic priorities from the Social Science Planning Committee, and priorities related to enhancing scientific support for federal fisheries management.

The SSC Chair requested the SSC to conduct a thorough review of the plan with a strategic approach in mind. The SSC will take a proactive approach to set science priorities in coordination with PIFSC. SSC members will be providing feedback and recommendations on the three-year plan directly to the SSC Chair.

F. Public Comment

There was no public comment.

6. Protected Species

A. Developing Draft Tori Line Specifications for the Hawaii Deep-set Longline Fishery

Council staff presented on the preliminary draft tori line specifications for the Hawaii deep-set longline fishery based on recent design and field work conducted in the fishery. The Council is expected to take action on a regulatory amendment to modify seabird mitigation measures for the deep-set fishery later in 2021. The draft regulatory specifications include tori line length, attachment point height, and streamer length and spacing. Other details such as materials and alternative streamer designs may be included in non-regulatory design guidance.

SSC members inquired about whether dual (tori) line applications were discussed, comparability of design specifications from other fisheries using tori lines, implications for blue-dye bait, and whether industry was supportive of this effort.

It was noted that based on Hawaii longline vessel size (relatively narrow) the design focused on a single (tori) line application, but suggested this be recommended in a non-regulatory framework and assumed stern-setting with the goal to replace blue-dye bait with a more effective mitigation strategy. Representatives from nations with tori-line experience (Japan and New Zealand) were brought in during the design phase and their feedback was incorporated into design specifications. Industry has been engaged since the start of the effort, provided valuable feedback into the design process, and participating captains are supportive with a desire to no longer require blue-dye bait. Additional input from industry along with the results of the ongoing Experimental Fishing Permit study will be reported out at the September SSC and Council meetings.

B. SSC Working Group Issues Paper on Alternative Approaches to Reduce Impacts to False Killer Whales

The SSC at the December 2020 meeting formed a working group composed of SSC members David Itano, Milani Chaloupka, Craig Severance and Jim Lynch to develop recommendations on alternative approaches to weak hooks for reducing impacts to false killer whales in the Hawaii deep-set longline fishery. The working group developed a comprehensive issues document on the topic, which reviews the history of the False Killer Whale Take Reduction Team and their recommendations, past SSC recommendations, cetacean avoidance research and interaction reduction measures, and evaluates potential biological removal (PBR) and serious injury determinations as applied under the Marine Mammal Protection Act (MMPA).

The working group noted that the regulation of a “weak hook” strategy, in place since 2012 has proved to be ineffective with most interactions resulting in line breakage or cut off and the animal released with large amounts of trailing gear. The process subjects the FKW to high levels of stress and subjects the crew to injury resulting from gear flyback. The working group recommended that the impact of trailing gear be assessed to allow informed evaluation of removal of trailing gear as an alternative mitigation strategy.

The working group raised concerns about the serious lack of fundamental population demographic information to support evidence-informed policy guidance to reduce impacts to false killer whales. More importantly, the working group discussed at some length the

background of the current risk assessment framework based on the PBR that is used for assessment of the potential impact of FKW bycatch in the US-based pelagic longline fishery. The background to the PBR approach and some recent variants were reviewed. It is clear that the PBR method in any form does not account explicitly for the long-term population-level consequences of exposure to anthropogenic hazards such as pelagic longline gear.

It is presently assumed that long-term consequences exist for the FKW populations exposed to longline gear. Available scientific data do not strongly support this assumption. The working group found that a more rigorous risk assessment framework should be established to support an evidence-informed bycatch mitigation policy. Such a framework should assess the demographic consequences of exposing FKW to the longline fishery.

The working group proposed 6 substantive recommendations for SSC consideration to address the current deficiencies in the risk assessments of FKW bycatch mitigation in the US fisheries in the Pacific.

SSC members inquired about the noted challenges with observer data utilized in the analysis and whether the same broad issues and recommendations outlined in the report for pelagic stocks could apply to insular stocks.

Data challenges as reported in the presentation were due to the scale of reporting included in the annual SAFE Report. The SAFE Report currently does not distinguish and report on interactions within and outside the US EEZ. It was noted that the recommendations in the report would also apply to insular stocks.

The SSC Chair tasked SSC members to review the document and provide comments within two weeks. The working group will incorporate SSC comments and plans to present the final paper at the September meeting.

C. Integration of ESA Section 7 under MSA

Council staff provided a briefing on the recent Council Coordination Committee (CCC) discussion on the status of the 2015 NMFS Policy Directive on the Integration of ESA Section 7 with MSA Processes. The Policy Directive recognizes the unique role Councils have in ESA consultations, and provides for a process to allow reviews of draft BiOps and draft RPMs/RPAs. The eight Regional Fishery Management Councils have utilized the Policy Directive to differing degrees. The CCC discussion highlighted continuing issues with the lack of communication and coordination from NMFS on fishery consultations. The CCC recommended that NMFS work to strengthen the relationship with the Councils on fishery consultations by updating the Policy Directive to improve the process and timing for Council involvement in ESA consultations.

The Executive Director noted that a primary reason Council has not received draft consultation documents in the past is due to the public nature of the Council process. All Councils have requested advance notice of consultation drafts. The NMFS Deputy Assistant Administrator for Regulatory Programs has agreed to look into ways to improve the process for Council involvement in ESA consultations.

D. ESA Consultations for the Hawaii Deep-set Longline Fishery, American Samoa Longline Fishery, and Bottomfish Fisheries

Diana Kramer, PIRO PRD, presented on the current status of ESA consultations for the pelagic longline fisheries, US purse seine and bottomfish fisheries in the MHI and territories. The bottomfish consultation is expected to be completed by July 2021, American Samoa longline and US purse seine consultations are expected to be completed by August 2021, and the Hawaii deep-set longline consultation is expected to be completed by January 2022.

An SSC member inquired into what new information was being considered for the Hawaii deep-set longline consultation. It was noted that information related to the recent or planned change from wire to monofilament leaders was being incorporated, although no details were provided as to what information may be available and considered.

An SSC member noted that the timelines to complete consultations seem to be exceedingly long in recent years and questioned the justification for the lengthy process.

The SSC thanked Kramer for an informative presentation.

E. Endangered Species Act and Marine Mammal Protection Act Updates

Kramer provided the ESA and MMPA updates, including the ESA Coral Recovery Workshop convened in May 2021, the 90-day finding in response to shortfin mako shark ESA listing petition, false killer whale research projects selected for funding under the FY2021 federal appropriations, false killer whale weak hook study, and recent false killer whale interactions in the Hawaii longline fishery.

SSC members inquired into how overutilization of shortfin mako sharks were being assessed and what evidence the petition provided of overutilization. It was noted that the positive finding does not provide a status determination, but simply indicates that the petition provided substantive information to warrant a closer look into a status review. It was also noted that the petition is available online for review.

Council staff noted that the petition alludes to the overfished/overfishing status in other Oceanic areas, but noted that a 2018 North Pacific stock assessment for shortfin mako sharks found the population as not overfished and not subject to overfishing. Declines in the Atlantic were acknowledged, however it was noted that the petition was global, to cover everywhere shortfin mako occurs. It was also noted that current genetic information has not identified distinct population segments, so shortfin mako sharks are viewed as a single global population.

Regarding the false killer whale telemetry project, an SSC member inquired about the logistics of targeting pelagic stock in waters off Kona. It was noted that while the insular stock may be more common in the waters off Kona, it was noted to be a logistically convenient location to also find and tag pelagic stock, and that a photo catalog could be utilized to determine pelagic pods. Additionally, the contractors will be deploying a land-based operation as opposed to a research cruise.

An SSC member inquired about the project goals of a false killer whale weak hook project and how many interactions were to be expected in the sample design. It was clarified that the project objectives are to assess performance of weak hooks to retain target catch (not necessarily interactions with false killer whales).

The SSC requests that the SSC be provided with an opportunity to provide advanced input on projects under future funding opportunities for false killer whale research. The SSC further requests that a presentation on the results of the weak hook study be provided at the September 2021 meeting.

The SSC thanked Kramer for an informative presentation.

F. Public Comment

Eric Kingma, Hawaii Longline Association (HLA) had a comment on the tori line development project. He noted that HLA was a project partner and is supportive of the work. The industry objective is to find solutions to increasing seabird interactions and address them with more effective measures. HLA would like to get away from blue-dyed bait as it is difficult to work with and they would prefer an effective alternative. HLA requested the project ensure that minimum specifications to minimize entanglements with gear on the set and to ensure flexibility with the materials used (use existing alternatives on board in the case of a broken tori line). HLA intends to continue to engage with more fishery participants to ensure everyone is on the same page upon implementation.

Regarding the false killer whale funding, Kingma noted that HLA is concerned about the prioritization of projects and disappointed that funds were limited to NMFS personnel. This process should not be replicated in the future. HLA noted a lack of project prioritization on deterrence and avoidance which industry views as key. Kingma noted that there has not been an economic evaluation of depredation (and bait stripping). Industry estimates the potential for up to a $20 million impact. If you don't have bait you aren't fishing, there are associated costs for time and moving on. HLA is concerned that funding may go away without a complete quantitative understanding of the economic impacts. Kingma noted that a comment letter for items to be discussed during the pelagic session has been provided to SSC members.

An SSC member noted potential value to research on acoustic signals in terms of identifying masking/mitigation strategies. Kingma acknowledged that this was a project HLA was partnering on, but expressed disappointment that participants are not being compensated to deploy acoustic receivers.

An SSC member asked Kingma if there is any evidence of vessels leading whales to other boats, as occurs in some North Pacific fisheries. Kingma noted no specific information, but acknowledged it is competitive on the water and frustration can grow during periods of low catch volume.

7. Pelagic Fisheries

A. Monte Carlo Analyses of Longline Mitigation Measures

Keith Bigelow, PIFSC, reported on Monte Carlo Analyses of Longline Mitigation Measures, including the removal of wire leaders to transition to mono leaders, removal of surface hooks in longline fisheries, and other measures. The analysis results show that a transition from wire to monofilament leaders in the Hawaii deep-set longline fishery is estimated to have a 32% and 30% reduction in catch and mortality of oceanic whitetip sharks (OCS), respectively. The lowest OCS catch and mortality in the Hawaii deep-set fishery occurred with monofilament leaders and with no shallow hooks deployed; however, a large revenue decrease occurs with no shallow hooks due to reduced catch of target and incidental species. If a prohibition of wire leaders is applied all longline vessels operating in the WCPFC area, the reduction in oceanic whitetip shark mortality was estimate at 35% region-wide, compared to an earlier study that estimated the reduction to be 23%.

An SSC member asked about the difference in catchability between wire and monofilament leaders and whether these differences were applied in the economic analyses. Bigelow responded that differences in catchability were applied by species using all coefficients regardless of statistical significance. The decision to include all and not just statistically significant coefficients was made following consultation with socioeconomic colleagues at PIFSC.

An SSC member asked about the shallow hook removal and whether there was economic consideration of reduced hook effort and/or reduced target catch on shallow hooks. Bigelow responded that both aspects have been explored and that some fish species of economic interest are caught more frequently on shallow hooks. Bigelow added that the fishery is reluctant to reduce effort on the shallow hooks.

An SSC member commented on mako shark versus oceanic whitetip shark dentition and asked if this was considered, while silky sharks are more similar to the species in this respect. Bigelow responded that data is too limited (146 interactions in the last 15 years) to use silky sharks in any analyses. Bigelow also said that they had consulted with colleague Melanie Hutchinson (JIMAR/PIFSC) who assisted in justifying the proxy species selection, taking into account many factors including dentition and behavior.

B. Oceanic Whitetip Shark Working Group Update

Bigelow presented on the Oceanic Whitetip Working Group (OCS WG), its progress, and requested future direction of its workplan. So far the OCS has written two comprehensive reports, made 5 domestic recommendations to satisfy MSA 304(i) obligations, and 4 international recommendations to satisfy MSA 304(i) obligations.

Council staff noted that an SSC member who was not in attendance submitted a lengthy set of comments on these and other agenda items, a portion of which was read aloud here. These comments have been shared with Bigelow and SSC members for further consideration.

The SSC thanked Bigelow for the two presentations.

C. Regulatory Amendment: Gear and Release Requirements to Improve Post-Hooking Survivorship of Oceanic Whitetip Sharks in the Longline Fisheries (Action Item)

Council staff presented on this item. Most vessels in the Hawaii deep-set longline fishery use steel trace wire leaders in the terminal portion of the branch line between the hook and the weighted swivel to reduce the risk of crew injuries resulting from the flyback of weighted branch lines. Wire leaders also make it difficult to remove the terminal portion of the branch line from sharks or other protected species that cannot be brought on board. Longer trailing gear left on sharks and sea turtles have been shown to reduce post-hooking survivorship. Monofilament nylon leaders may facilitate early release of sharks and improve post-hooking survivorship if they sever the line and escape.

In an effort to reduce impacts to ESA-listed oceanic whitetip sharks and other protected species, the Hawaii Longline Association (HLA) announced at the 184th Council meeting in December 2020 that their member vessels will voluntarily eliminate the use of wire leaders by July 1, 2021, and use monofilament nylon leaders or other similar materials in its place. HLA also announced that it will focus on crew safety and work with vessel owners, captains and crew to utilize best practices, including deploying flyback prevention devices and branch line weight configurations and materials that would minimize flyback. In addition, HLA committed to work with the National Marine Fisheries Service and the Council to lead captain and crew training on how to properly implement handling protocols.

The Council is considering a regulatory amendment to the Pacific Pelagic Fishery Ecosystem Plan (FEP) to prohibit the use of wire leaders to improve post-hooking survivorship of oceanic whitetip sharks and potentially other protected species. The Council at the 185th meeting in March 2021 selected the prohibition of wire leaders in the Hawaii deep-set fishery as a preliminary preferred alternative, and additionally recommended developing a regulatory requirement to remove trailing gear from oceanic whitetip sharks as part of the alternative. At the 186th meeting, the Council will consider taking final action on these gear and release requirements. The Council will consider whether the requirement to remove trailing gear would be applicable only to the Hawaii deep-set longline fishery, or to all Western Pacific pelagic longline fisheries operating under the Pelagic FEP (including Hawaii shallow-set and American Samoa longline fisheries, as well as any longline vessels that may operate under the Western Pacific general longline permit).

The SSC was shown a short video clip provided by HLA showing release of a blue shark by cutting the monofilament leader while employing a flyback mitigation device. Eric Kingma, HLA, provided information on the video clip, including details of newly integrated line weighting and floatation systems which might improve crew safety by preventing gear flyback.

The SSC discussed crew safety concerns and noted that industry was addressing it through the promotion of a flyback prevention device but that no information was available or known on the frequency of injuries in the fleet.

An SSC member noted that the requirement to remove trailing gear might not be as effective unless the animal is brought alongside the vessel for identification. This is because it is common for crew to cut the line as soon as they identify a shark which could preclude identification down

to the species.

The SSC found that the available scientific information including PIFSC's Monte Carlo Analysis provide support for prohibiting wire leaders and requiring removal of trailing gear under either Alternative 2 or 3. The SSC recognized the importance of addressing fishery impacts to oceanic whitetip sharks at the international level due to the small relative impact from US longline fleets. Members expressed varying level of support for Alternative 2A, 2B, and 3, with some members supporting an incremental approach of applying requirements only to the deep-set longline fishery at this time, and others supporting consistent requirements across all longline fleets operating under the Pelagic FEP to help facilitate similar changes at the RFMOs. Available scientific information provides support for removing as much trailing gear as possible including the weighted swivel. The SSC recommended that the Council continue to work with NMFS and the industry to research methods and practices that facilitate additional safety measures in preventing fly-back. The SSC also noted the importance of bringing the animal alongside the vessel to facilitate removal of trailing gear from oceanic whitetip sharks, and for ensuring species identification.

D. MSA 304(i) Obligations for Western and Central Pacific Silky Shark

Council staff presented on the MSA 304(i) Obligations for Western and Central Pacific Silky Shark, and provided background on the 2018 stock assessment. Similarities between oceanic whitetip sharks and silky sharks may render the need to specify whether existing Council recommendations to satisfy MSA 304(i) obligations for oceanic whitetips can apply to silky sharks. The Pelagic Plan Team endorsed OCS WG recommendations to be applicable to silky sharks and advised that the Council recommend NMFS and the Department of State to work towards reducing impacts of FAD-associated purse seine fishing on juvenile mortality.

There was no substantive SSC discussion following this presentation.

E. 2022 US Territorial Bigeye Tuna Catch/Effort Limit & Allocation Specifications (Action Item)

Council staff presented on a single year specification for 2022 US Territorial bigeye catch and effort limits. Bigeye tuna comprises a Pacific-wide population that is internationally managed and assessed as separate stocks in the Western and Central Pacific Ocean (WCPO) and Eastern Pacific Ocean (EPO) by the Western and Central Pacific Fisheries Commission (WCPFC) and the Inter-American Tropical Tuna Commission, respectively. The most recent stock assessment conducted in 2020 for the WCPO indicate the bigeye tuna stock is not subject to overfishing nor overfished. CMM 2020-01, like earlier conservation measures, does not establish an individual limit on the amount of bigeye tuna that may be harvested annually in the Convention Area by Small Island Developing States (SIDS) and Participating Territories, including American Samoa, Guam and the Commonwealth of the Northern Mariana Islands (CNMI). CMM 2020-01 will expire at the end of 2021 with a possibility of new catch limits for fishery sectors and flag states under the WCPFC. The WCPFC may also decide to resume current catch limits for flag states and participating members through 2022.

Amendment 7 to the Council's Pelagic FEP established a management framework that provides catch or effort limits applicable to the US Participating Territories that include the authority of the US Participating Territories to use, assign, allocate, and manage the pelagic management species catch and effort limits agreed to by the WCPFC through Specified Fishing Agreements with US vessels permitted under the Pelagic FEP for the purposes of responsible fisheries development. For fishing years 2020 and 2021, the Council took action at its 181st and182nd meeting in March and June 2020 to specify bigeye longline catch and allocation limits to up to 2,000 mt for each Participating Territory with total allocations from the US Participating Territories not to exceed 3,000 mt. Options on territorial catch and effort limits for 2022 were provided.

An SSC member asked for clarification on the 3000 vs 2000 mt limits for Options 2 and 3, respectively. Council staff explained that Option 3 does not limit territories to a total bigeye allocation amount and allows the territories to allocate up to 2000 mt per territory (up to 6000 mt total transfers) while Option 2 limits total allocation transfers to 3000 mt, consistent with impacts of previous years.

An SSC member asked what SSC scientific inputs are needed for moving forward on this apparent management issue. Another SSC member commented that the recent stock assessment implications are relevant for this deliberation.

The SSC recommended that Options 2 and 3 appear to be the primary candidates for the 2022 bigeye tuna US Territorial specification. The SSC supports these levels of allocations and notes the current scientific information indicates that territorial allocations are appropriate given the latest WCPFC stock assessment.

F. Monterey Bay Aquarium Seafood Watch Assessment of the Hawaii Longline Fishery

Council staff presented on the scoring of the Hawaii Longline Fishery by the Monterey Bay Aquarium Seafood Watch program. This report was released early 2021. All fisheries receive a moderate concern score for ecosystem-based management because policies (e.g., area closures, turtle and marine mammal bycatch hard caps) are in place to protect ecosystem function, but the efficacy of these ecosystem-based measures are unknown for a number of vulnerable species, apex predators including sharks, turtles and some finfish, and baitfish species. All fisheries reviewed in this assessment received a "Good Alternative" rating per Seafood Watch criteria.

An SSC member asked about the review process for these assessments. Council staff responded that they have served as reviewer in the past but not for this particular assessment.

An SSC member asked if assessments such as these or other forms of consumer advice make a difference. Another SSC member commented some other organizations have been involved in scoring seafood products in the past. Council staff responded that effectiveness is unknown but that these entities have been responsive to new or corrected scientific information. Council staff further responded that Seafood Watch assessments are the primary source for those relying on this type of information. NOAA FishWatch is another mechanism to score seafood products managed under the MSA, although it is only applicable to US fisheries.

An SSC member noted that the Hawaii longline fishery is undergoing Marine Stewardship Council evaluation, to be completed in 2022.

G. Analyses of Pacific Island Longline Fisheries in 2020 Comprehensive Bycatch Assessment in US Fisheries

Matthew Savoca, Stanford, presented on his 2020 paper scoring bycatch of 95 US fisheries with respect to bycatch using a 'relative bycatch index' (RBI). According to the study – results from the RBI analysis can be used to facilitate management intervention strategies for particular fisheries or gear types, such as shrimp and otter trawls and several pelagic longline and gillnet fisheries, which had the poorest bycatch performance. These findings underscore the need for continued, high-quality, easily accessible bycatch information to better support fisheries management in the United States and globally. The Hawaii deep-set longline fishery had a relatively high RBI as compared to the shallow-set and American Samoa longline fisheries. An overview of the SWFSC EcoCast tool was also presented.

An SSC member asked about project partnering with the marine protected area (MPA) community and if there is realization there that dynamic ocean management is proving to be a superior tool over static MPAs. Savoca responded that he shall inquire within that community. Council staff will follow-up on this matter.

An SSC member asked about the RBI spatial and temporal patterns and what are the driving forces (e.g. the trends coinciding with the Northeast US fisheries reporting in 2014-2015). Savoca agreed with this characterization.

An SSC member asked if fishers are using EcoCast tool. Savoca responded that he did not know. The SSC member also asked about ground-truthing the tool predictions.

An SSC member commented that the index should consider bycatch on a 'per unit' basis rather than scoring fisheries without considering fishing effort units. The SSC member also asked about impacts to biodiversity and economic scaling for fisheries.

An SSC member commented that some fisheries may be penalized with respect to being located in areas of high diversity or in areas with better species reporting programs while not considering ecological impacts. Savoca responded that there are improvements to consider.

An SSC member submitted written comments inquiring why a Pacific cod demersal longline fishery had 23,800 seabird mortalities and the Atlantic and Gulf of Mexico longline shallow-set fishery had 4,200 turtle mortalities - many more than the Hawaii deep-set fishery - yet those fisheries had considerably lower RBI scores. Savoca responded that these mortalities are applicable to one of twelve criteria. He clarified that RBIs should be region-specific and should be based on differing bycatch strategies and criteria weighting.

The SSC thanked Savoca for the informative presentation and wishes to get an update in the future on this type of approach.

H. International Fisheries

1. Preparations for WCPFC Science Committee

Council staff presented on upcoming issues at the WCPFC Science Committee which will be held virtually in August 2021. A new South Pacific albacore stock assessment is expected and analyses to inform the WCPFC Tropical Tuna Workshop was provided.

There was no SSC discussion following this presentation.

2. Outcomes of WCPFC Tropical Tunas Workshop

Council staff presented on the outcomes of the First WCPFC Tropical Tunas Workshop and US positions going into the Second Workshop to be held in July 2021. Council staff are working towards a proposal to the WCPFC on regional depletion-based bigeye tuna allocations.

There was no SSC discussion following this presentation.

I. Public Comment

There was public comment by Brettny Hardy from Earthjustice regarding gear and release requirements to improve post-hooking survivorship of oceanic whitetip sharks in longline fisheries (Agenda item 7C). While supportive of the adoption of monofilament leaders, Earthjustice would like additional work on removal of three shallowest hooks which the science suggests is effective at reducing interactions with oceanic whitetip sharks. Earthjustice noted that while there are negative economic aspects due to loss of surface-associated catch, the benefit of reduced shark interactions should be given more thought.

Eric Kingma, HLA, provided written comment [included in briefing materials] and also addressed comments from Earthjustice. Kingma noted that while there are benefits for reduced shark interactions with removal of the shallowest three hooks, the economic losses are not trivial. HLA's efforts to adopt monofilament leaders far outweigh efforts by the international fleet to reduce shark interactions. Given the economic consequences and lack of similar efforts from international fleets, HLA does not support removal of the three shallowest hooks. Kingma also expressed support for the Council staff proposal to move towards WCPFC region-based allocations for bigeye tuna and propose such an idea to the WCPFC Tropical Tuna Workshop.

8. Other Business

A. National Standard 1 Technical Guidance for Data Limited Stocks

Marian MacPherson, NMFS-Office of Sustainable Fisheries, presented an overview of the NS1 Technical Guidance on the flexibility provision 600.310(h)(2) on developing and managing data-limited stocks to its reference points. The draft guidance reviewed the legal mandates and described the progress in developing data-limited approaches since 2012. The draft guidance provides scenarios and examples on when to use the flexibility provision (e.g. using a rate-based approach like fishing mortality, length, etc.). The guidance provides recommendations and guiding principles to move from data-limited situations and building towards managing the stocks under standard ACLs. Jason Cope, NOAA Fisheries, one of the memo authors, responded to questions from the SSC.

The SSC discussed whether EASI-Fish (a form of risk analysis) by Shane Griffiths (IATTC) was applicable to the menu of data-limited methods. This data-limited method is applicable to the process outlined in the Technical Guidance. The SSC also asked for examples of "indicator approaches" that were included in data-limited assessment methods. The Technical Guidance described many methods used globally and can include CPUE-based, length-based, and other methods.

The SSC asked how data of questionable quality is utilized in the data-limited assessment process. Reliable data that reflects the managed population is necessary for an effective assessment. The SSC discussed whether the guidance in this report is included in the FishPath tool (i.e., a software program that assists with decision-making in data-limited assessments). The guidance is incorporated into the structure of FishPath. Several SSC members expressed that the guidance from this memo will be particularly useful for the several data-limited stocks in the Western Pacific region.

SSC thanked MacPherson for the informative presentation and Cope for the responses to the SSC questions.

The SSC Chair tasked the SSC members to provide Council staff with comments on their individual review of the NS1 Technical Guidance document. **Further, SSC recommends that a workshop, with the territories, be held on the application of the NS1 technical guidance for data-limited stocks in the Western Pacific MUS in the summer of 2021.**

B. CCC Area-Based Management Working Group

Council staff presented on a new CCC workgroup to develop a common understanding among the Councils of area-based management measures and assist the regional councils in coordinating with NOAA to achieve the EO goals, other international/domestic mandates, and other international/domestic mandates and report to the Climate Change Task Force. The workgroup will provide the following products and services: 1) a CCC advisory body to assist the CCC with tracking and reacting to the 30 by 30 initiative; 2) A CCC report on Area-based Measures in the U.S. EEZ, and 3) a journal article on the conservation benefits of area-based measures for marine fisheries in the U.S.