



**132nd Meeting of the Scientific and Statistical Committee
June 18 to 20, 2019
Council Office Conference Room
Honolulu, HI**

FINAL REPORT

Members present: Jim Lynch, Shelton Harley, Ray Hilborn, Kurt Schaefer, Justin Hospital, Milani Chaloupka, Michael Seki, Craig Severance, Michael Tenorio, Debra Cabrera, Frank Camacho, Erik Franklin, Ryan Okano, Don Kobayashi, Domingo Ochavillo

Members excused: Steve Martell, Graham Pilling, David Itano

4. Report from the Pacific Islands Fisheries Science Center Director

Michael Seki, PIFSC, reported on the highlights and activities conducted by PIFSC in the second quarter of 2019. Seki described the Science Center's priorities in the 2020 Annual Guidance Memorandum. Seki reported on the vessel activities of the R/V Oscar Elton Sette and the plans of the NOAA mapping ship R/V Rainier. The Fisheries Research and Monitoring Division published the life history for hapu'upu'u (*Hyporthodus quernus*). The Ecosystem Sciences Division published the image recognition software that automates the identification of the benthic categories and cover calculation and the West Hawaii Ecosystem Status Report. The Protected Species Division published the densities and drivers of the sea turtle population across the different jurisdictions. Seki announced the passing of Richard S. Shomura, who was the first Director of the Honolulu Laboratory.

The PIFSC Report indicated the convening of the Territory bottomfish benchmark stock assessment WPSAR review. The SSC will receive the final assessment in October 2019, and the SSC will evaluate whether the assessment is best scientific information for stock status determination and harvest limit specification. There was general agreement that the data that went into the assessment is problematic and there is a need to attain good data prior to investing on a benchmark assessment. Hence a data workshop would be useful, but the format of the workshop and the cost of holding one need to be considered. A PIFSC funded pilot survey was conducted in Galvez Bank in Guam and the data was not analyzed for the assessment. The data poor fisheries, like the Territory bottomfish, could be assessed using fishery independent information like habitat and fish densities rather than catch data. But the difficulty is the cost of conducting such data collection.

5. Program Planning and Research

A. Shifting Distributions and Changing Productivity

Melissa Karp, NMFS-OST contractor, presented via Webex the major challenges and potential solutions in addressing both shifts in stock distributions as well as changing stock and ecosystem productivity. The presentation identified six key steps in the science-to-management process needed to better account for and respond to climate impacts on fisheries: detect and anticipate change; understand key drivers of change; evaluate risks and priorities; conduct assessments and develop forecasts; communicate scientific evidence; and manage fisheries under changing conditions. Alongside these steps are high-level recommendations on how to account/prepare for distribution and productivity shifts. These recommendations are intended to serve as a guide for each region in the development of fishery management actions.

The SSC thanked Karp for her informative presentation.

B. Best Scientific Information Available Policy Directive

Brett Schumacher, PIRO-SFD staff, presented the NMFS Procedure 01-101-10 (dated 5-17-2019) that describes the framework to ensure that stock status determination and catch specifications are based on the Best Scientific Information Available. This procedure clarifies the role of the SSC, the Council, and NMFS at the various stages starting post regional peer review to NMFS making the final BSIA determination on Council recommendations. The SSC has 3 opportunities to provide input, but if there is disagreement, it can delay the process and adversely affect the stock assessment schedule. The SSC has a role in the peer-review process as well as providing scientific advice to the Council in their fishery management decisions. Councils will have three years to determine how the directive fits in to their council process.

The SSC recommends the Council, PIFSC, and PIRO utilize the provisions of NMFS Procedure 01-101-10 in resolving the issues regarding the WPSAR reviewed Territory Bottomfish Benchmark Assessment.

C. SSC Workgroup Report

1. Modern Fish Act Process Paper

Andrew Torres, PIRO-SFD staff, briefly noted the provisions of the act and noted that our region was already doing many of the activities demanded by the act. SSC member Debra Cabrera presented on the process developed by the SSC subgroup to facilitate greater incorporation of non-governmental sources of information in federal fisheries management to comply with section 201 of the Modernizing Recreational Fisheries Act of 2018. This process utilizes the existing Council system and the WPSAR framework. The process included the following steps: 1) release of a public notice that a management unit species is scheduled for a benchmark assessment which would include a data call for any information about the stock; 2) when possible conduct a data workshop; 3) provide information during the WPSAR review; 4) provide information during the SSC and Council meeting through public comments; and 5) incorporate by reference the most recent scientific information in the Annual SAFE reports through the Plan Teams. The subgroup also recommends that a standing request for data be posted on the Council's website.

The SSC supports the recommendations of the subgroup and requests the Council submit the process paper to NMFS.

2. Road Map for Effective Spatial Management

Council staff provided the SSC with a review of the recommendations of the First Spatial Working Group (SWG) which met at the 131st SSC. These recommendations broadly addressed the limitations of spatial closures, the need to carefully consider the objectives of such measures, issues related to monitoring and enforcing spatially managed areas, and alternatives to spatial management. A second SWG convened at the 132nd SSC and used these recommendations to develop an agenda for a workshop to potentially be held in conjunction with the Brussels Seafood Expo Global in 2020. The second SWG was tasked with brainstorming the scope of participation, and SSC members were asked to contribute to a white paper that will be developed prior to the 133rd SSC meeting in October 2019.

D. 2018 Annual SAFE Report and Recommendations

1. Archipelagic Report Overview and Highlights

Archipelagic Plan Team member Frank Parrish presented on highlights from the newly developed 2018 Annual Stock Assessment and Fishery Evaluation (SAFE) Reports for Hawaii, American Samoa, the Mariana Archipelago, and the Pacific Remote Island Areas (PRIAs). All reports were updated with fishery performance data from archipelagic fisheries through 2018, including catch, effort, participation, catch rate, and bycatch. Additionally, the ecosystem considerations chapter was updated with information from 2018 such as coral reef fish visual survey data, protected species, and oceanic indicators. A new data integration section was presented in which fishery performance data from uku (*Aprion virescens*) in Hawaii was compared against trends in ENSO indices as well as currents and vorticity around the main Hawaiian Islands; it was suggested that there is a strong relationship between uku CPUE in the MHI and average summertime zonal current. The SSC thanked Parrish for his informative presentation.

2. Pelagic Report Overview and Highlights

Pelagic Plan Team Chair Keith Bigelow presented on highlights from the newly developed 2018 Pelagic Annual SAFE Report. The report was updated with fishery performance data from pelagic fisheries in Hawaii, Guam, CNMI, and American Samoa in 2018. The recreational module was updated with non-commercial pelagics data for the first time since 2016, showing relatively consistent catch proportions between species over time. Additionally, the ecosystem considerations chapter was updated with information from 2018 such as socioeconomic data, protected species interaction and consultation information, and new oceanic indicators such as median phytoplankton size. While the data integration chapter was not updated this year, there was discussion amongst the Pelagic Plan Team about developing it to be more useful in completing cumulative impact analyses for environmental assessments. The SSC thanked Bigelow for his informative presentation.

E. Public Comment

There were no public comments.

6. Insular Fisheries

A. Setting the Acceptable Biological Catch for the Main Hawaiian Islands Kona Crab

1. P* Working Group Report

SSC member Ryan Okano presented the outcome of the P* working group meeting held at the Council office on April 12, 2019. The group is comprised of fishermen, assessment scientists and fishery managers. The working group scored the four scientific uncertainty dimensions in terms of: 1) assessment information; 2) uncertainty characterization; 3) stock status; and 4) productivity-susceptibility. Each of the dimensions were scored on a standardized 0-10 scale and added together to generate a P* score. The group reviewed the information provided by the 2018 benchmark stock assessment for the main Hawaiian islands Kona crab (*Ranina ranina*). In general, there were improvements in the following scientific aspects: 1) new model (JABBA) and information that went into the assessment including local estimate of post-release mortality; 2) better characterization of uncertainties; and 3) standardized productivity attributes for the Productivity and Susceptibility analysis that projected biomass estimates that are higher than BMSY and MSST. The P* analysis quantified a reduction of 12% from 50% risk of overfishing (P*). This would result in a risk of overfishing of 38%.

2. Setting ABC for the MHI Kona Crabs

Council staff presented the options for the SSC to consider in setting the Acceptable Biological Catch for the main Hawaiian islands Kona crab fishery for fishing year 2020 to 2023. The options took into consideration the outcome of the P* analysis that quantified the scientific uncertainty in the 2018 benchmark stock assessment that generated an uncertainty score of 12 percent that will be subtracted from the 50 percent risk of overfishing. The options presented were: 1) No Action - no ABC will be set for fishing year 2020-2023; 2) Status Quo - Set the same ABC based on the 2015 assessment at 3,500 lbs; 3) Set ABC based on the updated 2018 benchmark stock assessment at P* level from the working group analysis of P*=38 percent equivalent to 30,802 lbs; 4) Set ABC based on the updated 2018 benchmark stock assessment at P* level 10 percent lower than the value generated by the P* analysis at P*=28 percent equivalent to 27,970 lbs; 5) Set ABC based on the updated 2018 benchmark stock assessment at P* level 20 percent lower than the value generated by the P* analysis at P*=18 percent equivalent to 24,783 lbs.

SSC member Okano recommended Option 4 in consideration of the potential removal of the no take of female regulation by Board of Land and Natural Resources because it is more conservative. Further, SSC member Franklin suggested that State retain the seasonal closure of the fishery during the spawning season (and possibly extending it through September) but allow capture of females for consideration as a regulatory change by Hawaii DNLR. Following discussion, the SSC favored Option 3 to reflect the findings of the P* working group.

The SSC sets the ABC for the MHI Kona Crab fishery based on the updated 2018 benchmark stock assessment at P* level from the working group analysis of P*=38 percent equivalent to 30,802 lbs.

3. SEEM Working Group Report

SSC member Craig Severance presented the outcome of the Social, Ecological, Economic, and Management Uncertainty (SEEM) working group meeting held at the Council Office on May 2, 2019. The working group is comprised of economist/social scientist,

anthropologist, fishery managers, and Kona crab fisherman. The working group utilized a standardized SEEM* dimensions and criteria developed by Justin Hospital, PIFSC, and the SSPC. The working group recommended using the social, ecological and economic dimensions to set the ACL and the management uncertainty which was divided into two sub-dimensions (monitoring and compliance/management) to set the ACT. The SEEM* analysis quantified a reduction of 0 from the SEEM dimensions and recommends to set the ACL equal to the ABC and a reduction of 8% (with 5% for monitoring and 3% for compliance/management) from the P* of the ACL to set the ACT. This would result in an ACT of 30% risk of overfishing after combining both P* and SEEM Working Groups recommendations.

The SSC inquired which agency is tasked to monitor catch. Council staff informed the SSC that the Hawaii DAR will be reporting monthly updates on the Kona crab landing.

B. Status of Opening the Four MHI Bottomfish Restricted Fishing Areas and Revisions to the Reporting Requirements

SSC member Ryan Okano stated that there was an announcement that came out on June 20, 2019 that four BRFAs would open on July 1, 2019. Updated reporting requirements for fishermen will include commercial catch reporting area number followed by the BRFA letter that the fish was taken from. DAR gathered feedback from fishermen on the reporting requirement during a meeting hosted by the Council in April 2019. DAR is also developing a smartphone app for fisher catch reports but it is not yet available. A report of catch, effort, and CPUE from the opened BRFAs is due to the HI BLNR by January 2022. DAR personnel at all DAR offices throughout the State are available to educate fishers on the new rules and reporting requirements.

C. Public Comment

There were no public comments.

7. Protected Species

A. Oceanic Whitetip Shark Recovery Planning Meeting

Krista Graham, PIRO Protected Resources Division (PRD), presented on the Oceanic Whitetip Shark Recovery Planning Workshop convened by NMFS in Honolulu on April 23-24, 2019. The oceanic whitetip shark was listed as threatened under the Endangered Species Act (ESA) in January 2018. The purpose of the workshop was to identify potential actions to address the threats to the species, identify gaps in knowledge and associated research needs, as well as begin developing recovery criteria for the species. In particular, this workshop focused on addressing threats related to commercial fisheries interactions. Graham presented a recovery planning timeline indicating that the final workshop summary will be made available online in July 2019, followed by a second workshop scheduled for November 2019 in Miami to discuss Atlantic and Caribbean oceanic whitetip shark populations. A draft recovery plan using summaries from both workshops is scheduled to be released for peer review in 2020, with publication of the final recovery plan estimated for 2021.

The SSC noted that oceanic whitetip shark is currently listed on Annex 2 of CITES and received confirmation that purse seine fisheries were considered in discussions related to threats from commercial fisheries.

The SSC thanked Graham for an informative presentation.

B. Evaluation of Potential Impacts of Blue-Dyed Bait on Target Species Catch Rates

Johanna Wren, PIFSC, presented on an exploratory data analysis using observer data to evaluate whether blue-dyed bait has a negative impact on target species catch rates. The evaluation was conducted in response to a recommendation from the SSC at its 131st meeting that was adopted by the Council at its 176th meeting. The preliminary analysis found that there was a limited effect of blue-dyed bait in reducing bigeye catch rates.

Several members noted the more critical question relates to the trade-off between target species catch and reductions in seabird interactions. The SSC noted that this was outside of the scope of Wren's analysis and that alternative frameworks would be required to address this.

The SSC requests that an additional presentation be given at the next SSC meeting in October 2019 to inform recommendations to the Council.

The SSC noted that findings from this preliminary work could contribute to a broader program of work to examining the suite of mitigation measures to be used to address albatross bycatch.

The SSC thanked Wren for an informative presentation.

C. Developing Tori Lines Minimum Standards for the Hawaii Longline Fishery

Council staff provided an update on the development of draft minimum standards for tori lines suitable for the Hawaii longline fishery. The Council at its 176th Meeting endorsed strategies for identifying alternative mitigation measures and improving seabird measure effectiveness for the Hawaii longline fishery, which included identifying tori line designs

suitable for the Hawaii fishery. To further address this priority, the Council directed staff to work with industry, NMFS, Pelagic Plan Team and other expertise as appropriate to identify draft minimum standards for tori lines, taking into consideration existing standards established for other fisheries, designs currently used voluntarily by Hawaii longline vessel operators, and diversity of vessel size and configuration in the Hawaii longline fishery. Based on a review of standards and requirements from RFMOs and other national regulations, a set of considerations for developing tori line standards specific to the Hawaii longline fishery was developed by Council staff with input from the Pelagic Plan Team. These include considerations for tori line attachment point height, minimum length, specifications for deep-set and shallow-set vessels, placement of tori lines, structure to prevent tangles, monitoring mechanisms, and safety related to weather. These considerations will be evaluated through a cooperative research project over the next year.

The SSC noted that the identification of respected early-adopters of experimental mitigation measures could be useful to progress work in this area and careful consideration of the distinction between regulated requirements versus guidelines could offer valuable flexibility to support innovation by fishers.

D. Status of ESA Consultations for the Hawaii Deep-Set Longline, American Samoa Longline, and Bottomfish Fisheries

Kevin Brindock, PIRO PRD, provided a brief update on ongoing ESA formal consultations for the Hawaii deep-set longline (reinitiated October 4, 2018), American Samoa longline (reinitiated April 3, 2019), and bottomfish fisheries (MHI bottomfish consultation reinitiated February 1, 2019; Territory bottomfish consultation reinitiated on June 5, 2019). Brindock noted that extended delays are expected for multiple ongoing consultations, including (i) shallow-set longline fishery (originally scheduled for April 30, delayed ~6-8 weeks), (ii) deep-set longline fishery (originally scheduled for July 5, delayed ~6-8 weeks), (iii) Main Hawaiian Islands bottomfish (originally scheduled for July 13, delayed ~8 weeks). Remaining consultations (purse seine, American Samoa longline, and Territory bottomfish) remain on track for timely completion and delivery.

SSC members inquired into the status of revisions for the draft shallow-set biological opinion although no definitive timeline was provided. SSC members encouraged authors to incorporate concerns identified during scientific review of this document into the forthcoming deep-set longline biological opinion.

The SSC thanked Brindock for an informative presentation.

E. Updates on Endangered Species Act (ESA) and Marine Mammal Protection Act (MMPA) Actions

Brindock presented updates on ESA and MMPA actions of relevance to fishery management actions, including the False Killer Whale Take Reduction Plan; leatherback turtle status review; critical habitat designation status for humpback whales and coral; recovery plan development for insular false killer whales and giant manta ray; and responses to ESA listing petition on cauliflower coral.

It was noted that for false killer whales, the line being cut (34%) or the line breaking

(30%) was the most likely outcome of interactions. The desired outcome of hook straightening only occurred 9% of the time. Also of note was that two of five interactions in 2018 resulted in observed mortality.

Brindock indicated that an update would be provided in advance of the October 2019 SSC meeting on the proposed approach to expedite the process for reopening of the Southern Exclusion Zone (SEZ). It was also noted that a new abundance estimate will become available this fall and this will generate a new potential biological removal (PBR), which could have implications related to assessing the feasibility of reopening the SEZ.

In response to an SSC inquiry, it was noted that substrate and water quality are two primary variables, among others, that are used in the consideration of critical habitat designation for corals.

The SSC thanked Brindock for an informative presentation.

F. Public Comment

There was no public comment provided.

SSC Member on the Spotlight Presentation: Dr. Donald Kobayashi – *Pacific Islands Climate Vulnerability Analysis*

SSC member Don Kobayashi presented as "SSC Member in the Spotlight" a talk titled "Pacific Islands Climate Change Vulnerability Analysis" which summarized the recently completed PIVA project at PIFSC. This project examined climate change vulnerability of a suite of 83 species across ecosystems and geographies within Council jurisdiction in the Central, Western, and South Pacific. The PIVA project provided a relative climate vulnerability ranking across these species to help guide and prioritize science-informed management, identified key attributes and factors that drive this vulnerability to better understand climate change impacts, and identified key data gaps to guide future scientific research.

8. SSC Working Group Session

A. Developing a Workshop for an Effective Spatial Management for Pelagics

Recommendations adopted from the First Session of the Spatial Working Group (SWG) held at the 131st SSC are the basis for formulating a workshop on effective spatial management of pelagic fisheries. Council staff presented outcomes and discussion from the First SWG meeting and then suggested a workshop agenda to the SWG. Writing assignments for a draft working paper (due October 2019 SSC meeting) are to be assigned immediately following the 132nd SSC meeting. Milani Chaloupka provided a presentation on the use of counterfactual approaches to evaluating spatial management (with an example from the Great Barrier Reef) and a Council-sponsored project evaluating US Pacific Island closures.

The SWG discussed the development of a workshop with specific topics within an identifiable scope to be held in 2019 or 2020. The SWG also made suggestions on the scope of participation. The purpose of the workshop is to bring together a broad spectrum of participants from non-governmental organizations (NGOs), academia, fishing industry, regional fishery management organizations (RFMOs), fishery management councils, and government experts to address perspectives of spatial management. The workshop goal is for participants to reach a consensus on ‘best practices’ for design and evaluation of spatial management in blue water ecosystems. It was noted by SWG members that over time, objectives for the implementation of spatial management have evolved from fisheries-specific objectives to those pertinent to conservation of biodiversity.

Topics, session titles, and themes need to be neutral with respect to spatial management and marine protected areas so that a broadest possible continuum of participants will be most willing to participate. SWG members also advised that definitions of spatial management should not be focused simply on marine protected areas or permanent closures, but also on alternatives such as time-area closures and adaptive real-time management. Workshop topics could include: 1) scientific evaluation/monitoring, 2) governance, and 3) general design of spatial management. These topics are cross-cutting into the workshop scope and within three themes, defined below:

Workshop Scope: “*Spatial Management of Blue Water Ecosystems*”

Theme 1: *Spatial Management Objectives and Performance Metrics*

Theme 2: *Identify Alternative Approaches to Spatial Management*

Theme 3: *Explore Methods for Robust Evaluation and Monitoring*

Theme 4: *Policy and Outreach Approaches to Inform and Implement Spatial Management*

SWG members discussed sources of funding, including the World Bank and Food and Agriculture Organization of the UN (FAO). SWG suggested venues to be where NGOs and fishing industry representatives would be concurrently convening, rather than scientific meetings. The preferred venue was in conjunction with the 2020 Brussels Seafood Expo Global (Brussels, April 2020).

The SSC recommends that the Council endorse a workshop developed by the SSC Spatial Working Group on “Spatial Management of Blue Water Ecosystems” with the themes: 1) spatial management objectives and performance metrics, 2) alternative to spatial management, and 3) evaluation and monitoring, and 4) policy and outreach

approaches to spatial management.

Further, the SSC recommends that the Council direct Council staff to explore sources of funding and investigate venues for a workshop on spatial management.

B. Pacific Insular Fisheries Monitoring and Assessment Planning Summit

The SSC Subgroup discussed the science needs of the Territories associated with fishery dependent monitoring. Considering the federal side of the management process, science needs generally involve the information required for stock assessments, including life history, estimate of total catch and fishing effort, length frequency, etc. The Council requires monitoring to be in-near real time in order to track the catch for in-season management, and market sampling or commercial receipt books may be able to track cumulative catch over time on a monthly basis.

The Council encourages the Territories to develop and/or implement the mandatory license and reporting.

The possibility of constructing a “change log” or “data registry” was discussed. A short timeline of changes to fishery dependent survey details in time and space would be useful for scientists and managers to understand interannual variations in the data streams going forward. Such a timeline could convey important details of the data that are not necessarily due to changes in stock status.

The fishery independent data from the rapid assessment and monitoring surveys can be used for monitoring ecosystem component species. While the federal fisheries management requires stocks are managed using MSY, the Territories can utilize the length-based approaches like SPR to manage their Territorial stocks. The Territory governments are reliant on the federal agencies for stock assessments for status determination of federally-managed stocks. There is a need to conduct a comprehensive outreach to the fishing communities with regards to the importance of data and how it impacts the science, management, and their livelihood.

Ultimately, the Council wants to be responsive to the community with respect to marine resources. Each area has species of importance aside from those listed as management unit species in the Fishery Ecosystem Plans. These species could be prioritized for targeted data collection in order to generate a stock assessment and other science products that support management. If there is enough information then the species can be re-categorized as management unit species from ecosystem components.

The SSC recommends the Council direct staff to incorporate the needs summarized in the SSC Subgroup Report for consideration in the Pacific Insular Fisheries Monitoring and Assessment Planning Summit.

9. Pelagics and International Fisheries

A. American Samoa Longline Fishery Report

The American Samoa Longline Fishery Report was not discussed and will be discussed at the October 2019 SSC meeting.

B. Hawaii Longline Fishery Report

The Hawaii Longline Fishery Report was not discussed and will be discussed at the October 2019 SSC meeting.

Council staff instead presented on developments under Pacific Council purview of interest to Hawaii longline fisheries. These include 1) consideration of a deep-set buoy gear fishery for swordfish off the west coast, 2) scoping of a shallow-set longline fishery off the west coast, and 3) litigation regarding two pelagic longline exempted fishing permits within the west coast EEZ. The US west coast drift gillnet fishery is proposed to be phased out in 5 years, due to a state law passed in California. It was noted that deep-set buoy gear would not be prohibited in Hawaii under the existing FEP, including linked buoy gear.

C. Territorial Bigeye Tuna Catch and/or Allocation Limits (Action Item)

Council staff presented on US Participating Territory bigeye tuna catch limits and allocation. In December 2018, the Western and Central Pacific Fisheries Commission (WCPFC) agreed on CMM 2018-01, which limits the U.S. longline bigeye tuna catch in the WCPO to 3,554 metric tons (mt) in 2019 and 2020. CMM 2018-01 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). Limits are not provided to the SIDS and Participating Territories in recognition of their fisheries development aspirations.

In 2014, Amendment 7 to the Council's Pelagic FEP was approved which established the territorial catch/effort and allocation limit measure that provides NMFS with authority to:

- Specify annual catch or effort limits for a U.S. participating territory, as recommended by the Council, not to exceed any WCPFC-adopted limits;
- Specify a limit recommended by the Council authorizing a U.S. participating territory to allocate a portion of that specified catch or effort limit to eligible U.S. vessels through a specified fishing agreement; and
- Review and approve specified fishing agreements for consistency with the Pelagic FEP and other applicable laws.

The Council had established a territorial longline bigeye tuna catch limit of 2,000 mt for each territory and an allocation limit of 1,000 mt for each territory. At its 173rd meeting held June 11-13, 2018, in Wailea, Maui, the Council took final action to modify the territorial catch/effort and allocation limit measure and implementing regulations. Should NMFS approve the action, it will amend the Pelagic FEP to remove the requirement for establishing separate total catch or effort limits for the U.S. participating territories in order to establish an allocation limit (amount of catch from a Participating Territory to be allocated to US-flagged vessels), and

also would allow multi-year limits. The Council would annually review any established limits to determine whether the best available scientific information or the needs of fishing communities warrant modifying or rescinding such limits.

At its 176th meeting, the Council recommended that NMFS specify for each U.S. participating territory (American Samoa, Guam, CNMI), a 2,000-mt longline bigeye catch limit and specify that each territory can allocate up to 1,000-mt of their bigeye catch limit through specified fishing agreements in 2019. The Council further recommended NMFS implement these specifications by July 1, 2019.

The Council, at the 178th meeting, will consider the following bigeye tuna sub-alternatives analyzed in the amendment to modify the territorial catch, effort, and allocation limits measure:

1. No catch or allocation limits (no action);
2. 2,000 mt catch and 1,000 mt allocation limits; or
3. No catch limit and up to 2,000 mt allocation limits.

The Council will also decide if catch and allocation limits specified are for a single year (2020) or multiple specified years from 2020 to 2023.

Stock projections were presented using the SPC stock assessment model through 2045 with options with and without catch limits for US Participating Territory and allocating up to 3000 mt per US Participating Territory to US-flagged vessels. Each catch level of bigeye tuna by US and US Participating Territory under each investigated limit and allocation scenario will not be significant enough to cause the stock to breach any limit reference points adopted by the WCPFC.

The SSC noted that SSC member Harley recused himself from deliberations regarding these recommendations.

The SSC recommends that the Council recommend no catch limit for bigeye tuna for any US Participating Territory and up to 2000 mt allocation of bigeye tuna from each of the US Participating Territories towards US-flagged longline vessels in the WCPFC Convention Area.

The SSC further recommends to the Council that the aforementioned recommendation begin 2020, effective through 2023.

D. SPC Tuna Tissue Bank

Council staff presented on the research activities of the SPC Pacific Marine Specimen Bank, called the “Tuna Tissue Bank”. The Tuna Tissue Bank is administered by scientists from the SPC for the purpose of cataloging biological samples from fishery and fishery independent sources to understand the biology and ecology of specimens in the Pacific region, particularly waters under the purview of the Western and Central Pacific Fisheries Commission. The Tissue Bank has samples from over 1,091 at-sea trips, 5,723 fishing sets, 35,520 captured specimens, 104,428 samples collected, 81,533 samples available, and contributed to 47,095 analyses. At the IATTC Scientific Advisory Committee meeting in 2019, a staff recommendation emerged for a similar tissue bank for

specimens in the eastern Pacific. This will likely be discussed at the IATTC Commission meeting. While SPC Tuna Tissue Bank is a valuable resource, it was noted that biological sampling has been mostly conducted on an ad hoc basis for emerging projects.

E. Pelagic Fisheries Research Plan Updates

1. Update on Ancillary Pelagic Indicators

Council staff presented on the status of a Council-sponsored project on developing pelagic indicators for ancillary species (wahoo, opah, mahimahi, monchong, and shortbill spearfish) based on CPUE and size composition data. It was noted that using mean (or median or quantiles) of size can provide insights on mortality and recruitment. Council staff and PIFSC scientists are engaged in collecting tissue samples of bigeye tuna for juveniles and reproductively active adults for the purpose of genetic studies to better identify stock structure. Council staff will also be investigating indicators for small boat fisheries in Hawaii (eg., tuna handline and troll fisheries).

2. Analysis on Oceanic Whitetip Shark CPUE

Council staff continued to present on analyses of the Pacific Islands Observer Program database to identify drivers impacting CPUE of oceanic white tip sharks. The species is currently listed as threatened under the Endangered Species Act. A delta-Poisson model was presented, using area effects, year effects, vessel effects, and quarterly effects for both the binomial component and the Poisson model. Area effects were identified by observations within any management areas that have experienced closures of any kind (i.e., PRIA, Marine Monument closures, etc) or 5 latitude and longitude grids. The use of estimated sunlight exposure and numerous operational effects did not explain a significant amount of model deviance. While area effects explained a significant amount of variability in catch rates, it was noted that other modeling (eg., distributional regression) and distributional approaches should be used in CPUE analyses. Given the complexity of the data, historical changes in targeting for sharks, and management regimes through time – Hawaii longline CPUE may not be a robust indicator of abundance for oceanic whitetip shark.

F. Hawaii Longline Fisheries

1. Shallow-set Longline Biological Opinion

Council staff provided an update on the shallow-set longline consultation since the March SSC meeting and reported that the shallow-set longline Biological Opinion is not yet available.

2. Consideration of Additional Mitigation Measures under the Shallow-set Longline Biological Opinion Reasonable and Prudent Measures

This item was deferred due to the delay in the final shallow-set longline biological opinion.

3. Update on Electronic Reporting in the Hawaii Longline Fisheries

Nathan Chan (PIFSC) presented a progress update on electronic reporting implementation in the Hawaii longline fishery. Electronic reporting was developed in the Hawaii longline fishery for the purpose of improving the timeliness of data dissemination. Implementation of electronic reporting is through the use of mobile tablet applications. At the 174th Council Meeting in October 2018, initial action was taken to require mandatory electronic reporting in the Hawaii longline fishery. Of 2000 data reports submitted just 10 reports needed to be re-submitted due to error. There was one captain who preferred to utilize paper logbooks instead of the ER applications. It was noted that the tablet can populate skipper information in the ER reports and skippers can review data after it has been entered. However, there is data encryption issues that NMFS needs to reconcile for producing reports to individuals. PIRO indicated that methods of implementation will determine regulatory challenges

and ER could be simply ‘rolled-out’ depending on hardware, licensing, and technical questions that PIFSC can respond to. All 160 tablets should be received and will be operational on longline vessels beginning January 2020. The SSC thanked Nathan Chan for his presentation.

The SSC recommends that full implementation of this measure as soon as possible and requests a report from PIFSC at the October 2019 SSC meeting regarding the status of full implementation.

G. International Fisheries Meetings

1. 2019 IATTC Science Advisory Committee Meeting

Council staff presented on outcomes of the 2019 Inter-American Tropical Tuna Commission (IATTC) Science Advisory Committee Meeting, which was held May 13-17, 2019 in San Diego, California. The stock status of eastern Pacific yellowfin tuna and bigeye tuna have been equivocal following stock assessment updates in 2018, likely due to assumptions on growth and uncertainty of a recruitment ‘regime shift’ that the species may have experienced in the 1990’s. Other notable topics discussed at the meeting were fish aggregating devices, purse seine set limits, observer coverage minimums, and scientific research plans. Over the last 5-10 years, there has been a dramatic increase in the numbers of purse seine sets on floating objects leading to high fishing mortality of small fish and substantial reductions in average weights. There has been a lack of suitable conservation measures adopted by the IATTC to reduce high levels of fishing mortality on tropical tunas in the EPO.

Council staff also discussed the IATTC Science Advisory Sub-committee (SAS) of the US and the General Advisory Committee (GAC) of the US. Both the SAS and GAC made recommendations that any increases in bluefin tuna catch should not be an option until the first target reference point is met. The SAS also recommended that mortality of smaller bluefin be reduced. Both the SAS and GAC recommended that stock assessments in the EPO be improved.

Council staff lastly presented on WCPFC Permanent Advisory Committee (PAC) to the US and on North Pacific striped marlin issues that will be addressed at the International Standing Committee for Tuna and Tuna-like Species (ISC).

2. Outcomes of UN BBNJ Meeting

Council staff presented on United Nations Convention on Conservation of Biodiversity Beyond National Jurisdictions (BBNJ) and on outcomes of the second BBNJ meeting held in New York, New York from March 25 to April 5, 2019. At the BBNJ, a working group was formed for exploring measures of area-based management tools, including marine protected areas. BBNJ is a legally binding instrument under the United Nations Convention for the Law of the Sea (UNCLOS) which is to not undermine existing instruments, including regional fisheries management organizations (RMFOs). However, it is not clear if the BBNJ will be granted authority under UNCLOS to supplant RFMOs. At present, other fishery management councils have either not been apprised of BBNJ or have yet to make stances germane to BBNJ. The SSC noted the relevance of this emerging issue towards the SSC WG on spatial management.

H. Public Comment

No public comments were presented.

10. Other Business

Council staff informed the SSC on the schedule of the National Scientific and Statistical Committee meeting on August 4-6, 2020 in Sitka, Alaska. Shelton Harley volunteered to participate and partial confirmation from Erik Franklin and Frank Camacho.

11. Summary of Recommendations to the Council

Hawaii Fisheries Section of the Council Agenda:

Regarding setting the Acceptable Biological Catch for the main Hawaiian islands Kona crab, the SSC sets the ABC for the MHI Kona Crab fishery based on the updated 2018 benchmark stock assessment at P* level from the working group analysis of P*=38 percent equivalent to 30,802 pounds

Program Planning and Research Section of the Council Agenda:

Regarding the Best Scientific Information Available Policy Directive, the SSC recommends the Council, PIFSC, and PIRO utilize the provisions of NMFS Procedure 01-101-10 in resolving the issues regarding the WPSAR reviewed Territory Bottomfish Benchmark Assessment;

Regarding Section 201 of the Modernizing Recreational Fisheries Act of 2018, the SSC supports the recommendations of the subgroup and requests the Council submit the process paper to NMFS;

Regarding the SSC working group session on developing a workshop for an effective spatial management for pelagics, the SSC recommends that the Council endorse a workshop developed by the SSC Spatial Working Group on “Spatial Management of Blue Water Ecosystems” with the themes: 1) spatial management objectives and performance metrics, 2) alternative to spatial management, and 3) evaluation and monitoring, and 4) policy and outreach approaches to spatial management. Further, the SSC recommends that the Council direct Council staff to explore sources of funding and investigate venues for a workshop on spatial management.

Regarding the SSC working group session on Pacific Insular Fisheries Monitoring and Assessment Planning Summit, the SSC recommends the Council direct staff to incorporate the needs summarized in the SSC Subgroup Report for consideration in the Pacific Insular Fisheries Monitoring and Assessment Planning Summit;

Pelagics and International Fisheries Section of the Council Agenda:

Regarding the territorial bigeye tuna catch and/or allocation limits, the SSC recommends that the Council recommend no catch limit for bigeye tuna for any US Participating Territory and up to 2,000 mt allocation of bigeye tuna from each of the US Participating Territories towards US-flagged longline vessels in the WCPFC Convention Area. The SSC further recommends to the Council that the aforementioned recommendation begin 2020, effective through 2023.

Regarding electronic reporting in the Hawaii longline fisheries, the SSC recommends that full implementation of this measure as soon as possible and requests a report from PIFSC at the October 2019 SSC meeting regarding the status of full implementation.