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4. Report from the Pacific Islands Fisheries Science Center Director

The SSC heard a presentation from Dr. Mike Seki (Assistant Director of NMFS PIFSC) of ongoing Center activities. The SSC appreciated his informative update and looks forward to these being continued.

5. Program Planning

A. Non-commercial data collection options

Council staff reviewed the history of non-commercial data collection efforts. A 2009 data workshop identified information gaps and questioned the utility of the data in light of ACL requirements in the revised MSRA. During that workshop, a number of data gaps were identified, including reef fish catch and non-longline pelagic catch for all areas. In 2011, the archipelagic Plan Teams recommended that the data collection programs be reviewed as to whether they provide adequate data for ACL determinations.

Council staff noted that issues surrounding estimates of the noncommercial pelagics catch relative to the commercial catch need resolution, and that the WCPFC instituted a conservation and management measure for striped marlin for all fisheries not just longline.

An SSC member pointed out that outreach alone may not be enough. There needs to be a plan with a timetable and an end point. Compliance will be higher if people buy into the plan and if any fees collected go into management.

The SSC recommends a modification of Option 4 that applies to Hawaii non-commercial fisheries only; specifically that non-commercial catch and effort information be collected via a vessel-based reporting system. The owner of every vessel that is used to fish non-commercially in the Hawaii EEZ should be required to have a non-commercial fishing permit and to report catch and effort on a per-trip basis.

As part of this program, The SSC suggests that:

a. **The program be implemented on a trial basis in Hawaii and evaluated after a three year period;**

b. The program be accompanied by an extensive outreach program building on the Council's existing efforts in Hawaii;

c. The federal noncommercial bottomfish reporting system be integrated to avoid duplication.

d. CML holders are exempt.

e. A request should be made to the National Saltwater Angler Registry for an exemption based on this permit.

The SSC recommends that for Am. Samoa, Guam and CNMI, monitoring of non-commercial catch and effort be continued through the creel surveys during the Hawaii trial program. During this time, outreach efforts should be expanded in the island areas to explore productive changes to existing data collection systems and the possibility of instituting a vessel-based reporting system. The results of these outreach efforts plus the Hawaii vessel-based system trial should be used to develop or modify the catch and effort monitoring systems in the island areas.

B. Status of FEP amendments

Council staff reviewed the status and progress of 17 amendments.

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6. Insular Fisheries

A. **Annual Catch Limits**

1. **All Islands ABC analysis for Coral Reef Fin-fish Fisheries ACLs**
   - **a. Hawaii**
   - **b. American Samoa**
   - **c. Mariana Archipelago**

The SSC heard options for establishing acceptable biological catch (ABC) control rules for coral reef finfish fisheries. The majority of these fish are Tier 5 species that have only historical catches available. Specifically, the SSC was asked to:

(1) Specify the level of taxonomic aggregation
(2) Specify a definition of recent catch
(3) Specify application of an ABC control rule
(4) Establish accountability measures

Action Item 1: Specify the level of taxonomic aggregation
Regarding the level of taxonomic aggregation for the setting of ABCs, SSC discussion focused on the need to address individual rare species in these analyses, since they are often vulnerable to over-harvesting. SSC members felt that species-level analyses were too fine a level of resolution for most island areas at this time, especially given the mandate to establish ABCs for coral reef fish before 2012. Refer to NS1

The SSC recommends that a family-level aggregation of catch should be used to determine ABC for coral reef finfish and shallow-water BMUS that comprise 90% of the total coral reef catch. A single ABC should be applied to groups comprising the remaining 10% of the catch, with the proviso that the few species that are particularly rare or vulnerable (e.g., *Bolbometopon muricatum or bumphead parrotfish*) be considered for separate analysis.

Action Item 2: Specify a definition of recent catch
Regarding the specification of a definition of recent catch, there was concern among SSC members that the recreational fishery was not captured in the catch history for Hawaii and that fishing methods and participation have likely changed over the history of the fisheries. PIFSC staff also noted that for some insular areas, catches for certain taxa have not been expanded for all islands within an archipelago. The SSC did not express support for a control rule based on measures of central tendency because of the high probability (50%) of exceeding this catch in any given year. Further the SSC preferred to include the entire time series for each family, as the

catch data were extremely variable and not conducive to the selection of a stable portion of the time series that was stable. In addition, for the territories the catch time series are shorter than the life spans of many of the commonly caught reef fish, making it difficult to determine a normal stock level.

The SSC recommends using the 75th percentile of the entire catch history for each family as the level of catch to apply the Tier 5 control rule.

Action Item 3: Applying the ABC control rule
Council staff presented the SSC with options for specifying the ABC control rule, including Restrepo et al. (1998)[1] and the NOAA ORCS report[2]. These options were evaluated in light of the low ratio of catch to estimated biomass for most of these stocks at the archipelagic level. Regarding the specification of an ABC control rule, the SSC notes that these coral reef fisheries are generally Tier 5 stocks with only historical catch data available.

The SSC recommends applying the Restrepo et al. (1998) guideline of 1 times recent catch (here defined as the 75th percentile) rule to calculate the ABC with the caveat that species of concern be analyzed with greater scrutiny. The SSC also note that these coral reef taxa are Tier 5 stocks and therefore lack MSY values. However, stock biomass is likely to be well above Bmsy (i.e., B > Bmsy) given the low ratios of catch to estimates of biomass[3].

Action Item 4: Establishing accountability measures
The SSC did not provide any recommendations to the Council regarding establishing AMs, but notes that in-season monitoring would be difficult for most of the coral reef stocks. Catch data for the territories are collected by creel surveys and the expansion to total annual catch is conducted in the following year. Thus, the estimates are not available for timely monitoring. For Hawaii, in season tracking of reef fish catches would be extremely burdensome and the Division of Aquatic Resources lacks the capacity to accomplish this, in addition to monitoring bottomfish catches.

2. **Hawaii Kona Crab Study**

The SSC heard from Ms Lennon Thomas of Hawaii Pacific University on her WPRFMC-funded thesis work on the Kona crab and efforts to analyze temporal trends in standardized CPUE. Her

[1] Restrepo, V.R., G.G. Thompson, P.M. Mace, W.L. Gabriel, L.L Low, A.D. MacCall, R.D. Methot, J.E. Powers B.L. Taylor, P.R. Wade and J.F. Witzig. 1998. Technical guidance on the use of precautionary approaches to implementing National Standard 1 of the Magnuson–Stevens Fishery Conservation and Management Act. NOAA Tech. Mem. NMFS-F/SPO-31.

[2] Berkson, J., L. Barbieri, S. Cadrin, S. L. Cass-Calay, P. Crone, M. Dorn, C. Friess, D. Kobayashi, T. J. Miller, W. S. Patrick, S. Pautzke, S. Ralston, M. Trianni. 2011. Calculating Acceptable Biological Catch for Stocks That Have Reliable Catch Data Only (Only Reliable Catch Stocks – ORCS). NOAA Technical Memorandum NMFS-SEFSC 616, 56 P.

[3] Luck, D. & P. Dalzell 2010. Western Pacific Region Reef Fish Trends. *A Compendium of Ecological and Fishery Statistics for Reef Fishes in American Samoa, Hawai'i and the Mariana Archipelago, in Support of Annual Catch Limit (ACL) Implementation* Prepared for Western Pacific Regional Fishery Management Council 1164 Bishop St., Ste. 1400 Honolulu, Hawai'i.

results indicate a decrease in the fishery over the last 18 years. The SSC thanked Ms Thomas for her work. Further, the SSC endorsed the notion of WPRFMC funded internships for degree programs at institutions of higher education.

3. **Annual Catch Limits for Miscellaneous CREMUS (Hawaii Akule and Opelu, Mollusks everywhere) and non-CREMUS Species (Kona crab, Deepwater shrimp, Lobster, Precious corals)**

Council staff presented the SSC with options to determine ABCs for miscellaneous CREMUS (Hawii Akule and Opelu, Mollusks everywhere) and non-CREMUS Species (Kona crab, Deepwater shrimp, Lobster, Precious corals) for Hawaii, Am. Samoa, and the Mariana Islands. The SSC notes that these are novel approaches to managing these fisheries and thus there is no past experience upon which to base ABC determinations. Further the SSC preferred to include the entire time series for each family, as the catch data were extremely variable and not conducive to the selection of a stable portion of the time series. In addition, for the territories the catch time series are shorter than the life spans of many of some of these species making it difficult to determine a normal stock level.

The SSC recommends that for species such as Hawaii akule and opelu, where studies have been conducted, MSY be used to establish an ABC. For species or species assemblages with studies containing MSY estimates, but no current harvest such as CNMI deepwater shrimp, the ABC is set at 0.70 FMSY (yield = 91% OFL = 91% MSY = ABC). For all other species where an assessment is not available, the SSC recommends using 1 times the 75th percentile of the entire catch time series as the ABC.

B. **Bottomfish**
   a. **Report on ACL working groups on MHI bottomfish**
      i. **P* Report**
      ii. **SEEM Report**

The SSC heard a presentation by Council staff on the findings and recommendations of the P* and SEEM working groups. These working groups were set up following the recommendation at the 150th Council meeting. The P* working group established a P* (probability of overfishing) of 40.8% corresponding to an ABC of approximately 345,522 pounds. The Social Economic Ecosystem and Management (SEEM) working group established a reduction of 6% to yield an ACT of approximately 324,790 pounds. The SSC had some discussion about the implied precision of the ABC and ACT (significant digits), and the likely subjective uncertainty involved in the working group process. T**he SSC endorses the methodologies developed by the Council's P* and SEEM working groups. The SSC recommends a P* of 40.8% as estimated by the P* working group. Assuming the Council endorses a P* of 40.8%, the SSC sets the ABC of Deep 7 MHI Bottomfish at 346,000 lbs and recommends an ACT of 325,000 lbs.**

   b. **EFH/HAPC**
   c. **WPSAR Review**

The SSC heard a presentation by the WPSAR chair summarizing findings and recommendations

of the review panel for bottomfish EFH/HAPC designation.

d. Options for EFH and HAPC designations

The SSC also heard a summary by Council staff on the management implications of the WPSAR panel findings. There was some SSC (and public) discussion. The SSC supported the range of options as presented. **The SSC supports the WPSAR recommendations as a preliminarily preferred alternative for EFH and HAPC designations.**

C. **Plan Team Report**

The SSC heard a presentation by Council staff summarizing the Hawaii Archipelago Plan Team report. **The SSC endorsed the recommendations contained therein.**

D. **Advisory Panel Report**

The SSC heard a presentation by AP chair summarizing the Hawaii Archipelago Advisory Panel report. The SSC had no comments on the findings and observations of the AP.

E. **REAC Report**

The SSC heard a presentation by Council staff summarizing the REAC report. The SSC had no comment on the findings and observations of the REAC.

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7. Pelagic Fisheries

A. **Action Items**

1. **The SSC reviewed the options paper on shallow-set LL fishery for swordfish in American Samoa. Should interest develop in shallow set longlining for swordfish in American Samoa, the SSC recommends adoption of action item C (Exempted Fishing Permit). The SSC recommends that the Council assist local fishers the acquisition of an Exempted Fishing Permit. Any such permits should include requirements for 100% observer coverage and a suite of protected species bycatch mitigation measures such as 18/0 circle hooks, mackerel bait and appropriate seabird mitigation measures.** Action Item C provides the least burdensome means for allowing potential development of the American Samoa swordfish longline fishery, including provisions for limiting bycatch. Action Item C would allow the bycatch measures effective in the North Pacific to be tested for efficacy in a different environment.

2. **Overfishing of Pacific bluefin**

The SSC understands that the review of the recent stock assessment by the International Scientific Committee Plenary concluded that overfishing (F>Fmsy) of Pacific bluefin tuna (*Thunnus orientalis*) is occurring. Based on this the NMFS declared that the stock was subject to overfishing and requested the WPRFMC to take action to address this problem. **The SSC notes these concerns about the status of Pacific bluefin tuna stocks and encourages the WP and PFMC to cooperate to develop options for addressing these concerns.**

B. **WCPFC Conservation and Management measure for bigeye**

1. Catch limits for all fisheries
2. Trading catch (within and between RFMOs)
3. FAD management

Dr. Boggs presented the first projection this year regarding the WCPO bigeye catch limit. Though catches were high in early May, they returned to more normal levels by the end of the quarter. If the current trend continues, the catch limit would likely be reached in November. During the discussion, it was noted when a specific closure date for closing the fishery was issued in past years that the fleet seemed to respond by moving to the EPO rather than participating in a rush to the limit in the WCPO as might be expected.

Staff member Dalzell presented an options paper for bigeye tuna conservation and management. The SSC feels that the options presented in document 7.B.1 do not adequately address the problem of conserving bigeye tuna stocks in the WCPO. **The SSC recommends that the**

Council requests that the US Delegation to the WCPFC requests the Commission to examine a range of management options that would be effective in conserving BET stocks. Such measures include restrictions on the use of FADs, area-based constraints and vessel-size regulations.

The SSC notes the inconsistency between the EPO and the WCPO regulation of longline vessels. Specifically, longline vessels < 24 m are exempt from regulations in the EPO and the SSC sees no reason why vessels below this size are also not exempted in the WCPO.

C. **Economic impacts of 2010 WCPO bigeye closure**

Presentations on the direct economic impacts of the WCPO bigeye closure by Dr. Minling Pan and on indirect impacts by Shawn Arita, both of the PIFSC, were made to the SSC.

Regarding direct economic impacts, the bigeye closure resulted in bigeye landings in December 2010 that were 2.5% lower than the average for the period 2004-2009. Even though the price per pound was higher in 2010, a $1.1 million revenue loss in December was estimated. In addition, the fishing trip costs were higher because the vessels moved into the EPO or the area outside the EEZ in the WCPO (15% greater fuel usage per trip, 46% higher fuel costs per tuna trip, or in total $0.65 million more in costs).

Regarding indirect costs, Arita presented the results of using a Social Accounting Matrix (SAM) Model. The $1.1 million direct loss to the industry in December may result in a total of $2.1-3.7 million indirect loss to the state economy (Non-fishery sector). The model also estimated a $0.7-1.0 million reduction in household income.

The SSC notes that this is the first use of the SAM model to quantify the impact of the 2010 WCPO bigeye tuna closure on this fishery. The SSC appreciates these efforts and encourages further work on the subject.

D. **American Samoa and Hawaii Longline Quarterly Reports**

The SSC heard the Hawaii Longline quarterly report and the American Samoa longline quarterly report with interest. The SSC noted the apparent trend for fewer shallow sets and more deep sets in the Hawaii longline fishery. The SSC also noted a decline in effort and albacore CPUE in the American Samoa longline fishery as well as higher catch rates of other species such as yellowfin, bigeye, and skipjack tuna.

E. **International Fisheries Meetings**
   1. **IATTC Science Committee**
   2. **IATTC Tech on Sharks**

The SSC heard reports on the IATTC Science Advisory Committee and technical meeting on sharks and noted that IATTC staff will conduct stock assessments on silky sharks and oceanic white tip sharks, and possibly other shark species.

   3. **IATTC/GAC & SAS Meeting**

Paul Dalzell reported on the IATTC General Advisory Committee (GAC) and Scientific Advisory Sub-committee (SAS) meetings that advises the US Commissioners to IATTC. Dalzell reviewed the issues covered at the SAS meeting and the recommendations which were endorsed by the GAC.

F. **Pelagic Plan Team Report**

The SSC endorses the Plan Team Report with the following clarification regarding division of responsibility between the WP and Pacific Councils for swordfish and striped marlin stock assessments: The WP Council should take the lead in developing management plans for WCPO Swordfish and Striped Marlin, and the Pacific Council should take the lead in developing management plans for East Pacific Swordfish and Striped Marlin.

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8. Protected Species

A. Weak circle hook research

The SSC heard a report from Chris Boggs (PIFSC) on bigeye catch rates with variable strength circle hooks and their implications for false killer whale bycatch. No apparent difference in bigeye tuna catch rates was found between either standard (control) or weak circle hooks. Weak hooks were found to be more likely to straighten out with larger fish, as occurred with a false killer whale interaction, but some partially straightened circle hooks retained catch. **The SSC thanked Dr Boggs for an informative presentation.**

B. NMFS Circle Hook Workshop

The SSC heard a report from Chris Boggs (PIFSC) on the NMFS circle hook workshop held in Florida (May 2011). Progress was made on formulating an operational definition of a circle hook.

C. International Union for the Conservation of Nature Hawaii Green Turtle Assessment

Milani Chaloupka reported on a draft regional IUCN Red List assessment for the Hawaiian green turtle stock that proposes changing the Hawaii stock from endangered to near-threatened. He pointed out that the prevalence of fibropapillomatosis had declined and is no longer threatening the recovery of the population. The final report will go to the IUCN for inclusion in the global Red List. **The SSC thanked Dr Chaloupka for an informative presentation and welcomed the current assessment of the Hawaiian green sea turtle stock for removal from the IUCN Red List of threatened marine species or populations.**

D. Report on the International Sea Turtle Symposium

The SSC heard a presentation from Council staff on the 31st International Sea Turtle Symposium held in April including a special session on finding a common ground in fisheries management. All panelists agreed that science rather than advocacy is critical in reaching common ground in sea turtle bycatch issues. There will be a Council monograph on the outcomes of this special session. **The SSC thanked Council staff for an informative presentation.**

E. NMFS/MCBI Workshop on seabirds and pelagic fish

Council staff summarized the discussions at a recent workshop sponsored by PIRO on the impact of pelagic fisheries on seabird populations and their forage base that focused on generating research projects**.**

F. Sea Turtle Advisory Committee Report

Council staff reported on a recent meeting (March 2011) of the Council's Sea Turtle Advisory Committee. The Committee reviewed existing project progress and made a number of recommendations including the need to develop outcome-based project performance measures to support consistent evaluation of project progress and success.

The SSC thanked Council staff for an informative presentation and concured with the Sea Turtle Advisory Committee recommendations.

G. Hawaiian Monk Seal Critical Habitat Proposed Rule

Jean Higgins (PIRO) gave a presentation on progress towards designation of critical habitat in accordance with the ESA for the Hawaiian monk seal, which is declining in abundance in the NWHI. New information had warranted a revision to existing critical habitat designations and so a critical habitat review team (CHRT) was established to undertake this review. The CHRT has identified 16 potential critical habitat areas in the Hawaiian Archipelago considered essential for the viability and recovery of this stock - but some of these areas might be ineligible for designation due to potential socioeconomic or national security implications. Public comments on these proposed designations are open until August 31, 2011.

The SSC thanked PIRO staff for an informative presentation.

H. Programmatic Environmental Impact Statement on Implementing Recovery Actions for Hawaiian Monk Seals

Jeff Walters (PIRO) gave a presentation on monk seal recovery initiatives including the preparation of a programmatic environmental impact statement. It is possible that the long-term monk seal decline in the NWHI is due to low juvenile survival caused by competition for food by key predators such as sharks and jacks. Vaccination for phocine distemper, seal translocation and shark predation mitigation approaches are proposed to help improve juvenile survival in the NWHI.

The SSC notes that these proposed measures are unlikely to stop the decline in the NWHI monk seal population.

The SSC thanked PIRO staff for an informative presentation.