



**Report of the 98<sup>th</sup> Meeting of the Scientific and Statistical  
Committee  
Honolulu, Hawaii  
June 10-12, 2008**

**4. Science Center Report**

The SSC heard, with interest, the report of Dr. Sam Pooley on the Pacific Island Fishery Science Center's research program activities including cruises. The SSC reiterated its concerns about budgetary uncertainty in FY09 given increases in management mandates and increases in fuel costs that may reduce research cruises in support of management needs.



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## 5. Program Planning

### 1. Annual Catch Limits

*With respect to the proposed rule for Annual Catch Limits the SSC comments as follows:*

- 1. The ACL rule proposes to rely on catch limits to prevent overfishing. This is an expensive approach, since not only must each catch limit be determined at the outset but also re-determined annually to address overages and biomass fluctuations. Because of this, catches must be monitored on a near real-time basis. Given the technical and logistical difficulty of these tasks, the SSC continues to support the use of risk assessments to prioritize the establishment and implementation of ACLs for those species/species groups not currently overfished, or subject to overfishing. Any species determined to be overfished or subject to overfishing would be addressed immediately addressed. Remaining species would then be addressed sequentially according to their relative risks. Attempts to simultaneously establish and implement ACLs for all species/species groups virtually guarantees a confusing and suboptimal process, and is likely to produce an outcome that may not achieve the intent of Congress (i.e., to end and prevent overfishing).**
- 2. The Federal Register notice for existing NS guidelines includes significant additional information on the types of MSY proxies that may be used. The SSC supports the flexibility this provides, and recommends that this language be repeated in the final rule for the revised NS1 guidance.**
- 3. ACL based management does not attempt to directly limit fishing effort but instead focuses on output controls (catch limits). It is important to also control fishing effort in accordance with management objectives in order to prevent excessive fishing mortality. It is very difficult, if not impossible, to produce the required abundance estimates needed to determine a correct ACL. It is easier and more effective to establish a desired level of fishing effort that corresponds to fishing at a rate below the MSY rate.**

*With respect to ACL actions the SSC:*

- 1. Recommends a modified Alternative 1E that would immediately implement ACLs for all species/species groups with estimated MSY values except those managed under RFMOs. The remaining non-RFMO managed species/species groups would be ranked by risk for ACL determination and implementation as described in the May 29, 2008 ACL alternatives document.**

2. **With regard to allocation, makes no recommendation at this time.**
3. **Recommends Alternative 3D, that would implement federal permitting and reporting requirements for all managed fisheries that do not have such requirements. Doing so would reduce scientific and management uncertainty and be consistent with the SSC's long-standing recommendations regarding universal catch reporting.**
4. **With respect to non-RFMO species subject to overfishing and lacking ACLs (Issue 4), recommends that the existing management process continue until ACLs are implemented.**

*The SSC notes with concern that:*

1. **While management measures need to take into account estimated biomass, biomass estimates are lacking for many managed species.**
2. **Time scale issues arise with ACL's. Stock assessments are conducted annually at best, and ACL regulations will require time to be implemented. In addition, one year is insufficient to evaluate the biological response of most fish stocks.**
3. **It may be desirable to limit fishing capacity to bring fishing effort in line with that needed to obtain OY in accordance with the Council's ACL management regime.**
4. **The SSC formed an ad-hoc subgroup that considered methods for setting ACLs. Minutes of the group's first meeting are attached. Among other things this Group undertook to map out options for hypothetically determining an ACL for bottomfish. Regarding the Group's hypothetical determination of ACLs for Hawaii bottomfish, Option 1 would be the SSC's preferred approach at this time.**

*Regarding the definition of small-scale and traditional fisheries:*

1. **The SSC recommends that the Council request its Social Science Research Committee to further develop the weighted point system presented to the SSC by Council staff.**

### **SSC ACL subgroup meeting minutes**

The subgroup noted the following potential approaches to setting ACLs:

- If stock assessment results with MSY estimates are available, an approach is described in Appendix 1(Possible Options for Bottomfish ACLs – a hypothetical exercise).
- If MSY estimates are not available, CPUE data can be used as follows: If the CPUE time series is relatively flat (need to define "flat"), set the ABC at some fraction (e.g., 90% ?) of average catch over recent years (say, the last 10 years). If the CPUE time series is downward trending (ie. the classic "one-way trip"), use half the average CPUE over the first few years of the time series as a basis for calculating the ABC. Another approach

would be to identify what controls would result in 50% of virgin CPUE. In either case, any reduction in catch must be accomplished by reducing fishing mortality (e.g. fishing effort) to get back to the left-hand limb of the production curve.

## Appendix 1

### Hypothetical Application of the ACL proposed rule to MHI Bottomfish

#### Assumptions

1. It is reasonable to specify a Deep 7 (D7) bottomfish complex across the Hawaiian archipelago consisting of MHI and NWHI components. These components have little if any mixing of post-recruit fish, but may be linked to some extent through larval dispersal.
2. There will be a regular assessment of the D7 in which the populations of MHI and NWHI components are separately specified.
3. The NWHI will be permanently closed to bottomfishing by the time ACLs are formally required.

#### Option 1: Archipelagic OFL and ABC specification

Under this option, the following procedure would be followed:

1. Define the OFL on an archipelagic-wide basis as  $F_{MSY}$ . The “catch equivalent” OFL would then be the archipelagic-wide MSY as estimated in the assessment. The MSY might be the equilibrium (long-term) yield, i.e. averaged over the totality of environmental influences that impact stock size, or it might be a dynamic MSY, that takes account of those environmental influences over time (it would be necessarily retrospective and mirror the recent past) if such information is available.
2. Define the ABC as the lower [25]<sup>1</sup> percentile of the probability distribution of the archipelagic-wide MSY, as indicated in the stock assessment. This ABC therefore would represent a prudent level of catch that could be taken if fishing occurred throughout the Hawaiian archipelago. Use of the lower [25] percentile acknowledges and responds to scientific uncertainty in the estimate of MSY.
3. Since exploitation occurs only in the MHI, set the ACL specific to the MHI as an appropriate proportion of the archipelagic-wide ABC. This might be based on the biomass ratio of MHI : NWHI, or based on MHI-specific estimates of  $F_{MSY}$ , MSY and  $B_{MSY}$  if the assessment model can be structured to produce such estimates. Note that the ACL (MHI) would be always much less than the ABC because of what essentially amounts to closed area management of the NWHI.
4. Set the ACT for the MHI as [90]% of the ACL, as appropriate to the management implementation methodology, reporting systems, etc.

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<sup>1</sup> The percentile could be chosen as one that is robust to the uncertainty in the assessment as determined from a comprehensive management strategy evaluation.

### Option 2: MHI OFL and ABC specification

Under this option, the assessment model would be used to focus only on the MHI for the purpose of defining the OFL. That is, the assessment model would estimate  $F_{MSY}$  and  $MSY$  for the MHI only. A similar decision regarding equilibrium or dynamic  $MSY$  would need to be taken.

1. The ABC for the MHI would be set at the lower [25] percentile of the probability distribution of the  $MSY$  for the MHI.
2. The ACL would be set equal to the ABC. This might be justified by the fact that a large proportion of the archipelago-wide biomass of the D7 is protected by the NWHI closure.
3. Set the ACT for the MHI as [90]% of the ACL, as appropriate to the management implementation methodology, reporting systems, etc.



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### 6. Insular Fisheries

#### A. Bottomfish risk assessment model (Action Item)

Jon Brodziak presented a revised MHI bottomfish risk assessment model for determining annual catch limits and for estimating the risk (probability) of overfishing. Brodziak noted a probable downward trend in biomass projected by this model. The revised model uses the most recent catch data for the deep-water species. The model is most sensitive to parameters of biomass in 2004 ( $B_{2004}$ ), its coefficient of variation, and the population growth rate ( $r_m$ ). The model is not particularly sensitive to the coefficient of variation of the population growth rate, the parameter for carrying capacity (K), or its coefficient of variation. He reiterated his previous advice that the model was limited and that a comprehensive stock assessment was desirable. Brodziak and Sam Pooley said that PIFSC will complete a comprehensive stock assessment of the MHI Deep 7 by December 2008. The SSC thanked Dr Brodziak for his presentation.

**Though improvements have been made on this risk assessment model and the SSC could offer additional suggestions for improvement, the SSC does not support the continued development of this model. It is time to implement a new comprehensive stock assessment as the SSC has requested for the last 18 months. The SSC requests that a preliminary stock assessment be presented to the 99<sup>th</sup> SSC in mid-October 2008. Further risk assessments should be based on this comprehensive model.**

**Specifically, the SSC recommends that the stock assessment model be spatially explicit, comprising a NWHI component and a MHI component to account for possible dispersal between the two populations. The model should not only incorporate CPUE data for both the NWHI and MHI to form a basis for an archipelagic ABC but also focus on any future exploitation potential (ABC) of the MHI component as fishing will soon cease in the NWHI. The SSC recommends that, as a comparison to the PIFSC stock assessment, the recent Martel *et al.* (2006) stock assessment model be re-run with updated and corrected data.**

**Should the Council decide to take action at the 142<sup>nd</sup> Meeting to set a TAC using the PIFSC risk simulation model, the SSC suggests that it would be prudent to choose a simulated risk level that does not exceed a 50% probability of overfishing (Table 3, p13).**

**The SSC requests PIFSC to refine historical bottomfish data so that it is suitable for use in future stock assessments.**

## **B. Hawaii Archipelago Advisory Panel Report**

The SSC heard with interest the Hawaii and Pelagic Advisory Panels Report and the following recommendations:

*The Hawaii Archipelago and Pacific Pelagic AP recommends:*

1. That the Council request the State of Hawaii provide a formal presentation by its Division of Aquatic Resources to the Advisory Panel and Council on its proposed changes to its minimum size limits, of which most are Council Management Unit Species.
2. That the Council support efforts to mitigate the impacts of invasive species on local marine resource populations and habitat including those species from unexpected aquaculture escapes.
3. That the Council continue to monitor the development of aquaculture in Hawaii given the affects of escapes on wild stocks, economic effects on fishing, affects of land-based hatcheries on the environment, etc.
4. That the Council request an independent, peer-reviewed analysis of the National Marine Sanctuary Program Humpback Whale Assessments.

The Advisory Panel is concerned that as the population recovers, there will be increasing interactions, which may lead to increased regulations. The AP is also concerned that target levels may be adjusted to keep the protected status of the species intact.

5. That the Council continue to investigate the issue of name recognition of local Hawaii fish including the adulteration of fish by such things as CO and tasteless smoke.
6. That a reduction of the TAC for the MHI Bottomfish fishery at this time is not warranted or supported by the best scientific information available.

The risk assessment appears to be an academic exercise which does not take into account the realities (e.g. Monument will lock up a majority of the BF habitat in the archipelago come 2011); The 2007 TAC (178,000 lbs) was/is rationally-based and appears to have met the objective of 24% mortality reduction around the MHI.

7. Supports the Council's current preferred alternatives for swordfish management.
8. The Council continue to develop limited entry options as a method for Non-Longline Pelagic Fishery Management.

The AP is concerned that there may be an influx of participation in these fisheries as the local and national economies worsen, fuel prices rise, etc.



9. The Council continue to pursue the de-listing of the Green Sea Turtle from the ESA.
10. That the Council reiterate that the take of juvenile bigeye and yellowfin tuna by purse-seiners is more harmful than any other pelagic fishery to the International Regional Fishery Management Organizations. The AP further recommends that the Council not support a quota for its fisheries until other countries establish observer programs and management methods already employed by fleets in the Western Pacific/US.

### **C. Hawaii Archipelago Plan Team Report**

The SSC heard with interest the Plan Team Report and recommendations. **The SSC accepted the Plan Team recommendations as presented (below).**

*Regarding Bottomfish assessments, the Hawaii Archipelago Plan Team:*

- a. Requested PIFSC to also report future assessments based on the fishing year. Currently, all reports are presented on a calendar year only.
- b. Recognizes that the draft Bottomfish Risk Assessment Model is based on the best available scientific information. Should the Council move forward with selecting a specific level of risk based on the model, the Plan Team recommended the Council should consider the following issues:
  1. The new stock assessment will be finalized by the end of 2008 and the draft risk model has been shown to be sensitive to the initial 2004 stock biomass.
  2. The 2008/08 Total Allowable Catch will likely be lower than the 178,000 pounds used for 2007/2008 TAC.
  3. A stepped reduction over a 3-year period might be appropriate to maintain community support for management initiatives and projected closure of the NWHI in 2011.
  4. The model has not been shown to be sensitive to current TAC levels.
  5. The 2008/2009 TAC could be calculated by taking the 2007/2008 TAC of 178,000 pounds and reducing it by the overage (~13K).

*Regarding the development of the coral reef ecosystem annual report module for Hawaii, the Hawaii Archipelago Plan Team:*

- a. Recommended that the species to be included in the module be grouped into the following categories:

1. Akule	15. Squirrelfish
2. Opelu	16. Wrasse
3. Goatfish a. All goatfish species combined b. Top two goatfish species	17. Other CRE-Finfish
4. Roi	
5. Hapu‘upu‘u	18. Reef Sharks (coastal species of carcharhinus, triaenodon, & tiger shark)
6. Jacks a. All jack species combined (including BMUS jacks) b. Top two jack species	19. Spiny Lobsters (including CMUS)
7. Moi	20. All Other Crustaceans (slipper lobster, crabs, mantis shrimp etc.)
8. Mullet	21. Opihi
9. Parrotfish	22. Octopus
10. Oio	23. Squid
11. Rudderfish	24 Sea Urchins a. All sea urchin species combined b. Top two sea urchin species reported
12. Shallow-water Snappers (including toau, taape, and uku)	25. All Other Invertebrates (sea cucumbers, snails etc.)
13. Deepwater Snappers (All Etelis spp., Pristipomoides spp etc.)	26. Algae a. All algae species combined b. Top two algae species
14. Surgeonfish a. All surgeonfish species combined b. Top two surgeonfish species	

- b. Recommended that the coral reef ecosystem module include a table listing the species groups and that a separate index be included which lists each individual species in the Hawaii Commercial Marine Landings Database that comprise each species group.
- c. Recommended that the initial and future coral reef ecosystem modules include a table listing the total annual landings of each species group based on the entire available Hawaii Commercial Marine Landings time series (1948-2007).

For species groups with (A) and (B) categories, the table will report only the value for category (A) – All species combined. Category B will only be used assist in the development of select time series graphs (See below).

- d. Recommended that this initial module also include individual graphs illustrating the total annual landings for each of the top five species groups (excluding deepwater snappers) based on the entire available time series (1948-2007). If any

species groups with (A) and (B) categories are in the top five, separate graphs shall be produced, one for category (A) and one for category (B). For example:

Graph 1: Akule

Graph 2: Opelu

Graph 3a: Goatfish – (A) All goatfish species combined

Graph 3b: Goatfish – (B) Top two species

Graph 4a: Jacks – (A) All jack species combined

Graph 4b: Jack – (B) Top two species

Graph 5: Other CRE-Finfish

- e. Recommended that this initial module also include individual graphs illustrating total annual landings of the following species groups of interest as follows:

Graph 6: Parrotfish

Graph 7: Spiny Lobsters (including CMUS)

Graph 8: Moi

Graph 9: Opihi

Graph 10: Octopus

Graph 11: Squid

Graph 12: Sea Urchins

Graph 13: Algae – (A) All algae species combined

Graph 14: Algae – (B) Top two species

- f. Recommended that for future report modules, individual graphs be generated illustrating total annual landings of the top five species groups harvested based on the latest 3 years of data and not the entire available time series. This will ensure that the module will reflect the top species groups recently harvested, and not be skewed by those species groups which were once significant in the past but are no longer important in recent years.

In addition, the plan team recommended that individual graphs illustrating total annual landings of the species groups of interest listed above be continued for future coral reef ecosystem modules.

- g. Recommended that the initial and future coral reef ecosystem modules include a table listing the total annual landings of all coral reef species groups combined by fishing method based on the entire available time series (1948-2007).
- h. Recommended that the coral reef ecosystem module also include individual graphs illustrating total annual landings of the top five gear types used to harvest coral reef species groups. The ranking of the top five gears will be based on total landings for the most recent year (e.g. 2007).

Note: Prior to 2002, Purse Seine Net method was defined as Akule Net. Therefore, should Purse Seine Net method be in the top five gears used to harvest

coral reef species groups based on 2007 data, the time series graphs for Purse Seine Net method should also include Akule Net method for years 1948-2001 and Purse Seine Net method for years 2002 forward.

- i. Recommended that for each of the top five fishing methods, the module also graph out the top three species harvested by that method, and that all three species be included on one graph. For example:

Graph 15: Top 3 Species Group Harvested by Purse Seine Net in 2007

1. *Akule*
2. *Jacks*
3. *No other species group reported*

Graph 16: Top 3 Species Group Harvested by Inshore Handline in 2007

1. *Akule*
2. *Jacks*
3. *Squirrelfish*

Graph 17: Top 3 Species Group Harvested by Gill Nets in 2007

1. *Akule*
2. *Other CRE-Finfish*
3. *Mullet*

Graph 18: Top 3 Species Group Harvested by Hukilau Net in 2007

1. *Akule*
2. *Surgeonfish*
3. *Rudderfish*

Graph 19: Top 3 Species Group Harvested by Opelu Net in 2007

1. *Jacks*
2. *Other invertebrates*
3. *Other CRE-Finfish*

- j. Recommended that the module include CPUE for the top five gears in table form only, rounding numbers to the tenths (one decimal point). The plan team also recommends that the CPUE data table be ranked in descending order based on the most recent year CPUE.

The plan team recognizes that the Hawaii Commercial Marine Landing program was modified in 2003 to collect effort information. However, standardizing or nominalizing CPUE for gear types which harvest a variety of coral reef species groups is difficult to accurately do at this time, and may be reported using a variety of parameters (i.e. CPUE per hook hour, CPUE per net length, CPUE per Number of Gear etc.) Therefore, the plan team also recommends the module include a statement qualifying how CPUE was standardized for the each gear type above.

- k. Recommended that the coral reef module include 2007 revenue data for each species group in table form. The revenue data should report total pounds sold, price per unit and total annual revenue for each species group.
- l. Recommended the coral reef ecosystem module include a table listing the total landings of all coral reef species groups combined for 2007 by individual statistical reporting grid around the Main Hawaiian Islands, where possible.

The plan team further recommended that the coral reef ecosystem module also include a table identifying statistical reporting grids in federal waters and listing all coral reef species harvested in those grids. This list could be used to prioritize federal fisheries management actions for coral reef ecosystem resources.

- m. Recommended the coral reef ecosystem module also include a table listing total landings of deep water bottomfish species combined for 2007 by individual statistical reporting grid around the Main Hawaiian Islands, where possible.
- n. Recommended that the coral reef module also include a recreational data section. For this first report module, the plan team recommended a list of the top 20 most frequently encountered species in the recreational angler interviews.

In addition the report module should include CPUE where CPUE equals number of pieces caught divided by hours fished for any month-species; Only when three individuals of the species were observed during an angler interview and only when nine such interviews occurred during the month.

- o. Requested PIRO to use NOAA Coral Reef Conservation funding to hire technical staff to assist the local island jurisdictions to process, and validate data and produce report modules used assess the status of coral reef fisheries.



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### 7. Pelagic Fisheries

#### A.1 : Longline Management : Hawaii Swordfish Fishery Effort

Council staff presented the SSC a brief summary of the recent history of events related to Draft Amendment 18 to the PFMP for the Hawaii shallow-set swordfish fishery since its re-opening in 2004. Staff outlined the management modifications for this fishery that are included in Draft Amendment 18 and its associated including a Draft Supplemental EIS.

Briefly, these modifications include:

- Removing the current set effort limit for the fleet
- Setting a hard cap for turtle interactions at 46 for loggerheads and 19 for leatherbacks
- Discontinuing the set certificate program, and
- Rejecting time-area closures

All other existing management provisions would still apply (i.e. 100% observer coverage, circle hook use, mackerel-type bait use, *etc.*). The SSC recommendations, from its 97<sup>th</sup> meeting, were subsequently adopted by Council at its 141<sup>st</sup> meeting for inclusion in the Draft Amendment. Each alternative had attendant impact analyses presented, including the potential for turtle interactions resulting from increased activity in this fishery in the near future. If Council takes action to forward the proposed amendment to NMFS at its next meeting in June, then this will cause the initiation of the ESA consultation process with an eventual BiOp for the SSC to review at its next meeting in October 2008.

It was noted that the north Pacific swordfish stock appears to be fished at well below calculated MSY. However, the SSC may want to consider setting an Allowable Biological Catch (ABC) for this fishery in the future. **Although the SSC concurs with Council's preferred Alternatives for Amendment 18, some SSC members still have reservations about changing the existing regulations at this time.** These reservations stem from concern regarding short period of time under which the fishery has operated under the current regulations.

## **A.2 Susceptibility-Extinction Analysis (SQEA)**

Melissa Snover presented a revised model for analyses of possible impacts to turtle populations from interactions with an anticipated expansion of activity in the swordfish fishery. The SSC noted that there were factual matters that need to be corrected in the analysis. For instance, the number of nesters is 2.5 times higher in 2008 than in the two preceding years for loggerhead populations in Japan; the diffusion approximation model does not include any density dependent effects; there has been zero post-hooking mortality for loggerheads in the Hawaii swordfish longline fishery and the use of 50% quasi extinction threshold employed in the model is arbitrary. In fact, other NMFS Protected Resources evaluations use much lower thresholds, e.g. 1% for a salmon population. The model is highly sensitive to the choice of the quasi extinction threshold used to define extinction and lower thresholds would be expected to produce even lower projected impacts on turtles.

**The proposed turtle interaction caps for the Hawaii-based swordfish fleet would be 46 loggerheads and 19 leatherbacks, do not appear to have significant adverse impacts on the turtle populations. This conclusion was based on results from the Quasi-Extinction model using listing criteria for vulnerable species consistent with IUCN (i.e., 50% decline from current population size over 3 generations).**

**The SSC would like the Council to understand that the term “quasi-extinction” has nothing to do with real extinction. As an example, if a fish population was reduced by 50% from its virgin level it would by this analysis be quasi-extinct, but at the same time it would also be close to MSY.**

## **A.3 Application of SQEA to ESA Consultation**

In anticipation of the expansion in shallow-set swordfish fishery activity and possible implementation of Amendment 18 to the FMP, Lance Smith outlined the ESA guidelines to be followed and the subsequent components of the BiOp process that this Amendment will trigger. Since Council has not yet taken final action on the Draft Amendment and the DEIS, the BiOp process timeline has not started, and work on an incidental take statement or determination of “jeopardy” for loggerhead and leatherback turtles has not begun. However, SSC was informed that a BiOp would most likely be completed for presentation at the next SSC meeting in October 2008, thereby meeting a 90-day administrative time frame. It was noted that under the Endangered Species Act the definition of jeopardy has some “discretionary” aspects when arriving at a final status determination.

## **A.4 American Samoa Longline-Turtle Interaction**

Council staff presented data on tuna longline fishery-green turtle interactions for American Samoa. Keith Bigelow also presented preliminary data from ongoing research on hook depth profiles and sinking rates from American Samoan tuna longline vessels which primarily target albacore. NMFS has put forth several proposed management

measures to be considered in an amendment to the FMP to decrease turtle interactions in this fishery. NMFS/PIRO will initiate a BiOp for this fishery irrespective of whether Council takes action at its next meeting 142<sup>nd</sup> meeting. If Council does make proposals for an amendment to the Pelagics FMP, then the BiOp would be initiated and take into consideration these proposed management measures for avoiding turtle interactions.

**Therefore, the SSC recommends that Council directs Staff to develop alternatives, including those proposed by NMFS and others stemming from forthcoming meetings with longline fishermen in American Samoa in July 2008.**

### **B.1. Pelagic Fisheries Non-Longline Management (Action Item)**

The SSC notes that the offshore handline fishery is a relatively small local fishery. This fishery is currently in decline, and the harvest of juveniles by the offshore fishery appears to have no impact on the population. Tagging studies indicate that the small bigeye tuna are recruited into the high seas longline fishery, not into the local fisheries.

**While the SSC is not opposed to the Council's wish to adopt a limited entry program, the SSC reiterates its recommendations from previous meetings to establish a federal permit and reporting system to improve data collection. Doing so would improve our knowledge of the fishery, document any further need for management, and provide the basis for establishing a limited entry program.**

### **B.2. FAD Management Options (Action Item)**

In support of the SSC's long standing position that FADs should be regarded as fishing gear and should be registered and regulated, **the SSC recommends that the Council adopt Alternative 3, to classify as FADs all floating objects that have been purposefully deployed, enhanced or instrumented.**

Regarding purse seine fishing around FADs in the US EEZ, the SSC recommends adding the following to the list of alternative for consideration:

**Limit all FAD associated fishing to registered FADs only.**

**Restrict use of FAD sets by purse seiners in US EEZ waters around American Samoa, CNMI, Guam, and Hawaii.**

This alternative would provide for a broad range of management actions such as the number of sets or closing areas, in addition to prohibition.

**The SSC also recommends a minor rewording of Alternative 4, specifically the deletion of the word "segments".**

### **C. American Samoa and Hawaii Quarterly Reports**



Dave Hamm presented the American Samoa Longline Fishery Quarterly report. The SSC noted that first quarter landings from American Samoa had the same number of vessels as last year, although sets were down 18% from the 1st quarter of 2007 and the number of hooks set were down by 13%. Catches were down 36% with albacore down 22%, Bigeye 43% and yellowfin 51%. The catch rate per 1000 hooks was down 5 fish from 2007.

The SSC also noted that three American Samoa Long Line vessels were fishing in the 'donut hole' east of the Cook Islands. Whether those vessels were flagged under the US or the Cooks was discussed. There may be double counting as it was noted that the Cooks require documentation of landings in their waters, and that the US requires such information from US flagged vessels. Council staff noted that US vessels that re-flagged in the Cooks would lose the ability to fish back in the US EEZ around American Samoa.

Dave Hamm then provided a synopsis of the Hawaii-based longline fishery and reported that the highest number of vessels in the fishery was recorded in 2007 at 129. A record of 19000 sets were made in 2007, up from 3500 in 2006. A record of over 6 million hooks were set outside of the US EEZ I 2007.

The catch of tuna was over 159,000 fish, up 47,000 from 2006, with 56% bigeye caught outside of the EEZ. The catches of swordfish was up 8,000 fish from the previous year. Mahi, which has noted to be decreasing in catches from American Samoa, set a fishery record at over 83,000 fish, up from 34,000 in 2006.

Dave Hamm provided a GIS-based graphic of fishing density, noting that effort density was observed over seamounts. The method of estimating fishing density through the GIS interface was discussed.

The 1st quarter 2008 data for the Hawaii longline fishery recorded 127 vessels, a fishery record. Over 52% of the hooks were set outside the EEZ, and bigeye landings in the first quarter were a record of over 45,000 landed. CPUE slightly down by about one fish in the 1st quarter of 2007 compared to 2006, and 11,000 swordfish were landed, 2,700 less.

#### **D. PIFSC Research and Global Change**

Not presented (deleted from agenda)

#### **E. Cross Seamount Research**

Reka Domokos provided a presentation of her research at Cross Seamount. Acoustic backscatter data have been collected over a multi-year period, with the primary goal the identification of bigeye and yellowfin on the seamount in order to estimate biomass, as well as a better understanding of the oceanographic conditions at the seamount and the food base used by the tunas. Current information indicated that the upper 100-150m is comprised of 2/3 bigeye and 1/3 YT sub-adults, with 10% other pelagic. From 150 to 330m ¾ of the fish were bigeye tuna, 15% sub-adult yellowfin, and pomfret. Below

350m there were a few larger bigeye tuna although most of the fish were pomfret. To corroborate acoustic data, handline fishing was conducted. Stomach samples were taken from these fish to ascertain the relationship between bigeye tuna and their forage base. Similar data were also collected at control sites away from the seamount.

Results to date indicate that micronekton swim against currents as migration occurs upward at night and downward as daylight approaches. Tuna have been observed aggregated in the micronekton layer. Dense aggregations of bottomfish have been observed over the plateau at night and at flanks during day (700m) Future investigations will focus on estimating biomass using methods developed for biomass estimation on FADs, determine the margin of error in the identification of bigeye targets, and to determine the species composition of micronekton. Discussion ensued regarding past and current research at Cross Seamount, and the possibility of incorporating past studies and collaboration with other research efforts.

**The SSC congratulates Dr Domokos and her colleagues for this study and looks forward to future presentations as progress is made in this work.**

## **F. International Fisheries/Meetings**

### **1. Tuna Round Table**

Council contractor Eric Gilman summarized the meeting which brought together key industry interests for discussions on how to employ market-driven incentives to contribute to sustainable tuna fisheries.

### **2. NP RFMO Science Committee**

Bob Humphries of the NMFS PIFSC summarized the fourth inter-governmental meeting on the management of high seas bottom fisheries in the North Western Pacific Ocean, which was held in May of this year.

### **3. IATTC**

Rick Deriso summarized the itinerary planned for the upcoming IATTC Annual Meeting. This will be the fourth time the commission will meet to reach agreement on tuna conservation measures for 2008 and beyond.

### **4. Ogasawara Islands**

SSC member Milani Chaloupka summarized a presentation he made at a meeting held there last month. Items of interest to the SSC were a new highly successful daytime deep fishery for swordfish using non-longline gear, and a sustainable harvest of green sea turtles which has been conducted for centuries in these islands. The SSC also noted that green sea turtles globally were generally in good shape as indicated in a paper co-authored by Chaloupka in the journal *Global Ecology and Biogeography*.

## **G. Hawaii Archipelago Advisory Panel Report**

The Hawaii Archipelago Advisory Panel Report was given under the Insular Fisheries section of the agenda.

## **H. Pacific Pelagic Plan Team Report**

Keith Bigelow of NMFS PIFSC and PPT Chair summarized recommended action items made by the team at their meeting last month. The SSC heard the plan team report and had no objections to the recommendations made therein.

### **CNMI:**

The Pelagics Plan Team (PPT) recommends that NMFS provide funding for a longline dockside biological sampling program for the emerging CNMI longline fishery.

### **American Samoa:**

The PPT recommends that an analysis be conducted by PIFSC of the American Samoa longline fishery longline logbook and observer data with an emphasis on quantifying the accuracy of the percentage and magnitude of bycatch.

### **Guam:**

The PPT recommends that Guam DAWR investigate the potential to survey fishing activity by vessels launched from boat ramps on military property, and work with the military to monitor fishing activity from military property.

### **Hawaii:**

The PPT recommends that PIFSC analyze the Hawaii-based longline logbook data to investigate whether the 2001 regulations defining deep setting in the Hawaii longline fishery caused fishermen to change their operational behavior. Analyses should include the way deep set longline fishing was conducted, i.e. longer float and branch-lines, more hooks between floats, and whether there has been a change in seasonality when peak fishing activity occurs.

## **I. Public Comment**

Joe Detling of the FV Double D showed a DVD taken on a recent trip down to the TAO buoys to tag bigeye tunas as part of a Pacific tagging project implemented SPC. David Itano was chief scientist on the trip. According to Detling, there was evidence of IUU fishing in the vicinity of one of the TAO buoys.



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**June 10-12, 2008**

**9. Other Business**

The SSC notes that the University of Hawaii Pelagic Fisheries Research Program (PFRP) has remained for many years an important source of scientific advice for management of highly migratory species throughout the Council's jurisdiction and has an extensive record of collaboration with both the WCPFC and the IATTC. The PFRP suffered a 20% budget cut in FY2007, a further 50% cut in 2008, and prospects for funding in FY2009 are not good. The SSC is gravely concerned by the potential loss of this important source of scientific advice.

**The SSC therefore recommends that the Council strongly endorse restoration of PFRP funding to 2006 levels.**