



## **Report to the Council from the 94<sup>th</sup> Meeting of the Scientific and Statistical Committee**

Council Office Conference Room  
1164 Bishop Street, Suite 1400  
Honolulu, HI 96813

February 20-22, 2007

### **Status of Stocks**

#### **5A. Status of U.S. Fisheries Report to Congress**

Mark Nelson from PIRO updated the SSC on changes in the Report since 2005 when quarterly reports began providing a more timely assessment of progress toward rebuilding stocks nationally. He also explained the nature of the scoring system for the FSSI, whereby 0 points are given for unknown fish stock status, a half point each if overfishing, or an overfished state is known, and a point each if overfishing or overfished is known to not be occurring and a final point if the stocks have been assessed at 0.8 or above of BMSY. This allows a potential score of up to 4 points for each stock. It was clear that the Western Pacific Region receives a relatively low overall score on our stocks because so many of them have not been formally assessed, even though there are few indications of concern about these stocks. Discussion centered on the need for formal assessments of some of the more important “unknown” stocks. It also centered around the view that the FSSI should not be used as a scorecard.

**The SSC notes the utility of the FSSI within a region, especially the assemblage of the information used to generate the index. However, the SSC cautions that the sum of the FSSI index, as a percentage of the number of stocks within each region, could be misleading for cross regional comparisons.**

#### **5B. Western Pacific Stock Assessment Review Process**

Gerard DiNardo presented a proposal for a new form of stock assessment review as mandated by the new Magnuson provisions on SSC involvement in Stock Assessment Review. While the SSC and the Council had previously supported a SEDAR-like process, funds were not made available. DiNardo suggested two options: First, sending

finished stock assessments to the CIE Center for Independent Experts for independent review and second, a new process that could be called WPSAR: Western Pacific Stock Assessment Review. The CIE process would have little or no input from Council but would have some financial support from the NMFS Office of Science and technology, and would essentially be the final word on the quality of the Stock Assessments. The WPSAR process would involve the Council in all aspects, would be conducted and funded collaboratively between the Council PIFSC and PIRO and could address local issues. PIFSC would provide a coordinator to manage all the stock assessments. Each stock assessment committee would be chaired by an SSC member with stock assessment expertise and a CIE representative would participate along with appropriate specialists.

Some SSC members expressed some concerns with the relative costs of WPSAR-like process.

**The SSC recommends that the Council develop a WPSAR-like process with the understanding that the coordinator, along with the committee members will have the option to send a stock assessment to the Center for Independent Experts for review and will along with the Council be able to set the terms of reference for that review.**



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### **Magnuson-Stevens Act Reauthorization**

#### **6. MSA Reauthorization**

Council staff provided information on the many provisions contained in the reauthorization of Magnuson-Stevens Act. The SSC noted with interest the increased responsibilities with regards to Total Allowable Catches, Limited Access Privilege Programs and Recreational Fisher Registration. There was a wide ranging discussion and diversity of opinions on these topics.



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### **Ecosystems and Habitat**

#### **7. A Update on Fishery Ecosystem Plans (FEPs) and Programmatic Environmental Impact Statement (PEIS)**

The SSC listened with interest to the presentation by Jarad Makaiiau and looks forward to the final reports with recommendations from the Northern Mariana Islands and Guam community meetings.

#### **7. B Hawaii Essential Fish Habitat Investigation**

See Insular Fisheries, Item 9.B.2 Update on Bottomfish Habitat Mapping.

#### **7. C Report on Social Science Indicators Workshop**

The SSC listened with interest to the presentation by Stewart Allen relating the draft results from the Social Science Indicators Workshop which was held December 7-8, 2006. The SSC concurred that household surveys are one key method to test social science indicators and that the draft indicators developed by the workshop participants were a useful rough cut and good basis for further discussion.

**The SSC suggested that as a next step, the Council convene its social science research committee to review the workshop report, identify key questions, indicators and data needs, and make recommendations for conducting surveys or other activities to obtain the information.**

#### **7. D Report on Ecosystem Policy Workshop**

The SSC listened with interest to the presentations by Paul Dalzell and Ed Glazier and looks forward to the final report of the Ecosystem Policy Workshop.



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### **Protected Species**

#### **8. Protected Species**

##### **A. Marine Mammal Advisory Committee**

Paul Dalzell presented a summary of the most recent meeting of the Marine Mammal Advisory Committee (MMAC). The MMAC was formed to investigate the interactions between Hawaii-based Long Line (HI LL) fishery and cetaceans, primarily the False Killer Whale (FKW), *Pseudorca crassidens*. Although the interactions between cetaceans and Hawaii longline (HLL) are rare, there have been reports of LL catch depredation by FKW. In addition, due to the status of Category I classification of the fishery due to the isolation and small estimated population size of the FKW stock around the Main Hawaiian Islands, action is needed to reduce interactions. The MMAC provided 12 recommendations from its recent February 2007 meeting. The recommendations would assess the interactions of FKW and the HI LL fishery, improve survey techniques to obtain better estimates of stock size, delineate stock structure in the Central and Western Pacific, and utilize captive behavior characteristics to study and determine the efficacy of deterrents.

**The SSC supports the twelve recommendations of the MMAC, and looks forward to reviewing results from those recommendations.**

##### **B. Monk Seal Fatty Acid Study**

Charles Littnan from the NMFS Pacific Islands Fisheries Science Center updated the SSC on the latest results and conclusions from the ongoing quantitative fatty acid study of the Hawaiian monk seal feeding and diet. The prey base has been expanded to almost 200 species.

The SSC heard with great interest that data analyses appear to indicate that an important component of the monk seal's diet comprises deep-water fish prey which was not known before, and that slipper and spiny lobster which are not as important as previously believed.

If validated, the results could have interesting management implications for both bottomfish and endangered Hawaiian monk seals. An active question and answer session followed the presentation and the SSC looks forward to the published document of this phase of the project in the very near future.

**The SSC commends the Fatty Acid research team for their work and looks forward to updates of results from continued advancement of this project.**



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### **Precious Corals and Crustacean Fisheries**

#### **9. Insular Fisheries**

##### **A. Precious Corals and Crustaceans**

##### **1. Ecological Impacts of *Carijoa riisei* on Black Coral Habitat**

Sam Kahng, University of Hawaii researcher, presented a report on *Carijoa riisei* and its impacts on black coral. The report included a brief background on *C. riisei*, a background on his research, the results from his 2001-2006 time series, and recommendations for future research. His 2006 survey suggests that there might be a decline in *C. riisei* infestation on black coral in the Auau Channel compared to previous surveys in 2001, 2003 and 2004.

Kahng also said that previously, *C. riisei* was thought to have come to Hawaii from the Caribbean. However, recent genetic work on the alien species has shown that it is native to the Indo-Pacific. When asked why it is considered alien and not indigenous, Kahng replied that it probably isn't native because *C. riisei* would have spread throughout the islands earlier and have been observed before 1966 because it occupies an underutilized niche.

**The SSC recommends that another survey be undertaken in 2008 to monitor any long term trend in *Carijoa riisei* infestation in the Auau Channel. The SSC further notes that the alien status of *C. riisei* remains unresolved.**

##### **2. NWHI Lobster Research**

Bob Moffitt, NMFS PIFSC, said that there is no new research being done on NWHI lobsters, although a couple of projects are ongoing. He said that the annual lobster charter research cruise plans are set for the fall of 2007 and that the appropriate permit applications have been turned in. He also said that the annual lobster resource survey

conducted by NMFS during the summer of 2007 may be cut due to funding and available ship time. At this time, however, the resource survey is scheduled for 30 days this summer.

The SSC asked what would they get in return if the lobster resource survey is cut out of the schedule? Sam Pooley replied that the lobster resource survey may not need to be cut out of the schedule, however, if the ship time is retained, it may be reallocated to a Hawaii ecosystem resource survey to work on Main Hawaiian Island bottomfish research. Pooley also said that it is important to find out what happened to the NWHI lobster population, but maybe they don't need to do a survey every year. He did point out that the last time they didn't have a survey, the CPUE dropped by nearly 50% and they missed out on getting information that could have explained the reduction. He said that the time series of the lobster research is still good and very useful. It was also pointed out that the lobster studies contribute to NWHI-MHI connectivity studies because it gets genetic samples for the research.

**The SSC strongly supports continuing NWHI long-term ecosystem surveys, particularly lobster research.**



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### **Bottomfish and Seamount Groundfish Fisheries**

#### **9. Insular Fisheries**

##### **B. Bottomfish and Seamount Groundfish**

###### **1. Revising NWHI Bottomfish Zones (ACTION ITEM)**

Several members expressed concern with allowing Hoomalu zone fishermen access to the Mau Zone for the next four years because of the potential to exceed the Mau Zone MSY calculated by Moffitt, Kobayashi and DiNardo, 2006. They noted that if this was to occur, it could potentially result in short term localized depletion in the Mau Zone.

Other members of the SSC felt that allowing Hoomalu zone fishermen access to the Mau Zone until June 15, 2011 would have little impact on bottomfish stocks. They emphasized the Martell *et al.* analysis which indicates that a potential short-term effort increase in the Mau Zone is not a cause for concern in regard to bottomfish stocks which is evaluated on an archipelagic basis. The SSC supported the conclusion of the Martell *et al.* analysis at the 93<sup>rd</sup> SSC meeting.

Some members stressed that bottomfish stocks are evaluated on an archipelagic wide basis and noted that the Mau Zone and Hoomalu Zones are purely a bureaucratic creation, although the scientists artificially established separate MSYs for both of these zones separately.

Brian Bowen noted that preliminary genetic studies indicate that the stock structure of onaga is archipelagic wide. However, he stated that it is unlikely that there is sufficient movement of adults or larval dispersion to rely on the NWHI as a source to replenish MHI stocks.

He added that ehu may have more genetically defined stock structure. He emphasized that this data is preliminary and not peer reviewed. and therefore believes that combining the two NWHI

bottomfish permit zones would have little impact on stocks within the 5-year fishing period allowed by the Monument. Hence the SSC does not object to Option 3, which is to combine the Mau and Ho'omalulu Bottomfish Permit Zones.

Amendment 2 to the FMP established a limited access program for the NWHI bottomfish fishery in response to concerns regarding the rapid growth of the fishery and its potential impacts on target stocks.

Initially, limited access was only implemented for the Hoomalu Zone and access to the Mau Zone remained unrestricted, except for excluding vessel owners permitted to fish in the Hoomalu Zone. Amendment 5 to the FMP later established a limited access permit program for the Mau Zone which became effective on May 28, 1999 (64 FR 22810). The Mau Zone was intended to serve as an area where fishermen can gain experience fishing in the NWHI, thereby enhancing their eligibility for subsequent entry into the Hoomalu Zone. Amendment 5 also reserved one-fifth of the target number of Mau Zone permits (two of 10 permits) for a Western Pacific Community Development Program (CDP).

Bottomfish are not separated into a Mau Zone stock or a Hoomalu Zone stock.

### **Revising NWHI bottomfish zones**

#### *Preamble*

The establishment of the NWHI Monument in 2006 placed area limits on the bottomfish fishery operating in the Mau and Ho'omalulu management zones. The SSC reviewed options to revise the (1) permit applicability and (2) geographic boundary of the NWHI bottomfish limited access program to enable access to certain areas until its scheduled termination in 2011.

#### *Action*

- **Permit applicability. The SSC believes that this is an operational issue and best left to the Council for its consideration.**
- **Geographic scope of the NWHI limited access program. The SSC supports Option 2 to redefine the geographic boundary of the NWHI bottomfish limited access program to be consistent with the outer boundary of the NWHI Monument.**

### **2. Bottomfish habitat mapping**

A report was presented to link State of Hawaii reported commercial bottomfish catch with potential bottomfish habitat and restricted fishing areas proposed by the State of Hawaii and WPFRCM. It was noted that this analysis might help to better define essential fish habitat and improve catch location reporting. The SSC commends Dr Michael Parke for his informative presentation on defining suitable bottomfish habitat using GIS and spatial analysis. The SSC also reiterated its long-held view that catch data should be recorded by latitude-longitude rather than by coarse spatial grids.

### 3. Closed area bottomfish stock dynamics

A report was presented summarising a range of bottomfish fishing mortality reduction scenarios given redistribution of displaced effort from inside RFAs in the main Hawaiian islands. The SSC commends Dr Jon Brodziak for his insightful presentation. And the SSC also notes (1) that research on the dispersal behaviour of bottomfish is needed to improve the modelling initiatives on stock status and (2) that area closures might need to be larger to be effective in reducing fishing mortality.

### 4. Main Hawaiian Islands bottomfish

#### *Preamble*

The Hawaiian Archipelago bottomfish stock complex is experiencing overfishing due to excess fishing mortality in the MHI. Recent PIFSC analyses suggest a 24% reduction in fishing mortality is required to end overfishing in the MHI. There are also new statutory provisions arising from the MSA reauthorisation including adoption of management procedures incorporating total allowable catch levels. And there is also concern about shifting fishing effort from the NWHI to the MHI due to the 2011 phase-out of this fishery in the NWHI. Seven options to achieve a 24% reduction in fishing mortality were presented to the SSC to end bottomfish overfishing in the main Hawaiian Islands.

#### *Action*

The SSC believes that a 24% reduction in fishing mortality might be insufficient to end overfishing in the MHI, especially given that recreational fishing mortality hasn't been taken into account in any previous stock assessment. So the SCC believes that a combination of measures are needed to reduce fishing mortality by more than 24%.

Hence the SSC recommends that —

- **the Council adopt Option 6, which is comprises a commercial TAC with May-August seasonal closure and recreational fishing trip limit, in addition to the current State area closures**
- **the Council should consider management reference measures or procedures than aren't based on MSY**

### 5. *Insular stock assessments*

A report was presented summarising the status of the bottomfish complex stocks in American Samoa, Guam and the CNMI. The SSC commends Dr Bob Moffitt for his insightful presentation on insular stock assessments using a Bayesian state-space modelling approach.



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### **Pelagics and International Fisheries**

#### **10. Pelagic fisheries**

##### **A. Pelagic TAC Framework (ACTION ITEM)**

Paul Dalzell outlined the requirement to implement quotas established by Tuna Regional Fishery Management Organizations (RFMOs) through the Council's fishery management plans. Currently, any new management measures require a minimum of two Council meetings. Moreover, quotas and allocation were rejected alternatives for inclusion in the framework process. This amendment, therefore will revise the framework process to include implementation of tuna catch limits or harvest guidelines stemming from Pacific tuna RFMOs via a one meeting process.

**The SSC endorses Alternative 2 to modify the framework process in the PFMP. The SSC further endorses the approach used by council staff to assess the impact of changes in quotas on catch.**

##### **B. Council International Shark Project**

Council contractor, Eric Gilman, presented the Council's project on shark catches in pelagic longline fisheries. In some pelagic longline fisheries, shark interactions pose substantial economic, ecological and social problems. Information on existing fisher knowledge and new strategies for shark avoidance may benefit fishers desiring to reduce shark interactions as well as sharks. An improved understanding of current and projected future longline industry attitudes and practices towards shark interactions provides industry and management authorities with fundamental information to better manage these problems. The project collected information from a representative sample of the diversity of pelagic longline fisheries in eight countries (Australia, Chile, Fiji, Italy, Japan, Peru, South Africa, and U.S.A.) to (i) describe the range of

attitudes by the longline industry towards shark interactions, (ii) identify methods to reduce shark depredation (the partial or complete removal of hooked fish and bait from fishing gear) and unwanted bycatch currently in practice, and (iii) identify promising new concepts for shark avoidance and obstacles that must be overcome for their implementation. Information was collected through interviews with 149 vessel captains, fishing masters, crew, vessel and company owners, fishing cooperative staff and port officials at 24 fishing seaports for 12 pelagic longline fisheries from these eight countries, reviewing available information from the literature, and analyzing observer and logbook data. The scope of fisheries ranged from small-scale domestic artisanal fisheries to modern mechanized industrial fleets of distant water fishing nations. The SSC commended the report on this project.

## **C. Longline Management**

### **1. Guam Longline Area Closure (ACTION ITEM)**

Paul Dalzell explained that until recently, longlining has not been conducted by US vessels based out of ports in the Mariana Islands (Guam and the Commonwealth of the Northern Mariana Islands). In 2006, however, the Guam Fishermen's Cooperative (GFC) began operating a longline vessel, fishing primarily within the US EEZ around Guam using a 60ft fishing vessel converted to longlining through assistance from the Council's Community Demonstration Project Program (CDPP).

However, the operations of the GFC vessel are constrained within the US EEZ around Guam due to a 50 nautical mile exclusion zone for longline and purse seine vessels around the island of Guam and its offshore banks, implemented in 1992 through Amendment 5 to the Pelagics Fishery Management Plan (PFMP). In 1992 there was no domestic Guam longline fishery but troll fishermen in Guam were concerned about unrestricted growth of longlining by US vessels from outside the territory following the expansion of the Hawaii longline fishery after 1987. In response to these concerns, the Council recommended in 1990 the implementation of the 50 nm closures around Guam and its offshore banks in September. The Council also established a control date of December 6, 1990 control date for entry into longline fishery, although this date is now redundant.

The original concerns about expansion of US longline fishing home-ported out of Guam through vessels migrating from other parts of the US now appear to be unfounded. As such the area closures developed in the early 1990s may now be an unnecessary impediment to the continued growth of 'domestic' longlining on Guam. However, troll fishermen on Guam may still wish to see some form of protection from gear conflict with longline fishing. Dalzell explained that the Guam Advisory Panel had reviewed the range of alternatives being presented to the SSC and had suggested that any reduction in the area closure should encompass the southernmost bank used regularly by trollers, known locally as White Tuna Bank. The SSC reviewed the alternatives and the possibilities of using a rectangular closed area boundary which extended south to White Tuna Banks and also north into the CNMI, since troll fishermen in the CNMI were also likely to be concerned about any growth in domestic longline fishing.

**The SSC supports continued development of longline closed area in Guam which would**

**encompass the locally designated White Tuna Banks. The SSC recommends investigating the establishment of longline closed areas of local concern to troll fishermen in Guam and CNMI.**

## **2. Hawaii swordfish effort limit modification (ACTION ITEM)**

Paul Dalzell reviewed a proposal from the Hawaii Longline Association which requested the removal of the annual effort limit (2120 sets) for the Hawaii swordfish longline fishery, while maintaining the other management measures, namely large (18/0) circle hooks and mackerel bait, and 100% observer coverage. Removal of the effort cap was expected to result in an annual fishing effort of about 3.5 million hooks. Such a level of effort would likely capture over twice as many loggerhead turtles but result in only one additional mortality.

**SSC recommends waiting for at least the completion of the third full season of the model swordfish fishery before considering changes to the current regulations. The SSC requests that council staff and PIFSC conduct an analysis of the impact of the removal of the set limit on turtle takes. The analysis can begin immediately but should ultimately incorporate the final results of the current fishing season and should be completed as soon as possible after the end of that season. The SSC would like the opportunity to examine all of the relevant documentation of market transfer effects and recommends that these studies cited by HLA be submitted for peer review or published in primary literature.**

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

Russell Ito and Dave Hamm of the National Marine Fisheries Service (NMFS) Pacific Islands Fisheries Science Center presented the 4<sup>th</sup> quarter 2006 reports from the Hawaii and American Samoa longline fisheries respectively. The number of hooks set by the Hawaii fishery leveled off from a consistent rise since 1996. Bigeye and albacore catches declined from recent years while yellowfin stayed stable. Wahoo, moonfish and monchong catches continued to show a long-term increase in the fishery.

In the American Samoa fishery, most alia catamarans were no longer fishing and many had sunk or fallen into disrepair, but improving fishing conditions for albacore may attract more participation from surviving alia. The fishery is now a large vessel fishery ranging over a wide area of the South Pacific, including high seas areas to the north and south of American Samoa, and in the Cooks Islands through bilateral access agreements. There appeared to be increasing interest in fishing for swordfish on the high seas south of Tonga, Niue and the Cook Islands.

## **E International Fisheries**

### **1. WCPFC3**

Paul Dalzell gave a brief presentation on the third plenary meeting of the Western and Central Pacific Fishery Commission meeting in Apia in December 2006. Although there were a number of important resolutions Dalzell focused primarily on the yellowfin and bigeye tuna conservation resolution, which he indicated fell well short of the measures needed to reduce overfishing on

these stocks in the Western & Central Pacific. Dalzell noted that the resolution did contain language intended to address large pelagic fisheries using gears other than purse seines and longlines in Southeast Asia. Dalzell explained that any future management measures for these fisheries, especially for handling caught tuna should be scrutinized for their impact on Hawaii's tuna handline fisheries.

**The SSC is disappointed that yet again the WCPFC chose to ignore the advice of its Science Committee and its contracted science providers regarding BET and YFT conservation. The SSC recommends that the Council representatives to the WCPFC convey the need for the Commission to heed the advice of its own scientists regarding the necessity to reduce F on BET and YFT. There will be severe adverse consequences for US fisheries if either of these stocks becomes overfished.**

## **2. Tuna Regional Fishery Management Organizations (RFMO) Meeting**

Bill Robinson, the Regional Administrator for the Pacific Islands Region, reported that The Government of Japan, with technical assistance provided by the Food and Agricultural Organization of the United Nations (FAO), organized and hosted the first Joint Meeting of Tuna RFMOs from January 22nd to 26th 2007 in Kobe, Japan. The meeting included participants from 54 Members and cooperating non-Members of 5 tuna RFMOs (IATTC: Inter-American Tropical Tuna Commission, ICCAT: International Commission for the Conservation of Atlantic Tunas, IOTC: Indian Ocean Tuna Commission, WCPFC: Western and Central Pacific Fisheries Commission, and CCSBT: Commission for the Conservation of Southern Bluefin Tuna). The meeting considered issues such as stock status, markets, conservation and management measures, harmonization of management measures, fishing capacity and collaboration between tuna RFMOs

## **3. IATTC**

Marcia Hamilton reported that the IATTC met February 5-6, 2007 in La Jolla California to review the latest scientific information and prepare for their June 2007 meeting. All members were in attendance, with the US represented by Rod McInnis. The purpose of this meeting was to review available information and brainstorm possible management measures so that they could be analyzed by IATTC staff in preparation for the June meeting. A range of potential management options prepared by the IATTC staff was reviewed by the group, as well as two specific proposals put forth by the U.S. and Mexico (see attached). As a result of the meeting it was requested that the IATTC staff provide a range of analyses on temporal and spatial aspects of juvenile and bigeye yellowfin tuna catches, proposals put forward by Mexico and the US and on total allowable catches for bigeye and yellowfin on both a single and multi-year basis

## **4. Bycatch Consortium**

Eric Gilman reported on a new Council initiative, namely the formation of the Asia and Pacific Bycatch Consortium. The Consortium is a collaboration of the commercial fishing industry; management authorities; seafood retailer industry; experts in fishing technology, marine ecology

and fisheries science working; and other interested parties to promote the efficient direction of resources to solve bycatch problems in Asia and Pacific pelagic fisheries. The Consortium is a regional-level, voluntary, industry-lead approach to solve fishery bycatch problems. The Consortium promises to share information with fishery management authorities and amongst the fishing and retail industries, and provide an efficient means to support implementation of recommendations of the International Fishers Forum series and recommendations and resolutions of Regional Fishery Management Organizations and other international organizations. The Consortium's initial objectives are to support measures addressing pelagic longline and purse seine bycatch.

#### **5. SPC/PNG NFA tuna tagging**

Dave Itano presented the SPC/PNG tagging project in the Bismark Archipelago (PNG) with PFRP support for acoustic tagging equipment. The SSC looks forward to the results of this study which are expected to aid in reducing bycatch in the purse seine fishery. **The SSC commends Dave Itano for his work on this project. The SSC noted the high (15%) tag recapture rate and its implication for fishing mortality and the apparent lack of free swimming tuna schools unassociated with FADs in the Bismark Sea, compared to previous tagging studies conducted 15 years earlier. An increasingly high tag return rate is indicative of higher exploitation rates.**