



Report to the Council from the 95th Meeting of the Scientific and Statistical Committee

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

June 12-14, 2007

NMFS PIFSC and MSRA ACL Reports

4. Report from the NMFS Pacific Fisheries Science Center

NMFS PIFSC Director presented a quarterly report on projects underway with the PSC.

The Director noted that there were significant constraints on ship time for research. The SSC expresses concern over the continuing decline in funding for ship time and maintenance which is inhibiting important research in the Western Pacific.

A key point made was that the ISC north Pacific striped marlin stock assessment has been completed and indicated that this stock is in decline. Management recommendations based on this stock assessment will be made at the next meeting of the working group in July 2007.

The SSC thanks the Director (PIFSC) for his comprehensive report and finds it of great interest and encourages continued reporting of PIFSC activities at the SSC.

5. Report on MSRA Annual Catch Limit Guidance

In order to better understand and carry out its responsibilities with respect to the ACL requirements of the reauthorized Magnuson-Stevens Act, **the SSC recommends that its Chair [or designated members] attend appropriate meetings of other Councils, SSCs and regional planning sessions.**

The SSC also recommends that a small working group of SSC members, Council staff and appropriate staff from NMFS PIFSC and PIRO, be established to further refine operational methodologies related to the ACL process.

Furthermore, the SSC encourages the establishment a meeting of the SSC Chairs, possibly in conjunction with the annual CC/EDs meeting.



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Bottomfish Fisheries

6. Insular Fisheries

A. Bottomfish and Seamount Groundfish

1. Main Hawaiian Islands Bottomfish

a. Seasonal Closures, TACs and Commercial Reporting

Council staff reviewed MHI bottomfish developments from 137th meeting of the Council. The Council took initial action to address bottomfish mortality and improve both commercial and recreational catch data and began consideration of establishing a commercial TAC with a 5-month seasonal closure.

b. Recreational Permits and Reporting & c. Federal Recreational Bag Limits

Council staff presented the SSC with several issues that have arisen with respect to recreational permitting and reporting of MHI bottomfish catch within Amendment 7. These concerns arose following community meetings by Council staff and meetings of the Permit and Reporting Workgroup. The following issues were discussed amongst the SSC members:

Issues #1:

How to implement non-commercial permits and reporting requirements for State waters?

Discussion revolved around whether non-commercial fishermen (purposely defined, as opposed to recreational fishermen, and to include subsistence and recreational) should possess federal non-commercial permits and report their catch data when fishing in State waters. It was noted that the State of Hawaii would be opposed to preemption of State authority by NMFS.

The SSC recommends that the Council encourage DLNR to implement complementary State regulations to require that anyone who catches BMUS in State waters be subject to Federal permit and reporting requirements. (Alternative 1B)

Issue #2:

Non-commercial permit and reporting requirements—who is responsible? How do we avoid split trips and double counting?

There was considerable discussion regarding who should be required to obtain permits and how/what catch data should be reported. Several SSC members raised concerns that any report of effort by fishermen should maintain the integrity of the historical trip-based time series.

The SSC recommends that all vessel owners, operators, and other boat-based anglers fishing for BMUS have permits and make (1) catch report per trip. Others on board may indicate their catches. (Alternative 2E)

Issue #3:

Which non-commercial trips should be reported?

The SSC recommends that all non-commercial trips taken by permit holders be reported in the interest of gaining complete scientific information. (Alternative 3B)

Issue #4:

How should fishing locations be reported?

The SSC considered several alternatives to the current grid system used for reporting catch location. These include expressing catch location by lat/long to the nearest minute and reporting location at certain distance intervals. A non-trivial impact of the alternatives would be an increase in burden on the fisherman, especially while recording location at sea. However, SSC members agreed that the most precise spatial resolution possible would provide the opportunity for more exploratory analysis and would still be complementary to the current grid system.

The SSC recommends that catch be expressed for each fishing location as lat/long to the nearest minute. (Alternative 4B)

Issue #5:

Should non-commercial bag limits apply in Federal waters?

It was noted that this issue may not be a scientific one, and therefore may be outside the purview of the SSC. **The SSC has no objection to implementing bag limits for non-commercial fishing in Federal waters. (Alternative 5B)**

Issue #6:

How should TAC overages/underages be addressed?

The SSC was asked to consider how best to implement TAC's on a yearly basis, especially if there should be overages/underages.

The SSC advocates calculating TAC's based on stock assessments or updates. Explicit consideration of overages/underages is not necessary because they are reflected in the future condition of the stock. (Alternative 6B)

2. Bottomfish risk assessment model

John Brodziak presented a model which could be used to calculate risk-based ACLs + AMs TACs based upon the biomass of bottomfish and the probability P^* and inquired about appropriate levels of risk for inclusion in the model. In addition, the values for several of the model parameters may be too conservative (i.e., low levels of variation) and not biologically realistic. In addition, several SSC members suggested that this model would benefit from the inclusion of recreational catch data and estimates of carrying capacity (K). The modelers on the SSC made a number of suggestions for improving the model's ability to assess the risk of overfishing, but expressed a concern that the SSC should not be responsible for establishing levels of risk.

3. Analysis of HDAR opakapaka tagging data

Don Kobayashi presented a preliminary analysis of growth rates of tagged opakapaka from 1985-1990 and compared the resulting curves to published growth rate estimates. Kobayashi found a high rate of recapture and an average movement of approximately 8 nm per fish. The growth curve best approximated the curve published by Ralston and Miyamoto (1983). In light of these results, SSC members recommended that the data should be provided to Steve Martell to conduct a stock assessment of this species. Furthermore, the movements of this species with respect to age class should be examined. Lastly, the recapture data around Penguin Bank suggests that this area may be acting as a population sink for opakapaka.

4. Updated analysis of HDAR Survey of BF Registered Vessel Owners

Craig Severance presented reanalyzed expansion of the 2005-2006 State/Council Bottomfish survey done by two of his graduate students. Using mail out questionnaires and a sampling frame of state-registered owners, this survey examined differences between commercial and recreational bottomfishing annual catch rates in the MHI, factors predicting total bottomfish catch per species, and the range of total catch.

The authors found that there are substantial differences between commercial and recreational fishermen with respect to species caught, catch rates, daily and seasonal effort and gear types. Furthermore, cultural needs were found to be much more important to recreational fishers. Some concerns regarding the study centered on the quality of the data, since fishermen were asked to recall catch data for the entire year.

Dr. Severance suggested that the catch extrapolations from the targeted survey using a single sampling frame were likely to be more accurate than estimates from the HMRFS survey.

The SSC commended Dr. Severance's students for the study.

5. Bottomfish Education and Outreach

Council staff reported on the educational and outreach groups that were formed after the 137th council meeting, especially in light of the seasonal closure of the MHI fishery. As an example, the NWHI Hui handout that was passed out, informing businesses that the purchase of fish caught from the NWHI is still okay. There was also a video that was

developed to help people to identify the Deep 7 bottomfish species according to physical characteristics.

6. Advisory panel recommendations

A summary of the recommendations from the Hawaiian Islands Advisory Panel were presented regarding bottomfish species. There were no recommendations made from the American Samoa Advisory Panel.

The SSC agreed with the FEP AP recommendations, i.e., that effective documentation be produced on the science for bottomfish management and the basis for all management proposals, including area closures.



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Precious Corals Fisheries

6. Insular Fisheries

B. Precious Corals

1. Potential for Auau Limited Entry Program (ACTION ITEM)

Council staff presented options for limiting entry into the Auau Channel black coral fishery. The SSC heard a background of the issue and the following four alternatives:

- No Action
- Limit participation to the current fishery participants via transferable permits
- Limit participation to a target number of participants via transferable permits
- Limit participation to the current fishery participants via non-transferable permits

The SSC discussed the necessity of a limited entry program for such a small fishery and noted that the issue involves economics rather than resource protection. The resource is already protected through existing and pending management regulations. The SSC did not find any compelling scientific reason to move toward limited entry given the small number of current participants and lack of evidence of demand for entry into the fishery.

The SSC recommends that the Council adopt Alternative 1 (no action), until specific biological or economic problems with existing management are identified.

2. Plan Team Recommendations

Council staff presented the Precious Corals Plan Team report to the SSC.



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Pelagic Fisheries

7. Pelagic and International Fisheries

A. Longline Management

1. Longline Tuna TAC Framework (ACTION ITEM)

Council staff presented the draft amendment that would enable implementation of US quota allocations by IATTC and the WCPFC.

The SSC recommended that the draft be further developed to provide additional flexibility in the event that fishery management controls other than catch quotas are developed by these Commissions. The SSC also noted that further internal consultations by the Pacific Councils and NOAA Fisheries are required to develop equitable internal allocations of any US national quotas (or equivalent) adopted by the Commissions.

2. Guam Longline Area Closure (ACTION ITEM)

Council staff presented a range of options regarding the current 50 mile closed area around Guam. The options ranged from no action to complete removal of the closure.

The SSC recommended that a trial longline operation focused on training and assessment of commercial feasibility should be pursued under the auspices of the Community Development Program. This CDP should (i) operate outside a closed area of 25 miles around the island of Guam, with an additional southern extension to provide a 5 mile closed area around all southern offshore banks; (ii) implement established turtle mitigation measures for deep-setting longlines; (iii) carefully monitor and document any conflicts with the troll and charter boat sectors; and (iv) be subject to a sunset clause.

3. HLA shallow set proposal

The SSC heard presentations of (i) the HLA proposal to abolish the set limits and revise the turtle take limits in the shallow-set swordfish fishery; (ii) an updated turtle take

analysis; (iii) a review and initial response to the proposal by PIFSC. HLA also presented as a secondary consideration, a preliminary analysis of the putative transfer effects of the current management measures for this fishery.

The SSC recommended that Council staff proceed with NEPA analyses of various options associated with the HLA proposal for future presentation to SSC and Council.

4. Statistical analysis of albacore catch in American Samoa and fishery management implications

The SSC heard and noted with appreciation an analysis of factors affecting albacore catch in the American Samoa longline fishery. The main outcomes of the analysis were the identification of a possible cyclical pattern in CPUE, a linear relationship between hooks set and catch, and the lack of any significant relationships between oceanographic variables and CPUE.

B. Status of Amendment 14

Bill Robinson summarized the status of Amendment 14, noting that the sections on recommendations to reduce international overfishing of BET and YFT were approved. Sections of the amendment on a protocol for dealing with tuna RFMO recommendations were disapproved due to language in the reauthorized MSA (MSRA) that dealt with this issue. Also disapproved were measures for federal permitting and reporting commercial non-longline pelagic fishing (NLPF) vessels in Hawaii, as NOAA Fisheries felt that this was redundant due to the State of Hawaii permit and reporting requirements, which Robinson stated were the subject of a collaborative improvement effort between NMFS PIRO and HDAR.

The SSC was disappointed that Amendment 14 was not passed in its entirety. The reporting aspects for commercial non-longline pelagic fisheries in Hawaii are currently inadequate to satisfy the MSRA ACL and AM requirements. The SSC notes that adequate reporting of catch data will be required well in advance of the 2010/2011 statutory deadline for the implementation of ACLs and AMs.

1. Pelagic Vessels Non-longline Limited Entry

Council staff reviewed potential management measures for NLPF vessels throughout the Western Pacific. He explained the principal reason for doing this was the MSRA which requires that Council establish annual catch limits (ACLs) and accountability measures (AMs) for overfished stocks by 2010 and for all stocks by 2011. Dalzell examined the pros and cons of three issues, namely:

- Whether the Council wants to implement federal permit and reporting requirements for commercial and recreational NLPF vessels in the WPR
- Whether the Council wants to implement limited entry programs for commercial and recreational NLPF vessels in the WPR

- Assuming that the Council wants to implement permit and reporting requirements and limited entry programs, should this be conducted incrementally through a phased in approach, or introduced simultaneously throughout the region.

The SSC heard the presentation with interest and noted its previous commitment to the principle that catches from EEZ waters by NLPF should be adequately reported.

The SSC supports in the affirmative that question concerning the implementation of management programs for NLPF fisheries in the Western Pacific Region. The SSC also supports the development of an options paper that explores reasonable measures to meet ACL requirements. Lastly, the SSC also supports investigation of whether any management programs for NLPF fisheries should begin concurrently or be phased in, beginning with the largest and most diverse pelagic fisheries.

C. American Samoa and Hawaii Longline Quarterly Reports

(4th Quarter & Annual Summaries)

Russell Ito presented the first quarter reports for both the Hawaii and American Samoa longline fisheries. The SSC noted the record levels of catch and fishing effort being set in both fisheries.

D. International Fisheries

1. ISC Bycatch Working Group

Participation in the ISC Bycatch Working Group meeting (May 2-5, 2007) was low and work on accurate reporting of bycatch has proceeded with glacial celerity. Boggs noted that there was more turtle bycatch data from bycatch reduction experiments than from observer program. There was little agreement on fisheries from which bycatch data should be collected. Bycatch population dynamics appeared to be a more acceptable topic than collection of data on at sea catches of bycatch.

John Sibert noted that the PFRP convened a Protected Species Modeling Workshop in November 2001 and the report was available at http://imina.soest.hawaii.edu/PFRP/pdf/psmw_final_report.pdf.

As a result of this workshop, the PFRP funded development of several population assessment and projection models for albatrosses. The PFRP is hosting a follow-up workshop on albatross modeling November 7-9, 2007, immediately prior to the 2007 PFRP PI meeting. Details can be obtained by contacting the PFRP.

The SSC concurs with this recommendation.

2. IATTC Stock Assessment Working Group

IATTC represents stock conditions in the EPO using 4 quadriand phase diagrams of fishing mortality and biomass. Both yellowfin (YFT) and bigeye (BET) are in the "red zone", i.e. overfishing is occurring and the biomass of the stocks is below that capable of producing MSY. For yellowfin, recruitment may be dropping to "normal" levels. Proposed conservation alternatives include a 74 day total closure , a 200,000t TAC, or a

closure of coastal areas of high juvenile catches. A 40% reduction in total fishing mortality is required to return bigeye stocks to levels capable of producing MSY. Conservation alternatives include a 100 day total closure, a 40,000t bigeye TAC on the purse seine fleet, or individual vessel limits. The most like outcome of 2007 IATTC meeting will be to carry over 2006 and 2005 conservation measures for yellowfin and bigeye in the EPO

3. WCPFC- SC3 Agenda & Risk Assessment Workshop

Council staff noted that the agendas for the next Science Committee meeting and a risk assessment workshop that would be conducted a week before SC were in the briefing book. John Hampton was asked to reprise a recent presentation on WCPO stocks which he gave to the recent Forum Fisheries Commission, as a useful counterpoint to the presentation by Deriso on EPO stocks. Overfishing is occurring for yellowfin and bigeye, but the biomass of these stocks are not yet below levels capable of producing MSY. No overfishing was evident for skipjack or South Pacific albacore. An 85% depletion of BET adult stocks was evident from the data. Substantial catches of yellowfin and bigeye over the entire size spectrum for both adults and juveniles. Fishing mortality reductions of 25% for bigeye and 10% for yellowfin below 2001-2004 levels are required to stop overfishing. There is also a need to reduce fishing mortality on juveniles in FAD PS fishery.

The SSC notes the similar conditions of yellowfin and bigeye stocks in both the EPO and WCPO, and notes with concern the failure of either commission to implement effective controls on bigeye catches in these fisheries.

4. SPC/PNG Tuna Tagging

The SSC heard the results of recent field work in Papua New Guinea where over 62,000 tunas (skipjack, yellowfin and bigeye) were tagged with combinations of conventional, archival and sonic tags. The SSC notes that the information from such tagging studies is critical for stock assessment and for understanding the effects of FADs on the population dynamics of tunas.

The SSC strongly supports extension of this tagging work and encourages the WCPFC and IATTC to develop coordinated basin-scale tagging projects throughout the Pacific.

5. SEAFDEC-FAO Report

Milani Chaloupka presented a summary of a recent SEAFDEC-FAO workshop conducted in Bangkok using a Bayesian belief network modeling to evaluate risks to sea turtles in Southeast Asia from anthropogenic and natural sources. The SSC received this presentation with interest and looked forward to hearing future presentations on this topic.

E. Plan Team Recommendations

In the absence of Pelagic Plan Team Chair, Keith Bigelow, Paul Dalzell presented the PPT recommendations. The SSC comments are noted after each recommendation.

CNMI

1. The Pelagic Plan Team (PPT) endorses the NMI recommendation to implement a longline exclusion zone around the islands and banks of the Northern Mariana Islands to avoid gear conflicts between longline vessels and the local artisanal fishing community.

The SSC concurs with this recommendation.

Guam

2. The PPT recommends that the Council draft a letter to the Government of Guam to bring to their attention the problems that the Division of Aquatic and Wildlife Resources (DAWR) are experiencing from the procurement process in deploying fish aggregating devices (FADs) around Guam. The delays in receiving permission to utilize available funds results in increasing tensions with local fishermen on Guam who want FADs deployed, and a loss of federal funds which are not spent in a timely manner. The PPT also recommends that the letter include reference to the problems of sampling at Ylig boat ramp, due to the lack of suitable infrastructure to ensure the safety of DAWR personnel at this location.

The SSC has no comment on this recommendation

American Samoa

3. The PPT reiterates its previous recommendation that the American Samoa DMWR and NMFS PIFSC explore the potential for a fisheries scientist to be stationed in American Samoa due to the importance of the local longline fishery which catches between 8-15 million lbs annually, and is the second largest US domestic fishery in the Western and Central Pacific.

The SSC supports this recommendation and suggests that this scientist be involved in the monitoring of the second largest US Western Pacific domestic fishery, the albacore fishery; continuing research on other resources such as swordfish and bigeye; supporting DMWR in its research activities.

Hawaii

4. The PPT recommends that the Hawaii longline observer database be analyzed to investigate whether individual longline vessels have high interaction rates with sea turtles. The Plan Team recognizes that there may be confidentiality issues associated with such an analysis. Results should be considered for additional management measures in the Hawaii longline fishery.

The SSC has no objection to this recommendation.

5. The PPT recommends that the PIFSC EOD investigate longitudinal effects on sea turtle interactions in the Hawaii longline swordfish fishery in the development of remote

sensing product advisories for the Hawaii-based longline fishery. Products should also reflect the multi-lingual nature of the fishery and be translated accordingly.

The SSC supports this recommendation.

6. The PPT reiterated its concerns about Amendment 14 and the implications for federal permitting and reporting from Hawaii's non-longline commercial pelagic fisheries. In its previous recommendation the PT questioned the perceived need and implementation problems associated with federal permitting of the offshore mixed line fishery and recommended that the following aspects should reconsider:

- Strengthening the existing mechanisms for the State of Hawaii reporting of catch and effort from this fishery, including the accuracy of bigeye and yellowfin species reporting, data collection/verification and enforcement issues.
- The administrative burden of federally permitting the non-longline commercial pelagic fisheries in Hawaii.

Since the part of Amendment 14 pertaining to this recommendation was disapproved, the SSC has no comment.

7. The PPT recommends the creation of a special advisory committee formed by longline industry, science center, region, council and conservation groups to review the alternatives for modifying the current regulations for the Hawaii longline swordfish fishery. The Committee should review the following issues:

- Is there any evidence that the longline industry has done anything beyond the current regulations to reduce turtle takes?
- What is the nature and reversibility of transferred effects from closures and constraints of the Hawaii swordfish fishery?
- How would fishing effort and turtle takes change with the removal of the set limit?
- What would be the impact on economics and equitability of removing set certificates but keeping the current set limit?
- What would be the effect on the temporal distribution of swordfish fishing effort and turtle takes of changing the start and stop date of the swordfish calendar fishing year?
- How might other means of changing the temporal and spatial distribution of swordfish fishing effort affect turtle takes? For example, closing the fishery north of some latitude as the hard cap is approached?
- How do changes in the physical oceanography of the fishing grounds effect interaction rates and how might they be mitigated? For example, should management be adjusted annually depending on the strength of the sub-tropical convergence zone?

- What level of Hawaii longline fishing mortality would appreciably increase the risk of sea turtle population extinctions?

The SSC notes that all the items listed in this recommendation would be part of the EIS recommended earlier by the SSC.

8. The PPT notes the comments made on the status of domestic troll and handline fisheries targeting yellowfin tuna in Hawaii and the potential for taking actions to improve yield per recruit to restore these fisheries. Improvement in overall yield per recruit as well as improvement in yield of large, more valuable yellowfin might be achieved by reducing fishing mortality on small juvenile yellowfin and yellowfin in spawning condition in the Main Hawaiian Islands. As a first step to that end, a sound scientific basis for such action needs to be established. To do so, the PPT recommends the following:

- A model be developed incorporating size-dependent natural and fishing mortality, immigration, exchange rates, residence times, reproductive biology, and yield per recruit analysis of yellowfin recruited to Hawaii.
- Re-analyse HDAR data and other sources for CPUE by size and compare with the time series of size structure from the regional (western and central Pacific) assessment.
- Evaluate temporal and spawning area closures as a means to achieve reductions in fishing mortality of small yellowfin and yellowfin in spawning condition.
- Evaluate the effects of FAD fishing in Hawaii on yield per recruit of yellowfin.
- Evaluate the magnitude and relative benefits of recreational yellowfin catch versus commercial catch, and analysis of HMRFS yellowfin size trends.

The SSC suggests that the Plan Team elaborate on analyses that need further work beyond the published results of the Hawaii Tuna Tagging Project.

Region-wide

9. The PPT recommends that a compliance guide be developed by PIRO for general longline permit holders in the Western Pacific.

The SSC supports this recommendation.

10. The PPT recommends that the PIFSC and PIRO conduct a review of the methods employed by the Pacific Council's Highly Migratory Species Management Team for effort standardization of US vessels targeting north Pacific albacore.

The SSC supports this recommendation.

F. Advisory Panel Recommendations

Paul Dalzell presented the American Samoa and Hawaii Advisory Panel recommendations relating to pelagic fisheries.

A. American Samoa

Regarding Pelagic Fisheries, the American Samoa FEP and Pacific Pelagic FEP Advisory Panel:

1. Recommends the Council rescind the “use or lose” provision for Class A permits only in the American Samoa longline limited entry program. This is in consideration of the fact that the alia longline fleet is experiencing economic difficulty due to low albacore tuna catch rates.
2. Recommends DMWR investigate the potential illegal activity by non-domestic longline vessels offloading fish in America Samoa not destined for the canneries.

B. Hawaii

Regarding Pelagic Fisheries, the Hawaii Archipelago FEP and Pacific Pelagic FEP Advisory Panel:

1. Recommends the Council consider modifications to the turtle hard turtle cap for the swordfish longline fishery, noting the recommendations made by the SSC and Pelagics Plan Team.
2. Recommends that some entity look at mechanisms to minimize juvenile bigeye and yellowfin takes in purse seine fisheries.

The SSC had no comments on the AP recommendations from American Samoa and recommendation number 1 from Hawaii.

With respect to the second Hawaii AP recommendation, the SSC recommends that the Fishing Technology Specialist Working Group of the WCPFC Science Committee continue to make this issue a high priority, and notes the research currently being conducted in both the Indian and Pacific Oceans.



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Council staff noted that the agendas for the next Science Committee meeting and a risk assessment workshop that would be conducted a week before SC were in the briefing book. John Hampton was asked to reprise a recent presentation on WCPO stocks which he gave to the recent Forum Fisheries Commission, as a useful counterpoint to the presentation by Deriso on EPO stocks. Overfishing is occurring for yellowfin and bigeye, but the biomass of these stocks are not yet below levels capable of producing MSY. No overfishing was evident for skipjack or South Pacific albacore. An 85% depletion of BET adult stocks was evident from the data. Substantial catches of yellowfin and bigeye over the entire size spectrum for both adults and juveniles. Fishing mortality reductions of 25% for bigeye and 10% for yellowfin below 2001-2004 levels are required to stop overfishing. There is also a need to reduce fishing mortality on juveniles in FAD PS fishery.

The SSC notes the similar conditions of yellowfin and bigeye stocks in both the EPO and WCPO, and notes with concern the failure of either commission to implement effective controls on bigeye catches in these fisheries.

4. SPC/PNG Tuna Tagging

The SSC heard the results of recent field work in Papua New Guinea where over 62,000 tunas (skipjack, yellowfin and bigeye) were tagged with combinations of conventional, archival and sonic tags. The SSC notes that the information from such tagging studies is critical for stock assessment and for understanding the effects of FADs on the population dynamics of tunas.

The SSC strongly supports extension of this tagging work and encourages the WCPFC and IATTC to develop coordinated basin-scale tagging projects throughout the Pacific.

5. SEAFDEC-FAO Report

Milani Chaloupka presented a summary of a recent SEAFDEC-FAO workshop conducted in Bangkok using a Bayesian belief network modeling to evaluate risks to sea turtles in Southeast Asia from anthropogenic and natural sources. The SSC received this presentation with interest and looked forward to hearing future presentations on this topic.

E. Plan Team Recommendations

In the absence of Pelagic Plan Team Chair, Keith Bigelow, Paul Dalzell presented the PPT recommendations. The SSC comments are noted after each recommendation.

CNMI

1. The Pelagic Plan Team (PPT) endorses the NMI recommendation to implement a longline exclusion zone around the islands and banks of the Northern Mariana Islands to avoid gear conflicts between longline vessels and the local artisanal fishing community.

The SSC concurs with this recommendation.

Guam

2. The PPT recommends that the Council draft a letter to the Government of Guam to bring to their attention the problems that the Division of Aquatic and Wildlife Resources (DAWR) are experiencing from the procurement process in deploying fish aggregating devices (FADs) around Guam. The delays in receiving permission to utilize available funds results in increasing tensions with local fishermen on Guam who want FADs deployed, and a loss of federal funds which are not spent in a timely manner. The PPT also recommends that the letter include reference to the problems of sampling at Ylig boat ramp, due to the lack of suitable infrastructure to ensure the safety of DAWR personnel at this location.

The SSC has no comment on this recommendation

American Samoa

3. The PPT reiterates its previous recommendation that the American Samoa DMWR and NMFS PIFSC explore the potential for a fisheries scientist to be stationed in American Samoa due to the importance of the local longline fishery which catches between 8-15 million lbs annually, and is the second largest US domestic fishery in the Western and Central Pacific.

The SSC supports this recommendation and suggests that this scientist be involved in the monitoring of the second largest US Western Pacific domestic fishery, the albacore fishery; continuing research on other resources such as swordfish and bigeye; supporting DMWR in its research activities.

Hawaii

4. The PPT recommends that the Hawaii longline observer database be analyzed to investigate whether individual longline vessels have high interaction rates with sea turtles. The Plan Team recognizes that there may be confidentiality issues associated with such an analysis. Results should be considered for additional management measures in the Hawaii longline fishery.

The SSC has no objection to this recommendation.

5. The PPT recommends that the PIFSC EOD investigate longitudinal effects on sea turtle interactions in the Hawaii longline swordfish fishery in the development of remote sensing product advisories for the Hawaii-based longline fishery. Products should also reflect the multi-lingual nature of the fishery and be translated accordingly.

The SSC supports this recommendation.

6. The PPT reiterated its concerns about Amendment 14 and the implications for federal permitting and reporting from Hawaii's non-longline commercial pelagic fisheries. In its previous recommendation the PT questioned the perceived need and implementation problems associated with federal permitting of the offshore mixed line fishery and recommended that the following aspects should reconsider:

- Strengthening the existing mechanisms for the State of Hawaii reporting of catch and effort from this fishery, including the accuracy of bigeye and yellowfin species reporting, data collection/verification and enforcement issues.
- The administrative burden of federally permitting the non-longline commercial pelagic fisheries in Hawaii.

Since the part of Amendment 14 pertaining to this recommendation was disapproved, the SSC has no comment.

7. The PPT recommends the creation of a special advisory committee formed by longline industry, science center, region, council and conservation groups to review the alternatives for modifying the current regulations for the Hawaii longline swordfish fishery. The Committee should review the following issues:

- Is there any evidence that the longline industry has done anything beyond the current regulations to reduce turtle takes?
- What is the nature and reversibility of transferred effects from closures and constraints of the Hawaii swordfish fishery?
- How would fishing effort and turtle takes change with the removal of the set limit?
- What would be the impact on economics and equitability of removing set certificates but keeping the current set limit?
- What would be the effect on the temporal distribution of swordfish fishing effort and turtle takes of changing the start and stop date of the swordfish calendar fishing year?
- How might other means of changing the temporal and spatial distribution of swordfish fishing effort affect turtle takes? For example, closing the fishery north of some latitude as the hard cap is approached?
- How do changes in the physical oceanography of the fishing grounds effect interaction rates and how might they be mitigated? For example, should management be adjusted annually depending on the strength of the sub-tropical convergence zone?
- What level of Hawaii longline fishing mortality would appreciably increase the risk of sea turtle population extinctions?

The SSC notes that all the items listed in this recommendation would be part of the EIS recommended earlier by the SSC.

8. The PPT notes the comments made on the status of domestic troll and handline fisheries targeting yellowfin tuna in Hawaii and the potential for taking actions to improve yield per recruit to restore these fisheries. Improvement in overall yield per recruit as well as improvement in yield of large, more valuable yellowfin might be achieved by reducing fishing mortality on small juvenile yellowfin and yellowfin in spawning condition in the Main Hawaiian Islands. As a first step to that end, a sound scientific basis for such action needs to be established. To do so, the PPT recommends the following:

- A model be developed incorporating size-dependent natural and fishing mortality, immigration, exchange rates, residence times, reproductive biology, and yield per recruit analysis of yellowfin recruited to Hawaii.
- Re-analyse HDAR data and other sources for CPUE by size and compare with the time series of size structure from the regional (western and central Pacific) assessment.
- Evaluate temporal and spawning area closures as a means to achieve reductions in fishing mortality of small yellowfin and yellowfin in spawning condition.
- Evaluate the effects of FAD fishing in Hawaii on yield per recruit of yellowfin.
- Evaluate the magnitude and relative benefits of recreational yellowfin catch versus commercial catch, and analysis of HMRFS yellowfin size trends.

The SSC suggests that the Plan Team elaborate on analyses that need further work beyond the published results of the Hawaii Tuna Tagging Project.

Region-wide

9. The PPT recommends that a compliance guide be developed by PIRO for general longline permit holders in the Western Pacific.

The SSC supports this recommendation.

10. The PPT recommends that the PIFSC and PIRO conduct a review of the methods employed by the Pacific Council's Highly Migratory Species Management Team for effort standardization of US vessels targeting north Pacific albacore.

The SSC supports this recommendation.

F. Advisory Panel Recommendations

Paul Dalzell presented the American Samoa and Hawaii Advisory Panel recommendations relating to pelagic fisheries.

A. American Samoa

Regarding Pelagic Fisheries, the American Samoa FEP and Pacific Pelagic FEP Advisory Panel:

3. Recommends the Council rescind the “use or lose” provision for Class A permits only in the American Samoa longline limited entry program. This is in consideration of the fact that the alia longline fleet is experiencing economic difficulty due to low albacore tuna catch rates.
4. Recommends DMWR investigate the potential illegal activity by non-domestic longline vessels offloading fish in America Samoa not destined for the canneries.

B. Hawaii

Regarding Pelagic Fisheries, the Hawaii Archipelago FEP and Pacific Pelagic FEP Advisory Panel:

3. Recommends the Council consider modifications to the turtle hard turtle cap for the swordfish longline fishery, noting the recommendations made by the SSC and Pelagics Plan Team.
4. Recommends that some entity look at mechanisms to minimize juvenile bigeye and yellowfin takes in purse seine fisheries.

The SSC had no comments on the AP recommendations from American Samoa and recommendation number 1 from Hawaii.

With respect to the second Hawaii AP recommendation, the SSC recommends that the Fishing Technology Specialist Working Group of the WCPFC Science Committee continue to make this issue a high priority, and notes the research currently being conducted in both the Indian and Pacific Oceans.