



Archipelagic Fishery Ecosystem Plan Team Meeting

April 30 – May 1, 2018

8:30 a.m. – 5:00 p.m.

Council Office Conference Room

Honolulu, Hawaii

DRAFT REPORT

1. Welcome and introductions

The meeting started at 8:30 am. Stefanie Dukes chaired the meeting. The following members are present: Sarah Pautzke, Melanie Brown, Annie Yau, Joe O’Malley, Minling Pan, Kimberly Lowe, Kirsten Leong, Hal Koike, Ivor Williams, Reginald Kokubun, Yvonne Mika, Brent Tibbatts, Frank Manibusan, Keena Leong-Guerrero, Mike Tenorio, Ryan Okano, Michael Parke, and Sam Kahng. The public includes Michael Quach and Brett Schumacher.

2. Approval of draft agenda, 2017 report, and assignment of rapporteurs

The agenda was adopted with no changes. There were no questions on the 2017 report. Marlowe Sabater, Council staff, and Thomas Remington, Council contractor, were assigned rapporteurs.

3. Report on previous Plan Team recommendations and Council actions

Marlowe Sabater, Council staff, reported on the status of the 2017 Plan Team’s five recommendations and how the Council took action on the recommendations. Last year, the Plan Team’s first recommendation for which the Council took action was about incorporating more information from the human dimension in the data integration chapter of the SAFE report, including socioeconomic data analyses. The Council adopted this recommendation, but discovered the subsidies programs, import/export data systems, and market forcing information are too new for use in reliable analyses. The second action was to develop a working group to finalize a species table. WPacFIN and SFD finalized that species table. The third action, regarding EFH, was to consider non-fishing impacts and develop precious coral EFH description. Becky Walker, formerly Council staff, met with several advisory groups to vet the non-fishing impacts report. The fourth action for precious corals in Hawaii, information is being reviewed for proposing the gold coral moratorium. The fifth and final action was about comparing 2016 catch to associated ACLs, along with potential rationale for overages. Essentially, the Council took action on all the Plan Team recommendations except for the non-fishing impact recommendation where the Council directed staff to further verify the non-fishing impact report to the advisory groups. There were no questions regarding this agenda item.

4. 2017 Annual Stock Assessment and Fishery Evaluation (SAFE) Report

4.A. Fishery Performance

4.A.1. Archipelagic Fisheries Modules

4.A.1.a. American Samoa

Yvonne Mika, shore-based creel survey project manager, presented since Domingo Ochavillo was not present. Information presented was solely creel in association with WPacFIN. There was a slight decrease in data invoice collection from 2016 to 2017 due to re-sale and imports. Four vendors closed, including one that burned down. A new staff rotation was implemented as well. BF landings appear to be on downward trend from 2015 to present for all collection programs. Annie Yau asked why this might be, as survey effort about the same, and what years this fuel subsidy was in effect. Yvonne mentioned financial support for alias through a subsidy program that was discontinued in 2015. Kim Lowe asked if it had to do with the number of boats in the condition to fish; Yvonne said “yes and no”, mostly subsidy by spiking up the numbers for bottomfishing. Quach said much of the fish not sold in market, but alongside road or among community; could this be a problem with commercial receipts? For those selling outside of established market, not given commercial invoice, because they don’t or need official business license. CREMUS landings are dominated by boat-based, with shore-based data on a downward trend interannually. Estimated landings by gear type showed an increase in rod and reel landings, but strangely no data in chart accounted for spearfishing. Quach stated that he would look into this omission. Two things are generally needed for an expanded data point, participation counts, and interviews. Looks like the data just didn’t populate (should have a “190” in the blank). Surgeonfish show a slight increase, crustaceans remain similar, and octopuses still dominate. There were no significant trends in shore-based CPUE, while boat-based effort show decreases from 2016 to 2017.

4.A.1.b. Guam

Brent Tibbatts, from Guam DAWR, presented on the summary of fishery performance in Guam for 2017. The shore-based fishery completed similar amount of surveys to short and long term surveys (90/96). No aerial surveys because of issue with a purchase order to obtain a contractor (because FY ends Sept. 30). H&L, SCUBA spear, and H&G has notable decrease, but SCUBA and H&G were the same in the data (error). H&L effort up quite a bit, gill net down (possibly due to unusually seasonal typhoons). Talaya gear effort notably down, but unsure as to why (potentially due to target fish catch being poor itself). H&L CPUE was lower than the 10 year average. Perhaps fewer fish, fewer people fishing? In snorkel spear, some species caught more than usual, but not as productive of a gear as previous years. Error in mollusk data from previous years noted (conflated with grouper with similar scientific name; it was *Cypraea argus* instead of *Cephalopholis argus*). Goatfish was unusual because they are stable population-wise, but had really low catch. Goatfish usually separated by age/size (juvenile vs. adult), likely data issue due to this distinction. This number doesn’t include juveniles, which may be obfuscating the trend here. Shore-based species catch fairly normal. Low bycatch in Guam (they don’t throw back, just like Samoa, culturally). Boat-based fishery also on point with number of surveys from this year compared to short and long term average. Tibbatts notes that trailer counts are made. Regarding catch, everything was pretty close to average. SCUBA spear effort was way down this year, possibly due to lack of intercepting during survey. Perhaps they are avoiding the surveys? There seems to be a community reef fishing in the past few years with SCUBA but none of the fish have spear wounds in them. They perhaps have gill nets deployed somewhere to circumvent laws

about selling gill-net-caught fish. They have a wide variety of fish as well (species within top 60 feet). Is fish poisoning a possibility? Maybe, but unlike Micronesian tendency. Gill net was not up either. Catch across species groups relatively stable. Groupers were abnormal because of what was described above. “Totals” for boat-based surveys were all relatively normal compared to ten-year averages. There were more total commercial vendors than average in 2017, leading to more commercial receipts than average (better data collection). Commercial receipt book had an increase including the Micronesian vendors. There is one price for reef fish as assorted reef fish. The total number of vendors reporting is up 11 from a 10 year average of 4.

BMUS total weight down a little bit – not a very good year for emperors for some reason, unsure as to why.

4.A.1.c. CNMI

Keena Leon-Guerrero, from CNMI DFW, presented on the summary of fishery performance in CNMI for 2017. This year, there were additions to the staff including a technician and a creel biologist. There were no protocol changes. Gill net exemption changes occurred in the second half of year, when lots of gill netting for funerals occurred. Reef fisheries were consistent with previous years, though 2016 was a little weird. Preferred fishing methods were generally the same. There was relatively the same number of sample days between 2016 and 2017, though opportunistic interview days went up for this year due to days spent targeting fishers with cast nets and/or spears. The number of collected invoices decreased while the number of vendors increased. Not a lot of invoices were collected early in the year, but this has increased with the addition of more staff. Commercial receipt book collected by staff and data sets are being merged; the TSI dataset was incorporated into the PRS, increasing the number of total invoices. Atulai principal shore species (~30%) because jacks dropped off. Drop in rudderfish by 50%. Hook and line increase and cast net and spear fish decrease. Atulai boat participants were zero? Creel is dependent heavily on participation count. No matter how many interviews you get, it will not spit out a number.

A Micronesian community has been impacting the CNMI fishery, but not to the same extent as seen in Guam. Invertebrates for restaurants seem to be main target of gleaning harvest type (not reported, but discussed), and goes to Chinese restaurants not captured in surveys. Ethnicity is attempted to be recorded, but not the easiest statistic to objectively take. There have been some surveys of this nature in the past, mostly comes down to sampling effort. CNMI has a net and SCUBA spear ban. They have a length restriction and trying to tweak it so that it does not impact the market. The PIFSC socio-economic program is going to look into that.

4.A.1.d. Hawaii

Ryan Okano presented on the summary of fishery performance in Hawaii for 2017, starting with commercial. He noted an increase in catch and effort immediately following 2008 recession, but more recent numbers are lower relative to this spike. Civil Resource Violation System (CRVS) in June 2009 improved submission compliance for reporting. The catch report, implemented in Oct. 2002, was revised to standardize species and gear codes, etc. Landings have been declining over past five years despite ACL not being reached - perhaps this attributed to poor weather and sea conditions.

Bottomfish Deep 7 catches were similar but slightly less than 2016, and generally reduced from the 10 and 20 year average but still below ACLs. Note that BF Deep 7 average size has been increasing for the opakapaka and onaga in boat-based; no real change for shore-based. Palu ahi caught a lot more opakapaka than normal (all time high in time series). 98% of deep 7 bottomfish here is caught with deep sea handline. Yau doesn't understand the Lehi catch entirely. Reggie describes Maui and BI (W. Hawaii) harvest of Lehi as bycatch sometimes; the palu ahi gear came into code around 1985 as a tuna handline method (same fishing style and tackle) as pelagic and bottomfish fishers. Spatial breakdown would be good for this.

For non-deep-7 species (i.e. white ulua and uku), catch seems to be increasing over the past three decades (generally). Deep sea handline shows steady for uku, but decline in poundage and licenses for ulua. Inshore handline shows declines in licenses and catch for both species over past few years (since about ~2011). Trolling with bait started being reported in 2003; it has been relatively steady. Trolling (misc.) had no real data since 2005. Table 14 can be removed since there is a lot of null and data confidentiality

The CREMUS fishery (commercial only, remember) had akule and halalu combined as the main species caught. Licenses, reports, trips, pounds have all been on the decline over the last 6-7 years (including akule and opelu); akule has hit all time low. Ulua (misc.) low numbers are probably due to more well-defined data reporting (i.e. higher resolution in the ulua species code). Purse sein's biggest catch is akule; some of the primary people fishing using this method have retired in the past decade, however. Lay gill net shows steady akule catch, weke catch on decline, kala catch with an order of magnitude increase from 2008-2009ish. There is an increase in the amount of gillnet restrictions in 2007, which may explain some declines seen around that time. Seine net showed increase in taape caught relative to short and longer term averages (i.e. 10 and 20 years). Spearfishing showed declines, especially for uhu, palani, and kala all over the last half decade. There were some license changes in recent years, but there were notable rebounds in different parts of the time series as well. CPUE by gear type showed declines in inshore handline and spear, but inclines in net CPUE. It is likely that the recession has had some tangible impact says Okano, but unclear as to what that impact actually is. Perhaps social media is playing a part in the change in reporting statistics.

Crustaceans showed a massive drop in 2017 – orders of magnitude – note Table 28 (determined to be an error; this table was later updated with correct data). Kona crab has been on decline over last half decade; perhaps an over-regulated fishery causing some fishers to retire. No take of females occurred in 2006 for kona crab and spiny lobsters. Parke noted that the total license in table 28 had 17 while the summary table had only 9 licenses. WPacFIN is slated to investigate with Tao.

Similarly, and orders of magnitude drop in mollusk catch was observed. Last five years saw drop in opihi catch and limu harvest accompanied by another large drop in day tako in pounds caught – orders of magnitude again. (the species code might not have existed prior). Inshore handline showed a decline as well; 2017 looks to be a bad year for crustacean and mollusks. However, CPUE for these species was seemingly greater than short term averages for the most part.

Hal Koike presented on the summary of recreational fishery performance in Hawaii for 2017. State recorded trips were slightly down, though inland number of fishing trips went up. Fishing

was consistent in federal waters. There was a lot more fishing in state waters than federal waters, however, and a lot more shore-based non-commercial fishing than boat-based. There was a peak in participation just after 2009, and then a slight decline until the increases observed at present. The surveys involved cannot record their data in pounds, so they are recording in numbers of fish caught. Species composition in 2017 showed that jacks/trevallys were highest in number followed by goatfish and surgeonfish. Okano thinks parrotfish are mostly caught by spear, and it's likely that the survey is more accustomed to catching H&L fishers than spear. There has been a change in species composition over time as well: decline in proportion of surgeonfish, fluctuations in parrotfish, jacks showing consistent catch inshore, but declines when fished from a boat. There has been more consistent catch of tuna and mackerels. Seasonal trends do not show many consistent patterns; perhaps weather more important (on the species level it may be important). This presentation was followed by a short break.

4.A.2. Discussions

Discussions took place during and directly after each individual presentation.

4.A.3. Public Comment

There were no public comments.

4.B. Ecosystem Considerations

4.B.1. Protected Species section

Asuka Ishizaki, Council staff, presented an overview of the Protected Species section of the 2017 report. There have been no substantial changes in this year's report from last year. For the purpose of this section, the focus has been on fishing operations in federal waters because that's where the ESA consultations apply. Generally, there have been no reported interactions with protected species in the archipelagic fisheries. A lot of potentially destructive gear types have been prohibited. ESA consultations ensure that critical habitat is not adversely modified and protected species are not impacted. Two new species listed: oceanic whitetip shark and giant manta rays; NMFS reviewing info for ESA consultation by next year for these species. MMPA list of fisheries categorize them based on how likely they are to impact protected species. Biological opinion for MHI bottomfishing and green turtle interactions – vessel colliding with turtles (never happened, just a hypothetical). Estimated two per year, but none reported. Monitoring effort and harvest gear characteristics (to see major changes in fishery that may impact protected species interactions): no preliminary data for PSAC meeting; Plan Team to advise. In Mariana Archipelago and American Samoa, no substantial increase or decrease to change potential for interactions. Nothing has really been happening in PRIA, as there are no active fisheries among these small island/atoll areas. Note that PSAC emphasized elasmobranch research needs for oceanic white tips especially. Main change here was the new listings.

Has the plan team noted any other changes in fisheries? In Guam nearly half say they have had at least one interaction, perhaps cameras or something like that would be helpful. Joe O'Malley noted in Guam having an interaction with an oceanic whitetip. Sabater asked Plan Team members from territories to provide Melanie Brown information from this going forward. Identifying species is a point of issue here. To be counted, interactions must be allocated to

specific fishery (e.g. bottomfishing, etc.). If you don't know the type of boat, like Brent Tibbatts stated, otherwise you just see half a turtle and have no idea how to attribute the data. At least with the Hawaii population, we know that the number of collisions, even if fatal, is not detrimental to the population.

4.B.2. Climate, Ecosystems, and Biological section

4.B.2.a. Environmental and Climate Variables

Thomas Oliver was not at the meeting, and his section was not presented.

4.B.2.b. Life History and Length-Derived Variables

Joseph O'Malley presented an overview of life history and length-derived variables for the 2017 SAFE report. This was more of a program update of the past year and direction for the coming year. Lots of stuff either in review or in progress. They like to collect fish, especially otoliths, length at age and growth curves, gonads for maturity studies, spawning season information as well. In the past, there has been no species life history info for blue marlin (*Makaira nigricans*), so they produced a longevity estimate using radiocarbon dating: 1,200 lbs. and 20 years old. Works in preparation include: three snappers from American Samoa (Taylor et al.) estimated growth and reproductive information; Andrews et al for hapu'upu'u, on which they are pushing the higher estimate of their longevity (in review as well); ehu (*Etelis carbunculus*) in MHI and NWHI - sexual dimorphism in growth and between regions; two bottomfish species (*P. flavipinnis* and *P. auricilla*), all age based stuff, can start to look at lightly fished to heavily fished areas and compare differences; goatfish in CNMI by Reed et al. and Andrews et al.; DeMartini just retired but suggested new bio-marker of sexual maturity inside gonads.

MA life history research cruise is coming up May-June this year (collection of biological samples, effects of latitude on life history). There are plans to start looking into eDNA to get an idea of what is there and in what numbers; throw a bunch of markers in the sample and see what comes out. If you don't sample correctly, the wrong DNA can "come out". Is detection rate good enough to be useful nowadays? Time will tell! Is modeling incorporated since it's so complex? No, can be ground-"truthed" with visual count data. They will also be looking at phytoplankton using CTDs.

4.B.3. Habitat section

Michael Parke presented an overview of the EFH section of the annual report without the aid of a PowerPoint. There are five MUS for which habitat are established. The only real change from last year was updating the available mapping (with new PRIA and MA multibeam bathymetry and satellite). There were new MHI habitat maps between 0-250 m depth and new shallow-water American Samoa habitat maps. One of the most important datasets was a MHI bathymetry and backscatter data set linked to habitat. Parke's working group came up with some changes that will be presented tomorrow on precious coral EFH. The crustacean EFH review will be included as an Appendix in the 2017 Annual SAFE Report.

4.B.3.a. Crustacean EFH Review

Lennon Thomas arrived late for her presentation on crustacean EFH review for use as an Appendix of the 2017 Annual SAFE Report. It is currently an ongoing project that is planned to be complete by September 2018. Reef associated crustacean landings are dominated by kona crab, mostly from bank off Molokai. Spiny lobster was also a facet of the group. *Panilinus penicillatus* accounted for most of the crustaceans harvested. The objective of project was to update information needed to define EFH and HAPC for these crustacean fishery species. Thomas' next step is interviewing fishery participants. The current EFH and HAPC for coral reef crustaceans in Hawaii/AS/MA are from 2009. Habitat defined from shoreline to depth of 150 m, etc. Several habitat descriptions were updated from their general description. Data used were from HMRG multibeam bathymetry and HDAR commercial catch. GIS with relevant data layers were used to determine habitat and any overlaps. Data for spiny and slipper lobster provided now (as of March) even though in the near future the only Ecosystem Component Species will be the kona crab; it was decided that the review can still include lobsters, since the data are still useful information. Thomas presented her maps comprising her preliminary results, and shared her vision for future work, data gaps, and research priorities.

4.B.4. Socioeconomics section

Kirsten Leong presented an overview of the human dimensions section of the socioeconomics section of the annual report. There were some new publications, but formatting was cleaned up most of all. The ten year time frame was strictly adhered to, though it was not clear if other section had to adhere to this as well (note: they were meant to do so).

Minling Pan presented an overview of the economics section of the socioeconomics section of the 2017 Annual SAFE Report. Real-time vs. nominal pricing considers inflation over the course of the entire year.

In American Samoa, only 7% of pounds landed were sold in 2017 versus the average of 12%. Is the current economic climate taken into account here? No, you have to think about whether data collection is consistent across years first. Commercial bottomfishing trips in American Samoa were stable in cost (\$125) in 2017. Mika mentioned that free ice is being given to American Samoan fishers currently. A fuel subsidy program damped the fuel cost because it has increased in recent years (not paying total cost for fishers).

Yau asked if bait and chum related to ice. When not spending on one thing, humans naturally will go spend on something else. Tenorio notes that cost of shipping is a huge part of determining the costs of these other various items, etc. American Samoa estimated the revenue of reef fish to be \$107,000, though price has been incredibly stable over the past decade. 93% caught were sold in 2017 though the average has been 63% - why could this be? Bottomfish fishers keep more for themselves than reef fish, or shows that bottomfish dealer data underreported. Commercial data are possibly not super good until 2015 and 2016. We have pounds caught from creel and pounds sold from commercial, but linking percentage to statistics from creel. 'Want to sell' versus what the 'vendor is willing to buy given the current fishing season'. There were negative values presented because of the two separate data streams... illustrates problem with combining these statistics. It is possible that creel survey

underestimating total catch, added to a non-mandatory dealer report. Mika noted that reef fish are more popular than bottomfish in American Samoa for the most part. Bottomfish are possibly more 'cultural', and perhaps this is the reason not for selling? Setting aside fish to give away within community. Mike asks the nature of exchanging or giving fish on regular basis or special occasion? On a regular basis. Trip cost of spear fishing is \$51 in 2017 and slightly less than 2016. Ice reporting started in 2013, not as if they didn't have ice cost before. Issue with form.

In the CNMI, the bottomfish fishery in 2015 and 2017 had abnormally low catch, and had abnormally high price as well. 2014 had more sold than caught. Perhaps there were issues with capturing all bottomfishing data? Fuel cost was main item here, and interannual variability in this metric can be observed throughout the time series. Cost was about \$40 per trip in 2017. 2016 had much more fish catch sold than caught, though. That was when the territory started working with Micronesia environmental on collecting commercial purchase data, so a lot of reef fish were being missed in commercial purchase data prior to that. It's not like there is a large reduction in catch, more likely that it is a large portion that isn't being captured for whatever reason in a given year. Changes in staff and things like this can impact the collection of statistics. Vendors buy fish from fishermen to sell, and the fisher may go house to house or to a restaurant to sell the other fish (or keep). No cost data in recent years was reported if there were less than three points of data collected.

In Guam, the bottomfish fishery is much smaller than the one observed in CNMI. Price has been dropping since 2014. 24% of total pounds caught were sold in 2017, when average over last decade was 6% (also saw this lower percentage for bottomfish – perhaps it is an issue with data collection). Trip cost was up in 2017 due to fuel cost to \$72 per trip, though the cost was decreasing through 2016. CREMUS had 88% of the catch sold versus the 23% average. Price has generally been stable over the last decade; there was a slight decrease in 2017. Tibbatts mentions shift in demographics in who is doing fishing. Micronesian fleet sells only to Micronesian stores, pays fishermen relatively less than normal vendors, etc. When American bought Continental, cargo rates went up, and there was less cargo capacity as interisland airplanes shifted out to narrower versions. The fourfold increase in poundage of reef fish has not real, just better data collection overall (targeting Micronesian stores in particular). This number is likely more accurate than previous numbers. Fuel cost again was major for spearing here at \$45 per trip.

In Hawaii, data collection is different than the territories. While some new stuff is available, many parameters are still not available. Deep 7 vs. non-deep-7 showed a half-and-half split among fishers, slightly more for the non-Deep 7 fishery. There was a higher percentage of fishers with sales over those without sales, with an increasing yet steady trend over past three years. Revenue in 2016 was similar to 2017 (\$2.3 million). There was a Deep 7 decline from 2016 to 2017, but non Deep 7 showed notable increase. Reef statistics were very flat for price, poundage, and revenue (when looking at general totals) over the past decade. Fishing costs were not as detailed as territories. Broken down by gear: the highest is trolling at \$291.7; the lowest is spear at \$158.9. Melanie Brown asked about total revenue by gear, and Pan responded that they didn't ask fishers, just obtained average trip cost. Revenue info came from HDAR who connected with fishers to ensure the numbers were similar.

4.B.5. Marine Planning section

Sarah Pautzke, from Pacific Islands Regional Planning Body, presented an overview of the marine planning section for inclusion in the 2017 Annual SAFE Report.

There was a meeting on Feb. 14-15, 2018 to finalize the American Samoa Ocean Plan, continue planning in the Mariana Archipelago, transfer data portal prototype to the permanent site, and increase funding support. This marks the very beginning of RPB efforts, especially in Hawaii (just “listening”). People are waiting for the Department of Interior regarding monument status before making decisions. The data portal needs a host, content, and to be moved into the final interface. Sarah opened an example data portal to show the Mid-Atlantic’s version.

Yau suggests that UH has a lot of useful GIS layers surrounding the state (Kahng says via the Hawaii Mapping Group). Brown asked how they plan on working with data confidentiality non-disclosure rules. Just exclude confidential ones? Who will do this, and where will resources come from? There were notable differences in the number of vessels and amount of data in the mid-Atlantic vs. Western Pacific. We want the data portal to be “outward facing” – standardized and viewable by everybody. QA/QC will likely be operated through the host. Koike recommended biogeography and MMA layers from DAR and similar organizations, etc. Pautzke requested Plan Team members to email her if they come up with any other ideas for data needs/portal requirements/recommended layers. Koike will provide a list. The stated goal was to have something going by the end of 2018. Guam and CNMI OPT kicked off last October 2017.

Pautzke then listed Council MMAs with pertinent information about each of them, and current recommendations and due dates. Ex: LVPA may affect marine planning, etc. She then showed the U.S. EEZ regulated fishing areas around the different islands in the U.S. Western Pacific, alternative energy facilities, and military activities with brief descriptions on their impacts to fisheries. Pautzke noted BOEM created lease blocks for Wind Farms on the Pacific Outer Continental Shelf.

4.B.6. Discussions

Discussions took place during and directly after each individual presentation.

4.B.7. Public Comment

There were no public comments.

4.C. Administrative Reports

4.C.1. Number of Federal Permits

Melanie Brown, from the Sustainable Fisheries Division, presented a description of the number of different federal permits allocated for inclusion in the 2017 Annual SAFE Report. No archipelagic permits issued were issued in American Samoa for the 2017 year. The number of shrimp permits in Hawaii tripled from two to six, but CNMI bottomfishing permits decreased from 20 to 13. Guam and PRIA each had one permit for both 2016 and 2017 (i.e. no real change between years). Also note an increase in lobster permits allocated for Area 5.

In April this year (2018) in PRIA, more permits given out to boaters cruising through; these newly discovered fishers are now “on the radar” for monitoring. Brown said she would double-check to see if logbooks exist for these data. Other participants noted that no data associated with these permits exist, perhaps due to a lack of enforcement.

4.C.2. Regulatory Actions in 2017

Melanie Brown also presented on regulatory actions that occurred in 2017. Rule-making in 2017 focused on ACLs and AMs for fisheries across the U.S. Western Pacific region for bottomfish, crustacean, precious corals, and coral reef ecosystem fisheries. However, the 2017 ACLs and AMs are only for crustacean, precious corals, and territory bottomfish. MHI deep 7 bottomfish and Kona crab were also published for 2017. There was MCP final rule approval in both Hawaii and the PRIA.

4.C.3. Discussions

Discussions took place during and directly after each individual presentation.

4.C.4. Public Comment

There were no public comments.

4.D. Data Integration

4.D.1. Draft of Data Integration Chapter

Thomas Remington, Council contractor, presented on exploratory analyses looking at the fishery parameters and the environmental variables to potentially identify fishery ecosystem relationships for Chapter 3, Data Integration, in the 2017 annual SAFE report.

Sabater mentioned that this project marks a difference in reactive versus proactive management going forward in ecosystem based fisheries management in that we can associate trends in fishery performance to patterns in ecological cycling such that we can have a better idea as to what might happen to the fishery in a given environmental circumstance.

Yau said that calculating CPUE should be done by using the amount of pounds for a single fishing day/trip and the amount of effort in days to determine the average rate per year; this will allow for simple analyses of variance (go to the raw data if there is trouble determining the absolute number of days fished, etc.). The analysis approach needs to be catered specifically to each of the four regions analyzed, and not just blanketed across all of them (noting their differences). She also suggested that the analyses go to the species-level and incorporate more phase lag. However, it is tricky to incorporate large amounts of phase lag using relatively short time series – could there be a way to test many different potential lengths of phase lag at once? She also said that CPUE needs to be better defined in that gear types should be analyzed separately. Start with the dominant gear type (e.g. purse seine net for akule in the MHI), and pump up phase lag to be consistent with life history traits (she said “up to ten years”).

Seasonal runs were mentioned, leading into discussion on changes in fishery dynamics (both discreetly and on the long term). It was recommended to speak directly to Reggie about how fishery dynamics in the MHI may have shifted over the course of the time series. For example, certain gear types, regulations, or fishers being introduced to the fishery at a specific point in time could alter the nature of the data. Try to classify changes in fishery knowledge, socioeconomic notions, and species' catchability over time using raw and explanatory variables. Some suggest to "throw a bunch of variables at the fishery performance data using R".

Kahng stated that it is best to start with basics. First, partition high and low rainfall years, determine maximums and anomalies (temperature index is important), and lead into more focused analyses. Temporal and spatial point estimate data from Station ALOHA may be affected by seasonal and long-term changes in upwelling/migration of the mixed layer. Wind especially can impact this mixed layer and associated algae/chlorophyll-*a* concentrations. It would likely be best to utilize the same environmental/ecological time series presented in Chapter 2 (ecosystem considerations).

Lowe suggested that local knowledge exists pertaining to a six year cycle for akule, likely due to an intertwined suite of variables contributing.

Okano added that there is a wealth of local knowledge linking environmental occurrences with fishery performance. Could we use some of their ideas as the foundation for some of these ecological comparisons? Remington mentioned that this has been taken into consideration to a slight extent, as he had briefly worked with Oliver to determine if akule catch differed in Hawaii during the traditional Hawaiian "wet" and "dry" seasons that follow lunar phase over the Gregorian calendar.

4.D.2. Predictive Mapping Tool in the Hawaii Non-Commercial Fisheries

Hal Koike presented on a new predictive mapping tool for use in Hawaiian non-commercial fisheries for use in a spatial context. Surveyors go out every day and collect info on number of people, gear types, the number of gears, and catch around Hawaii. The ultimate goal was to develop a prediction model for fishing effort across shoreline of the State. Known data is extrapolated to the rest of the unit areas where there are no data.

Some participants that it looks like some of the unit-areas were inland and away from the coast. Koike responded that these units are considered coast because they are along water edge (river/marsh/lake). She showed a Table of different important features that help drive fishing effort around Hawaii State, including wave energy and rugosity.

Kahng said it is the amount of time below/above an ecological/environmental threshold that makes a place fishable, not just total quantification. "Thresholds drive ecology, not average values. Ecological relationships are much more complicated." The initial results look to be real enough (i.e. pass the 'smell' test). The accessibility layer only goes is able to portray certain aspects of shoreline fishing accessibility, perhaps obfuscating some of the coast results. Koike could not do island-by-island because remote/populated areas borrow results from other islands to fill in there.

4.D.3. Discussion on moving these analyses (Ch. 3) forward

Discussions took place during and directly after each individual presentation.

4.D.4. Public Comment

There were no public comments. Stefanie Dukes adjourned the meeting for the day.

5. Web-Interface of the Annual SAFE Report

Sunny Bak-Hospital, independent contractor, presented on the development of a web-interface to be used to report various notable fishery performance statistics of the annual SAFE report. This is annually published by the Plan Team as a collaborative effort between agencies, and is typically distributed in paper and PDF formats. The interface development was funded by the Council in late 2017, and expected to be complete in July 2018. After the functional design is complete, the Council will be consulted. After, the interface will be tested before finalization.

Bak posed the question: why do we need an online interface if there is a PDF online? PDF format is limited by requiring PDF programs and taking time to find specific information within a 500+ page document (as well as using CPU memory). An online-interface would be user-friendly, responsive, and accessible. The domain name will be wpcouncildata.org. At the time, Bak was trying to figure out how to make the interface look the closest to the current report style.

Bak showed the participants the working site. First, you can select your region. When you go to the statistics page, you get descriptions and associated data tables (which can be downloaded in CSV). It has been optimized for mobile phone/tablet use as well. It is JavaScript based (front-end programming) so we can control how we interact with the user. CSV is used over a database because it is simple to update the files with new data (can replace file if it is named the exact same). The only current static pages are those with text, which need to be updated a bit more manually.

Brown asked about 508 Compliance (“huge workload if not started already”), Bak said this is a simple website that can incorporate this. Council required to be compliant here. Brown also noted the utility of an application like this. Brown asked how likely it is that this is updated on annual basis, as it seems like a lot of work. The final version of the SAFE report will inform the interface, rather than iterative updates over the course of the year. Brown’s fear is having multiple versions of the same report out there that are not necessarily congruent.

Koike asked about database/topic changes for new material in the future, and Bak stated that this was specifically made for ease of implementing future changes. However, if CSV file is changed, just need to change how the interface reads that CSV. Yau noted formatting of figures with very different scales for their data (one had a seemingly flat line due to this), and suggested a secondary y-axis.

Leong asked if organization is consistent with the annual report, and Bak responded that, yes, it is meant to be a replication.

6. Action Agenda Items

6.A. Evaluating 2017 catches to their respective 2017 Annual Catch Limits (ACLs)

Marlowe Sabater presented on the evaluation of 2017 catches with 2017 ACLs. There were no CREMUS catch limits set for this year, so the focus was on crustaceans, precious corals, and bottomfish. There were no overages for American Samoa, Guam, and Hawaii. The only overage was for the slipper lobster in CNMI (60 lbs.). The reason this happened is likely because better reporting is coming in from the dealers in terms of lobsters (there was a spike in 2016) – this was the Plan Team’s rationale last year as well. All of the CREMUS and crustaceans will eventually ECS, so there will not be ACLs specified for them next year anyway. There will only be territory bottomfish, two species of crustacean, and the precious corals.

Yau asked where the ACL for slipper lobster originally comes from. Sabater said that without historical catch, they had to develop an ACL using a convoluted formula.

O’Malley asked Tibbatts about ulua in Guam. They will be moved to ECS. And while catch is down for this year, it is not explicitly clear as to why.

Brown mentions probably best to maintain status quo for this year since everything will be changing by next year.

Tenorio noted some low ACLs for a lot of the species here, and with more effort for data collection in recent years, some of these numbers are likely to be surpassed. Is there any balance for this? Sabater notes a fix as having data-poor species be ECS; hopefully those species with more data won’t be adversely affected by increased survey frequency and/or coverage.

6.B. Ecosystem Component Amendment

6.B.1. Monitoring of MUS and EC species

Sabater also presented on the ecosystem component amendment. At the last Council meeting in March, the list of MUS and ECS was finalized. The EC category is for species to be managed as component of ecosystem, and is mostly coral reef species. These EC groups were developed with using multivariate analyses, and were refined by the Council and its staff, etc. He then presented the lists of MUS in full, and briefly reviewed the ECS lists.

Sabater noted that since there is only one FEP for the Mariana Archipelago, there cannot be two different MUS lists for the CNMI and Guam. The only inconsistent species between the two is the black trevally (*Caranx ignobilis*), which was going to be removed in CNMI. It is caught frequently in Guam but not CNMI, which may have assessment implications.

Sabater noted that, going forward, there should be focus on how to improve analyses specifically for ECS and what changes need to be made in the annual report to accommodate the assessments.

6.B.2. Changes in Annual SAFE report due to EC designations

Marlowe Sabater led his previous presentation into a discussion on how to appropriately analyze and continually monitor these new ECS groups (like territory bottomfish) in real-time.

Okano said Hawaii is on track with how they do it. Reggie added that Hawaii is fishery-dependent with licenses whereas territories are based on creel, and there is an inherent difference. Sabater said the regulatory framework does exist within Hawaii, and can be used as a basis for territories in some ways; Quach reiterated this idea later on. He wants discussion on needs for near real-time reporting, noting reporting requirements in Hawaii CMLs whereas American Samoa doesn't have reporting requirements with their permits/licenses. Sabater suggested that licensing and reporting should be married in this way, but Tenorio noted issues with enforcement to ensure that people stay compliant. Guam has no licenses or reporting requirements, though their creel data are continuously input every month – they could likely report in near real-time with a month by month running total results of surveys.

Dukes said that getting the data that we have now entered more quickly may be the most feasible option. Sabater suggested we need to close regulatory gaps, and yes, improve what's existing by fast-tracking data input especially for territory bottomfish (priority is on bottomfish over CREMUS species at this point with upcoming ECS implementation). However, Lowe noted that expansion assessment shouldn't happen until the end of the year because estimates would change over the course of the year. Bottomfishing and trolling are the only fisheries that have sufficient data on an annual level to even be properly analyzed in this way. Quach responded that creel surveys were meant to support gear type level estimations, not necessarily species level. This would require a lot of work in the field with species ID. If going by month, species may show pulses of presence or catch (considering high-liners).

Yau agreed with Lowe in that it is fundamentally difficult for in-season analysis of creel survey data. She said in a previous assessment for CNMI, her team used vendor data over creel because it was better. Because we're starting more from scratch now, they are trying to look at all data sources so that they could use the most representative time series. Sabater asked if it is possible to do assessments with creel data, but monitoring with commercial purchase data. Yau says this is typically based on which time series is more comprehensive. Monitoring later on means that mandatory reporting by fishermen will eventually be necessarily (even if a little "pie in the sky"); this is the ultimate expectation.

Duke responded to all that this isn't about how to maintain status quo, but how can improvements can be made. More people in field? More in office? Sabater said there is a possibility to increase support for data collection. Lowe said the one system without expansion would be commercial purchase data, the closest in-season tracking we could possibly do. Even we have an estimate of what percentage of the catch is sold, it could have some meaning. Are there potential improvements on the frequency of receiving data? Some data is already summarized monthly, and Lowe noted it could be provided monthly. Koike noted her preference for commercial purchase over creel data in terms of consistent reliability ("less arm-waving"), and believes that requirements on the licenses are important as well. Duke notes that these requirements aren't likely to change soon, so could be good to focus on what *can* be done.

Reggie noted that their current goal for upcoming automated reporting to have weekly summaries within the next 18 months. Sabater asked if dealers are reporting without dealer license, and Reggie said that they're trying to get vessel license amended for only one fisher on boat and other changes. Recreational license suggestions have fallen through in past, but are

prioritized above dealer licenses. Lowe said that there is a “better response from fishers with compliance over enforcement”.

Sabater said it takes a lot of effort to get vendors to report on their own. He noted past attempts with receipt books, but since they were not required it did not take off. Tenorio noted the fluidity of participants of the fish market in CNMI, with top vendors coming and going on an interannual basis and roving vendors introducing difficulties. Sabater goes on to say with a finite set of MUS, funding can be more properly allocated for data collection and away from ACL stats (as many species becoming ECS). Sabater reminded all that there was a lot of outreach in the territories to support data collection, and vendors have been supplied a forum for fishers to voice concerns associated with agency data collection, etc. Provided incentives, ID machine, etc. for commercial fishers; tried many things to generate interest for reporting already. There are still issues with the fishers claiming they do not receive enough compensation to continue reporting.

In American Samoa, where there are typically fewer selling/commercial purchase receipts, creel surveys miss a lot of catch. Creel surveyors are typically balancing what is required by both law and fa'a samoa. Communal ties are strong there. Koike suggests a single reporter per village, but Yvonne says this could easily create conflicts of interest within the communities. However, the whole community does come together for atule seasonal runs. Pan thinks that, not for reef species, but for bottomfish species that incentives focusing on the fishermen and new MUS would be advantageous. Yvonne recalled that this worked well for bio-sampling data collection. Lowe says that the closer to the source of harvest, the better the data collection is going to be. Perhaps better for data collectors to ask to tally themselves – fisher’s maybe not the most reliable in terms of self-evaluation (“they don’t count their catch”). She has seen that they were impacting the fishery by incentivizing the bio-sampling reporting. Something less monetary may be better, because rewarding people for data becomes unsustainable going forward. As soon as reward program stops, so does data submission by those expecting incentives for their effort. It is likely better to try to work within their culture.

Tibbatts added that the domination of fishery by certain vendors may ease tracking of certain species or complexes, instead of asking all of them to keep a look out for documenting all species.

O’Malley suggested a logbook in the territories for boat-based fishermen. Tibbatts responded that there used to be a program, but participation waned with only a few reporting regularly. If there was mandatory reporting, that would fix most issues here and would perhaps work in Guam. The logbook has not worked well in CNMI, as the “mandatory” reporting is not enforced at all. Tenorio explained that the law for mandatory reporting is in place, but no regulations have been set for appropriate enforcement. He said he needs a legal person to write the regulations and usher them through the system. Tenorio wants to approach it from the data side; not necessarily only the vendors, but the fishermen selling on a larger scale of whom they are aware.

Quach suggested analysis on resources required to have person at each known fishing site/port (18-24 hour monitoring/census) to give a real-time effort estimate, and whether it is feasible to conduct interview survey in this way. Instead of having surveyors travel around from point to point, there would be one at each access point/port. O’Malley added that this is the model they

are trying to use in the W. Coast groundfish fisheries. The question really is if there are enough resources to implement such a system.

At the end of the discussion, Sabater noted, essentially, there were three areas for progress to be made:

1. Improving regulatory pathways, identifying regulatory gaps, and supporting the development of regulations for mandatory licensing and reporting.
2. Looking into the possibility port sampling option for bottomfishing census.
3. Exploring improvements for commercial receipt book data collection.

Monthly reports are in-progress at the moment, so they were not included in recommendations. Refinement is needed in some of the tables that are not depicting a lot of information because of no data or confidential data. Making significant changes to the SAFE report at this point would be too late, but, of course, the next year's report can be changed as necessary.

6.C. Omnibus Amendment to Establish an Aquaculture Management Program

There was no presentation on the Omnibus Amendment to Establish an Aquaculture Management Program because it was not complete. Brown stated it should be prepared for initial review soon.

6.D. Main Hawaiian Islands Deep 7 Bottomfish Fishery

6.D.1. Stock assessment for the Main Hawaiian Islands Deep 7 Bottomfish Complex 2018, with Catch Projections Through 2022

Annie Yau presented the 2017 bottomfish deep 7 stock assessment in the Main Hawaiian Islands, similar to what was reported at the SSC and Council Meeting. Data utilized were catch, CPUE, and fishery independent data.

Five workshops over the past year and a half were held to decide how to calculate catch and nominal CPUE. Unreported and reported catch used in this assessment combine for total catch, with +/- 40% uncertainty around unreported catch (from HMRFS) in the model; the uncertainty was +/- 20% before, but more added because HMRFS. A potential reason for the ratio between reported and unreported catch varying through time is each of the studies conducted over time to inform this trend are used to determine ratio as well (when new study present, ratio altered).

CPUE was a calculated/standardized in a new way for this year that allows for tracking individual fishers (via name) through time from 1948 to 2015. Before this, a person's license numbers varied from year to year, and issues still exist with discrepancies in inputting exact name spelling, etc. Also, CPUE was split into two time series to account for refined unit of effort in catch reports starting Oct. 2002 (FY 2003). Up to 2003, effort reported as single reporting data, and as hour thereafter. A delta-lognormal generalized linear mixed model was used. Several factors (e.g. region, quarter, area, etc.) used in the assessment were available for to be used to standardized; several new factors were included (e.g. name, pounds caught, wind speed, skill level, etc.). 'Vessel size' as a factor has eluded them. 'Island region' and 'fishing area' are

separate because different islands do have different fishing practices (e.g. Maui fishers are different than Big Island fishers regardless of harvest area, etc.). Note that not all of these factors resulted in significant associations. Region, wind speed squared, and wind direction didn't help explain patterns in CPUE for either time period. Also note that 'Bernoulli' represents presence of a bottomfish harvest during a trip, whereas 'lognormal' represents the amount caught. More factors were determined to be significant in the more recent time period from 2003-2015. Year, area, and quarter explained most of the variance in CPUE, with about half of the total CPUE variance being explained by the model. 2017 showed a slight increase in CPUE from last year (about 10 lbs./hr. to 13 lbs./hr.).

First time data from fishery independent survey was newly incorporated into this assessment as well. The MOUS camera used to photograph fish counted later, with other divers sampling gridded areas in a standardized way to visually count fish. 2016 total biomass estimate was over 10.1 million lbs. of Deep 7 Bottomfish in the MHI (mostly opakapaka), matching last year's assessment/projection.

Updated assumptions were used in the Bayesian state-space production model. Standardized CPUE was used a proxy for abundance. The surveys were used to inform abundance scale to check standardized CPUE trends. 'Overfishing' is defined as harvest being greater than harvest at MSY. 'Overfished' is having biomass less than 84.4% of biomass at MSY.

Updated results for biomass showed that the model fits to standardized CPUE (called "observed"). The predicted CPUE made by the model follows the observed values well. Estimated reference points for 2018 are 509,000 lbs. MSY, 15.4 million lbs. biomass at MSY, and 6.9% harvest rate at MSY. The calculated exploitable biomass for this fishery is on a slight increasing trend over recent years. The stock has at no point been overfished, with only a 16% chance of being overfished in 2015. The survey estimates informed the results by pulling the biomass mean estimate down a little bit (can be seen if the model is run without survey results). Some uncertainty was present, as the lower bound of the 95% confidence interval was below threshold for the 'overfished' designation. Harvest rates are interannually variable, but 2014-2015 was relatively stable. There was a 17% chance that the stock was experiencing overfishing in 2015. The model says we are only harvesting 7% of the stock on an annual basis. A kobe plot showed that overfishing occurred at some point during the time series, but has never been overfished. In 2015, neither were occurring.

Projecting the model forward from 2018-2022, probabilities of overfishing based on how much catch was reported in a given year were shown. The 50% risk of overfishing is a threshold established in MSA, giving a maximum reported catch of 600,000 lbs. over the next few years in this specific fishery. The fishery has been harvesting in the 200,000 – 300,000 lb. range, giving a 10-15% probability of overfishing through any of the next five years. Note that unreported catch was not included here.

An Opakapaka-only model was developed at the Council's request for a single-species model. Everything done above for Deep 7 was just done for only opakapaka data. Estimated reference points are 333,000 lbs. MSY, 10 million lbs. biomass at MSY, and 7.0% harvest rate at MSY. Opakapaka accounts for nearly two-thirds of this complex and scales well to the rest of the Deep 7 data (similar results). Opakapaka is not overfished and overfishing is not occurring. Koike

asked if this can be done for the other species, but they have relatively less data than opakapaka; Yau says it can certainly be done for few more species, but not clear how it would impact management action (if at all). They could likely analyze onaga data as well.

6.D.2. P* Working Group Report on the Main Hawaiian Islands Deep 7 Bottomfish Fishery

In transitioning more from science to management, Ryan Okano also presented on the P* Working Group report for the MHI Deep 7 bottomfish fishery.

P* review includes determining a Tier for each fishery based on data available, and recommends a risk of overfishing level to be reviewed by the SSC before stipulating catch limits. The closer to zero the score is, the better; the score was -1.3 last year and -0.7 this year. See table for specifics on scores for assessment aspects. Standardized CPUE was scored 0 because a lot of effort was put into this value in recent years, likely providing the best data possible from the CML. While this wasn't a strict spatial analysis, this assessment had more spatial consideration than last year (score went from -1.0 to -0.5). Uncertainty characterization was also scored, the closer to zero the better. The previous score was -2.0, and is now -1.7. Biomass/harvest used to be -3.0 and is now -1.0 because it was done at a complex level prior, whereas now is done on individual species. Productivity/susceptibility scoring was done on a species level for multiple factors (provided by O'Malley at PIFSC). This is the first time that standardized productivity attributes used; this was done because previous analyses just had productivity in general without specific factors. Everything is ultimately averaged-out/distilled into one number/score. Note that fishermen filled out the susceptibility table. A score of 5 was chosen in previous years by the working group to "keep it neutral", but Yau suggested that you likely know less about your less productive/more susceptible species. Productivity increased from 2015 to 2018 while susceptibility decreased.

Yau said that the reviewers worried that assessments underestimate values; Sabater responded that this was more relevant to the SEEM group presentation.

6.D.3. SEEM Working Group Report on the Main Hawaiian Islands Deep 7 Bottomfish Fishery

Ryan Okano also presented on the SEEM Working Group report for the MHI Deep 7 bottomfish fishery. This group focused on social, ecological, economic, and management (SEEM) uncertainty. SSC reviews SEEM results to quantify management uncertainties. P* working group had a total score of -7.59, whereas SEEM score is from -2 to 2. These are mostly positive scores, but because ACL must be less than ABC, there was a focus on reductions due to management uncertainties.

The WPSAR recommendation was for 40% maximum P* value. Management uncertainties associated with new techniques (i.e. jigging from kayak/jet-ski), changing price of permits, social media sales, and underreporting that aren't accounted for led to a SEEM reduction of 2.41%. Reggie mentioned that fees were raised this year to \$100, and there has been no noted reduction in permits sold. Potential improvements in: closing regulatory gap on deal licenses, reporting non-commercial licenses, better education and outreach about fishery, and a note that if the fishery were limited entry people would report more to better establish their catch history.

OFL = 50%; P* = -7.59; ABC = 42.41%; SEEM = 2.42%

The NS1 Carryover Provision states that unused ACLs can roll over interannually, but several potential ways to feasibly implement; there were several conditions to allow carryover as well (see list on highlight slide). Do we want to bother with the different options? It was seen as feasible to set a relatively higher ACL and just let them fish until they hit it.

6.E. Plan Team Working Group Report on Refining Precious Coral EFH

Michael Parke also presented on a Plan Team working group report for refining precious coral EFH. The objectives of this review were to improve language, develop boundaries of precious coral beds, and to designate EFH where applicable. It was informally agreed that at least one organism needed to be present in certain area for it to be called a coral bed.

Deep water habitat characteristics include being naturally stable, hard substrates between 200-600 m with low sedimentation and high current velocities (i.e. 0.5-0.8 m/s). Boundaries of these coral beds were done (or re-done) with GIS to show location, bathymetry, and hardness data in finalizing bed shape and site (new bed boundaries drawn for existing results as well; tried to better match the geophysical characteristics of the surrounding areas). Areas depicted as circles were actually pinnacles with corals surrounding the margin. Almost all of these areas were not previously explored. There is no legal definition for this concentration of coral “beds”. The ability to survey these beds is extremely limited due to depth, leading to more limited data on precious corals in the territories (no active fisheries in the territories, though). Shallow water habitat characteristics include being naturally stable, hard substrates within 120 m depth with low sedimentation and high current velocities (i.e. 0.25 m/s; though not established as carefully).

GIS maps were presented of both shallow- and deep-water precious corals in the Hawaiian Islands. Parke noted that we are nowhere near of directly observing all hard substrate between 200 and 600 meters depth. More EFH will be designated as it is uncovered. There are no valid measures of current, which would help in predictive monitoring here.

Research and info needs involve estimates of distribution/abundance, environmental conditions necessary for precious corals, growth and productivity measures, taxonomic investigation, etc. Note that EFH is a legal mandate in MSA, which are now being revisited after “neglect”. More resources required to enable meaningful research in this field.

Kahng noted the shifting of softer substrates over time. Backscatter will likely detect this area (where no new corals will grow).

Sabater asked members to think about refinements in the precious coral EFH as presented by Parke for final recommendations.

6.F. Discussions

Brown suggested asking the Council to develop precious coral EFH analyses, amendments, and options based on Parke’s presentation. Parke elaborated to ask that the development include any HAPC.

6.G. Public Comment

There were no public comments.

7. Monitoring and updating priorities

7.A. Council's five-year research priorities

Sabater also led the Plan Team for this agenda item, which involved asking the Plan Team to identify “red flags” or missing projects within the five year research priorities. The exact text of the priorities was available in the participants’ briefing books. There were no comments. The Council will review progress by PIFSC and associated contractors on meeting the established research priorities at its June meeting. Research priorities currently are slated through 2019, so an update will be completed in the near future.

Pan suggested putting Chinese names for bottomfish on the existing posters as the population of Chinese fishermen in the U.S. Western Pacific grows. Quach stated that the posters are made individually by each of the territories, but agreed with the increase in Chinese fishers and inclusion of Chinese characters on the posters.

Sabater then asked the Plan Team to adopt the SSPC’s revised five-year priorities. Leong talked about the SSPC re-classified the different thematic areas that are socioeconomic priorities now but also in the future, going from 26 priorities to nine total. Leong summarized each of the nine points. Okano stipulated the difference between “indigenous” and “plantation” culture. O’Malley asked about the concept of compliance in the context of the SSPC. Leong responded that there are emerging techniques of asking more vague questions that aren’t as self-incriminating. Brown asked about how communicating effects monitoring and management methods, as well as research plans for more effective education and outreach. All agreed to adopt these new priorities.

Sabater and Dukes asked the Plan Team to review the rest of the research priorities offline, provide feedback if applicable, and return by Tuesday, May 15th. They will be overhauled next year. Yau mentioned there were additional documents Sabater needed to fully update the priorities with respect to already completed work.

7.B. Cooperative research priorities

Sabater also led the Plan Team through the Cooperative research priorities section, in which he encouraged Plan Team members to brainstorm priorities for their own jurisdiction. The presented document is to be used as a basis for developing proposal requests. Sabater briefly described each priority.

7.C. Management Strategy Evaluation priorities

Sabater also led the Plan Team through the Management Strategy Evaluation research priorities section, where he described the Plan Team responsibility of refining the priorities in hope of integrating these MSEs into other ongoing efforts. The priorities were on bottomfish fisheries, coral reef fisheries, and nearshore invertebrate fisheries. Sabater described each priority. Yau

said she sees the utility in such evaluations. It was suggested that it be explicitly stated that both commercial and non-commercial data included in such an evaluation. Brown suggested these evaluations may be too ambitious given the coming ECS implementation. Koike responded that, regardless, it doesn't hurt keeping it in there to begin preparing for the eventuality of ECS MSEs. Yau also said that MSEs can be overkill in certain situations. An MSE should be done on a single species or complex of reef fish, nothing more.

8. General Discussions

There was no additional discussion.

9. Fishery Ecosystem Plan Team Recommendations

Regarding the monitoring of the management unit species, the Archipelagic Plan Team recommends the Council to direct staff to work with the Territory fishery agencies to identify and resolve issues with regards to real-time accurate reporting, such as regulatory gaps, and potential solutions, such as mandatory licensing and reporting (e.g. log books).

Regarding the development and improvement of data collection systems in the short term, the Archipelagic Plan Team recommends the Council to support these processes by exploring the options of: a dedicated port sampler to conduct a full census of the bottomfish catch, the improvement and expansion of Commercial Receipt Books, and improvements in the timeliness of the data transcription.

Regarding the carry-over provision of the 2016 National Standard 1, the Archipelagic Plan Team recommends the Council direct staff to explore the application of the carry-over provision in the Council's control rules.

Regarding the evaluation 2017 catch relative to 2017 ACLs, the Archipelagic Plan Team recommends retaining the ACL at 60 lbs. for CNMI slipper lobster. The CNMI slipper lobsters recent three-year average of catch amounting to 130 lbs. exceeded its ACL of 60 lbs. The slipper lobster fishery is tracked through the Commercial Receipt Books. The increase in catch can likely be attributed to the implementation of the Territory Science Initiative, designed to improve the data submitted to the Commercial Receipt Books. In 2017, seven invoices and five fishermen reported the sale of slipper lobsters, which were zeroes in years prior to 2016.

Regarding the improvement of identifying precious coral essential fish habitat, the Archipelagic Plan Team endorses the Plan Team Precious Coral Working Group Report, and they recommend that the Council direct staff to develop an analysis of options to redefine EFH/HAPC for Council consideration for an FEP amendment.

Regarding the research priorities, the Archipelagic Plan Team adopts the changes proposed by the Social Science Planning Committee to the Human Communities section of the Council's MSRA five-year research priorities.

10. Other Business

There was no other business. Stefanie Dukes adjourned the meeting.