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Pacific Islands Fishery News

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Tuna at Guam transshipment facility in 2008.

Fish and fisheries have a long historical association in the Mariana Islands, spanning more than 3,000 years. For most of that period, however, fishing was conducted from small fishing craft, powered manually or by sail and used primarily for subsistence purposes. Metal hooks arrived with the Spanish after 1521, but fishing continued to be associated with the same craft and for the same subsistence purposes.

In the late 19th and early 20th centuries, global geo-politics saw the Mariana Archipelago being shuffled like counters on a board. In the wake of the Spanish-American War, Guam was ceded to the United States in 1899, while it sold the Northern Mariana Islands (NMI) to Germany under the German-Spanish Treaty of 1899. The Japanese took control during the First World War. The islands then remained under Japanese control until captured by the United States in 1944 during World War II.

One of the obvious areas for economic development was fishing. The following text was freely adapted from "Commercial Tuna Fishing on Saipan: A Look Back" by Scott Russell in the Fall 2009 *Journal of Micronesian Fishing*. Okinawan migrants to Saipan in the 1920s successfully developed a live-bait pole-and-line fishery. Initially these were independent fishermen, but they were displaced by Japanese companies operating on a larger commercial scale. These companies included Nankō (South Seas Development

(Continued on page 2)

CAN PAST GLORIES OF THE MARIANA FISHING INDUSTRY BE REVIVED?

ECOSYSTEM-BASED MANAGEMENT OF FISHERIES IN THE US PACIFIC ISLANDS

The Western Pacific Regional Fishery Management Council was established by Congress in 1976 to manage marine resources and maintain opportunities for sustainable domestic fishing in the US exclusive economic zone waters and high seas around Hawaii, American Samoa, Guam, the Commonwealth of the Northern Mariana Islands and the eight US Pacific remote island areas.

CAN PAST GLORIES OF THE MARIANA FISHING INDUSTRY BE REVIVED?

(Continued from page 1)

Company), Nambō (South Seas Trading Company) and the Nan'yō Bussan (South Seas Products Company).

The pole-and-line fleet developed such that by the late 1930s a dozen fishing vessels operated out of Garapan, the main town on Saipan. The vessels were typically constructed of wood, powered by diesel engines and measured about 60 feet in length. The scale of fishing activity was such that the fishing companies maintained professional shipwrights to service these vessels.

Most of the catch was made up of skipjack tuna (*Katsuwonus pelamis*) called *katsuo* in Japanese. Contemporary Okinawan pole-and-line boats operating in the Solomon Islands catch bait by light aggregation at night using several bait stations and then capture in a Bouke ami net. The Saipan fishermen were cut from a different cloth, fishing as early as 2 a.m.

from their pole-and-line boat to capture anchovy baitfish (Engraulidae), which congregated in waters along stretches of Tinian and Saipan fringed with cliffs. This dangerous task was carried out by loin-cloth-clad divers, equipped with only a pair of eye goggles, who swam along the rugged coastline in search of anchovy schools.

Once a suitable school was located, the divers deployed a large net from the side of the boat to haul in the bait. Anchovies trapped inside the net were carefully scooped up in buckets and placed in bait tanks located amidships.

With sufficient bait on board, the captain set course for the fishing grounds, the best of which were located 10 to 40 miles to the west and north of Saipan. Like pole-and-line fishermen around the globe, the telltale sign of tuna is a "bird pile," a flock of birds diving on wild

baitfish driven to the surface by feeding skipjack. Once a flock of birds was located, the boat maneuvered towards the head of the school while crewmen dipped anchovies from the live-bait tank and broadcast them around the boat to attract and hold the fish.

Skipjack were caught by a dozen or so fishermen, equipped with bamboo poles, who were positioned along both sides and at the stern of the vessel. They would use feathered hooks first as the excited tuna struck at anything in the bait-filled water; then they would switch to barbed hooks baited with anchovies once the initial feeding frenzy waned. Most boats also possessed a series of nozzles that sprayed water onto the surface of the ocean to encourage the fish to continue feeding.

An experienced fisherman was capable of catching nine to 12 tuna per minute when the run was at its height. Although the



action rarely lasted for more than an hour, on a good day the boat's crew might bring in 2 tons of tuna during that period. With a full hold, the boat would head for home.

Some tuna were sold to markets and restaurants, but the bulk of the catch was processed for export to Japan as *katsuobushi* (dried, fermented tuna fillet). The finished product was a rock-hard block of fish, the shavings of which were used by Japanese housewives in soup and as a topping on boiled vegetables. *Katsuobushi* from Micronesia gained a reputation in Japan for its superior quality, and by the late 1930s it ranked among the top export items from Japan's South Sea Islands.

In the wake of the Spanish-American War, Guam was ceded to the United States in 1899, while it sold the Northern Mariana Islands (NMI) to Germany under the German-Spanish Treaty of 1899. The Japanese took control during the First World War. The islands then remained under Japanese control until captured by the United States in 1944 during World War II.

Saipan's fishing fleet brought in 25 tons of tuna a day during the prime season and employed several hundred workers including boat crew, shipwrights and factory workers. By this time, larger long-range pole-and-line fishing vessels, based in Japanese ports, were also exploiting the region's substantial marine resources. These boats would spend weeks fishing to the north of Saipan before returning home with their holds full of tuna.

Following WWII, the US military supported local Carolinian fishermen to continue the fishery through a fishermen's cooperative. A small operation was established using two refurbished vessels, but it ceased to operate after a few years due to economic reasons.

Events subsequent to the demise of the skipjack fleet in Saipan are well documented. Effectively, no large pelagic vessel fleets were developed on Guam and the Commonwealth of the Northern Mariana Islands (CNMI). Port calls for air-transshipment of longline caught fish was a profitable business, with the many Japanese and Taiwanese



Tuna at Guam transshipment facility in 2008.

longline vessels largely homeported in Guam and sending their fresh fish to the Tokyo market. Between 1990 and 2001, the transshipment industry hit peaks of 12,000 metric tons (mt) annually transhipped to Tokyo. However, this effectively dropped to zero by 2013. Increased port security and US statutes such as bans on shark finning made Guam less attractive as a transshipment port. Furthermore, neighboring fishing nations such as the Federated States of Micronesia (FSM) and the Marshall Islands penalized vessels with authorization to fish in their waters if the vessels landed their fish elsewhere.

In the late 1980s and early 1990s, the island of Tinian in the CNMI had a major skipjack transshipment facility, which was built primarily to service the vessels of the Zuanich company fleet and Taiwanese purse seiners. However, by the mid-1990s the Tinian transshipment facility closed and the purse-seine vessels dispersed elsewhere, particularly to Papua New Guinea where tuna canneries were opening operations.

A modest attempt to promote a conventional US style longline fishery in the CNMI occurred from 2007. Altogether four longliners comprised this fleet but with rarely more than two vessels operating at any one time. The fishery operated in fits and starts, initially as Crystal Seas Fishing Ventures with a base on Rota, becoming US Islands Seafoods based in Saipan. The business plan for the fishery was to supply fresh fish to the US military on Guam in the wake of the translocation of marines based in Okinawa to Guam. The Saipan-based

longline fishing company, USA Islands Seafood, authorized the release of data of the top 10 species retained by the company's fishing vessels between 2007 and 2010. They were yellowfin tuna, 30 percent; albacore, 22 percent; mahimahi, 17 percent; bigeye tuna, 8 percent; oilfish, 6 percent; skipjack, 4 percent; pomfret, 4 percent; wahoo, 2 percent; blue marlin, 1 percent; and spearfish, 1 percent.

Aggregate fishing data for the company from 2010 showed that three vessels made 18 trips and 120 sets, deploying nearly 250,000 hooks. They caught about 5,000 fish, half of which were yellowfin and which had by far the highest catch rate.

Based on past fishing experiences, a large pelagic fisheries resource exists within the US exclusive economic zone around the archipelago. Recent studies by the Secretariat of the Pacific Community also indicate that there is a skipjack spawning stock biomass within the Marianas of about 80,000 mt. However, the last 50 years has been less than successful in developing pelagic fisheries in Guam and the CNMI comparable to their neighbors in the FSM or Marshall Islands. Even the successful skipjack fishery was a marginal enterprise given the lengths to which fishermen had to go to make a successful baitfish catch. However, demand for fish is not likely to decline globally, so changing economic circumstances could make the Mariana Archipelago more attractive for pelagic fisheries development. Local demand for seafood may also be increasing soon in the CNMI with the recent influx of overseas investment in the tourism sector. ➔

MARIANA ARCHIPELAGO FISHERY DATA COLLECTION: WHY ARE IMPROVEMENTS IMPORTANT?



Typical shoreline fishing activity in the Guam Naval Base.

Basic fishery data are the lifeline of fishery management. Information on catch, effort and catch composition from the commercial and non-commercial fisheries comprise the scientific information that fishery managers use to make decisions. However, basic information that is unreliable, biased and unrepresentative of the fisheries can lead to erroneous management recommendations that impact fishing communities.

In the Mariana Archipelago, fishery-dependent information is collected through fishermen counts and interviews using a random stratified design called creel surveys (creel is a woven basket used to hold fish). The market segment of the fishery is monitored through voluntary submission of commercial fish receipt books. Error and bias are infused into the collected data since compliance with these data collection programs is voluntary. There is a strong need to address improvements in the fishery data collection in the Mariana Archipelago.

The Western Pacific Fishery Management Council implemented three fishery data collection improvement projects: 1) Estimation of fishery catch and effort at the Guam Naval Base; 2) Estimation of seasonal fishery production in Guam and Commonwealth of the Northern Mariana Islands (CNMI); and 3) Improving commercial dealer reporting in Guam and CNMI. The first two projects are funded through the National Marine Fisheries Service (NMFS) Marine Recreational Information Program (MRIP) while the third was funded through the Territorial Science Initiative (TSI) in partnership with the Pacific Island Fisheries Science Center.

The Guam Naval Base is an area where regular creel surveys are not conducted because it is a controlled military access area. The project estimated that the Naval Base contributes merely 5 percent of the estimated total production in Guam. Much of the fishing activity is

on the shoreline by civilian contractors. The estimated island-wide catch will be adjusted to account for fishery production in the Naval Base. Other areas like the eastern side of the island is challenging to survey due to the topography (cliff line), hence it is assumed that shore-based fishing in those areas are minimal.

The seasonal run of bigeye scads (*atulai*), juvenile jacks (*i'e*), rabbitfish (*manahak*) and goatfish (*ti'ao*) are culturally important fisheries. They are characterized by high effort and high yield over a short period of time (hours or days). The spatially and temporally explicit yet random nature of the fisheries coupled with their short periods of occurrence presents significant challenges for the creel surveys to capture data about them. Including such information in the regular catch estimation would result in overestimation of catch and effort. A dedicated survey

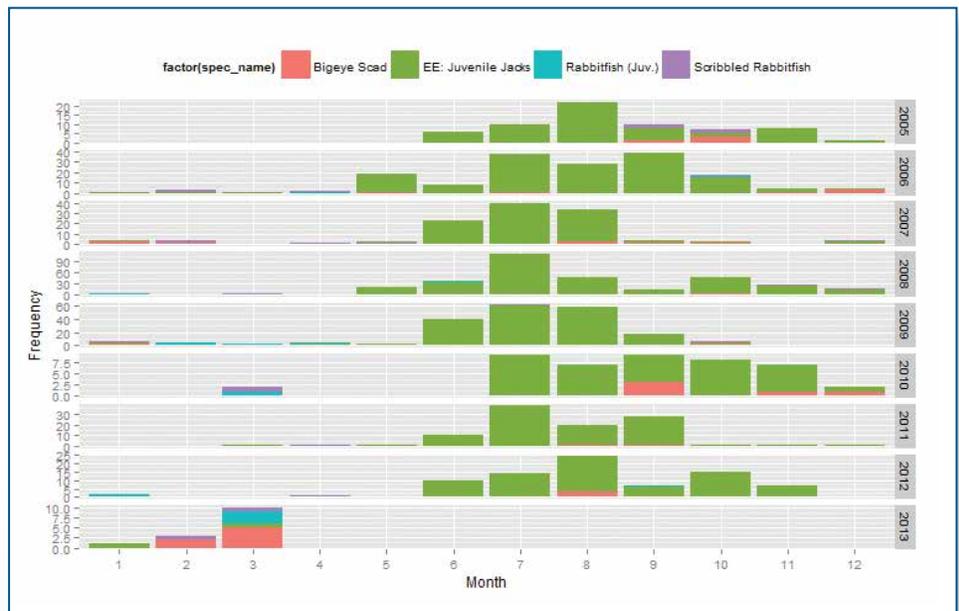


Figure 1. Frequency of interviews that captured juvenile fish species in Guam from 2005 to 2013.

The Western Pacific Fishery Management Council implemented three fishery data collection improvement projects: 1) Estimation of fishery catch and effort at the Guam Naval Base; 2) Estimation of seasonal fishery production in Guam and the Commonwealth of the Northern Mariana Islands (CNMI); and 3) Improving commercial dealer reporting in Guam and CNMI.

was conducted to target these fisheries. Data collectors increased the catch interview coverage for these rare events. Years 2014 and 2015 were characterized as weak years for seasonal run fisheries. This is inherent to the nature of these types of fisheries where the strength of the

pulse varies from year to year depending on oceanographic conditions. Figure 1 describes the frequency of interviews that captured juvenile fish species showing dominance of juvenile jacks from 2005 to 2012 from July to November. In 2013, bigeye scads became the dominant

species. Table 1 shows the dominance of juvenile rabbitfish and goatfish in the fish counts. These variations make it difficult to develop a standardized survey to account for seasonal run fisheries and incorporate it in the regular monitoring surveys.

From these two projects, the Council was able to prioritize other fisheries that the regular monitoring surveys could focus on to improve. They are the boat-based bottomfish, trolling and spearfishing fisheries and the shore-based rod-and-reel and cast-net fisheries. The Council recently received approval for funding from MRIP to improve the data collection of non-commercial spearfishing in the Mariana Archipelago by establishing a registry and reporting system from the network of fishermen in the spearfishing clubs. This project will start in June 2016.

The TSI project aims to improve the commercial vendor reporting in Guam and CNMI. The project started in Guam in July 2014 and in CNMI in October 2015. The project trains fish vendors to fill in receipt books and incorporate the process into their day-to-day business routine. The project also provides logistic support for the vendors to ease the recording of necessary data. In Guam, an additional six vendors now participate in the reporting program besides the Guam Fishermen's Cooperative Association (GFCA). The fishermen's cooperative continues to be the major fish vendor in Guam as evidenced in Figure 2. The GFCA and the other vendors sell mostly pelagic and reef fish. GFCA sells mostly local fish while the other vendors bring in some fish imports from the Micronesian countries and the Philippines.

Other vendors contributed 10 to 29 percent of the commercial poundage in 2014. The rest is covered by GFCA. The reporting contribution from the other vendors increased from 16 to 41 percent in 2015.

In CNMI, some vendors already report to the existing commercial receipt book system. The Council is collaborating with the Micronesian Environmental Services and its network of vendors to launch the TSI project in the CNMI. The TSI project will augment CNMI Division of Fish and Wildlife's data collection by increasing the resolution of fish being reported and by training vendors to fill out the personalized receipt books. This project supports the recent CNMI public law that requires fish vendors to report their fish sales.

	N	Mean	SD	Min	Median	Max
<i>C. melampygus</i>, jacks, l'e						
Est. average length (mm)	5	361.3	278.3	178.5	210.0	835.0
Est. total weight (kg)	5	2.2	3.6	0.3	0.6	8.7
Est. count (piece)	5	4.4	3.5	1.0	4.0	10.0
<i>Caranx spp.</i> (jacks)						
Est. average length (mm)	4	65.13	24.56	32.00	72.00	84.50
Est. total weight (kg)	4	0.84	0.80	0.20	0.58	2.00
Est. count (piece)	4	36.00	43.86	7.00	18.50	100.00
<i>S. crumenophthalmus</i> (atulai)						
Est. average length (mm)	7	257.0	39.6	192.0	280.0	280.5
Est. total weight (kg)	7	2.8	3.1	0.0	2.0	7.5
Est. count (piece)	7	14.7	17.8	1.0	8.0	45.0
<i>Siganus spp.</i> Rabbitfish, manahak <3in						
Est. average length (mm)	17	21.32	9.87	9.00	18.50	47.50
Est. total weight (kg)	17	2.53	2.81	0.45	1.80	12.70
Est. count (piece)	17	274.24	211.37	3.00	250.00	800.00
Tiao, goatfish <4in						
Est. average length (mm)	1	12.0	-	12.0	12.0	12.0
Est. total weight (kg)	1	4.1	-	4.1	4.1	4.1
Est. count (piece)	1	300.0	-	300.0	300.0	300.0

Table 1. Descriptive statistics of average approximated length, total weight and counts of seasonal run.

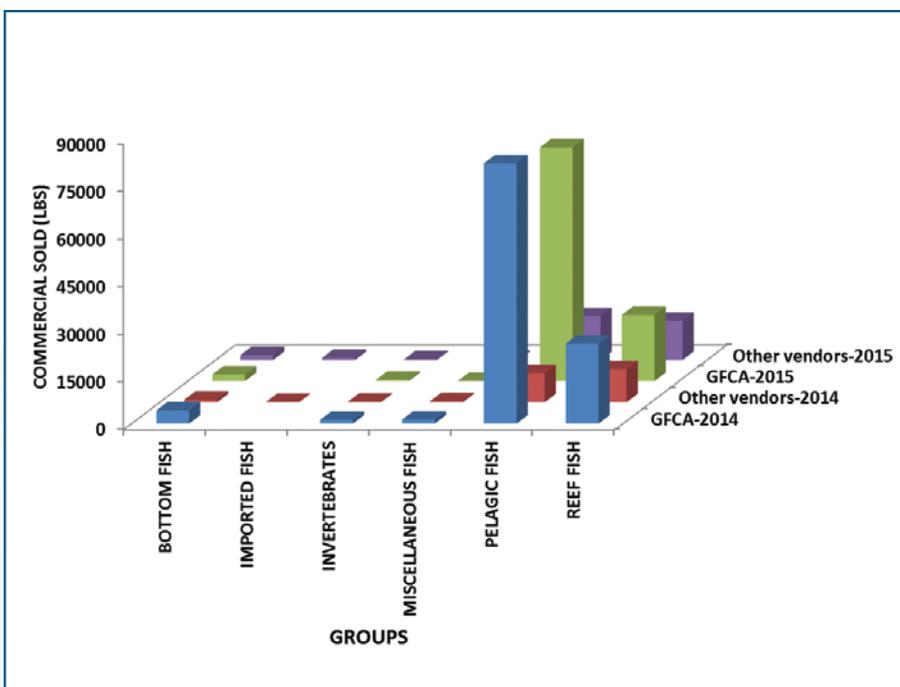


Figure 2. Total commercial landings of the different fish groups comparing GFCA and Guam vendors participating in the Territorial Science Initiative program in 2014 and 2015.



FEDS MOVE MARIANA GREEN TURTLE UP TO ENDANGERED STATUS

On April 6, 2016, the National Marine Fisheries Service (NMFS) and US Fish and Wildlife Service (FWS) announced a final rule to revise the green turtle Endangered Species Act (ESA) listing status. The rule resulted in the listing of the Mariana green turtle population from a threatened to an endangered status. The rule also listed the green turtle population in American Samoa as endangered and maintained the threatened listing for Hawaii. The global green turtle population was previously listed as threatened, with the exception of Florida and Mexican Pacific coast breeding populations, which were listed as endangered.

The decision by NMFS and FWS did not change from the proposed rule issued a year ago in March 2015, despite opposition received at public hearings. The two agencies reviewed the global status of green turtles and designated 11 distinct population segments (DPSs) based on nesting aggregations. DPSs are treated in the same manner as species under the ESA. The Mariana Archipelago is part of the Central West Pacific DPS, which also encompasses the Republic of Palau, Federated States of Micronesia, Papua New Guinea, Solomon Islands, Marshall Islands and the Ogasawara Islands of Japan. NMFS and FWS determined that the low nesting abundance, limited connectivity and low nesting diversity of this DPS provide for little resilience against current threats such as habitat modification and destruction, overexploitation, predation, fisheries bycatch, marine debris and climate change.

At the public hearing held on Saipan in July 2015, many voiced concern that the new listings would prevent

any cultural use of turtles from resuming. NMFS and FWS responded to these comments in the final rule by reiterating that harvest of green turtles is a prohibited activity under the ESA and that condition would not change under the revised listing status. The two agencies also noted that the low nesting abundance and other demographic factors of the Central West Pacific DPS mean it has little resilience against harvest and other threats that remove turtles from the population.

American Samoa is part of the Central South Pacific DPS, which also includes French Polynesia, Cook Islands, Fiji, Kiribati, Tokelau, Tonga and Tuvalu. The Hawaii green turtle population is designated as the Central North Pacific DPS. NMFS and FWS, in the final rule, explained that the separate DPS listings would allow for "more specialized protection" of each DPS. Responding to concerns that the new listings would impact activities in American Samoa, NMFS and FWS noted that the change to an endangered status was unlikely to result in additional burdens in the US Territory. Instead, the two agencies expect that the endangered status will highlight it as a conservation priority among the 11 DPSs and may encourage conservation actions outside of the United States.

The new listing went into effect on May 6, 2016. As a next step, NMFS and FWS are working on a separate proposed rule to consider green turtle critical habitat.

To download the final rule, including NMFS and FWS responses to public comments, visit www.fpir.noaa.gov/PRD/prd_green_sea_turtle.html ➔

COUNCIL SUPPORTS MANAHAK PROJECT IN GUAM

The seasonal harvesting of *manahak* has been a longstanding cultural tradition with the Chamorro people. Juvenile *manahak*, also known as rabbitfish, arrive in large tightly packed schools along the shallow coastline by the thousands during their annual run. The first fishery occurs when young rabbitfish arrive from the open sea as tiny silvery, transparent post-larvae. This usually happens during a few days around the time of the moon's last quarter in April or May and occasionally in October. Fishermen use fine-mesh throw nets to harvest them during these short seasonal windows when the moon and tides are right. A highly prized delicacy, *manahak* are harvested as soon as they arrive and before they start to feed on seaweed. Favorite local preparations are fried or pickled in salt and lemon juice and served as a condiment.

The University of Guam 4-H Youth Development Program, funded through the Western Pacific Regional Fishery Management Council, collaborated with local fishermen and students to conduct a unique project teaching students about this important fishery. Students worked directly with fishermen to capture *manahak* and with the University of Guam staff to learn how to grow them to maturity in an aquaculture pond. Once mature, adult *manahak* were tagged and released back into the coastal waters of Guam.

Students repaired and set up a large, above-ground circular pond at Guam's marine research facility. Once the pond was ready, students were mentored by

local expert fishermen on how to use the fine-mesh throw net to capture the juvenile fish. Transport tanks were loaded on flatbed trucks to help bring the fish back to the aquaculture facility.

In October and November 2014, the students and local fishermen captured more than 2,500 *manahak* to stock their pond. Sustaining the brood stock for this project required constant monitoring of water quality and other factors by project participants. Several studies were developed and conducted to help assess and document the challenges that could occur during the operation. Based on close monitoring and assessment, project participants determined the following.

- Juvenile *manahak* held in captivity are able to tolerate a wide range in salinity from 17 to 37 ppt.
- They grow well in temperatures between 23° and 30° C.
- Juvenile *manahak* can tolerate low dissolved oxygen levels down to 2 ppm and high (basic) pH levels up to 9.
- They can be sustained in high stocking densities when held within aquaculture systems.

All these characteristics make this species suitable for culture. The juveniles and adults are primarily herbivorous, feeding on different kinds of benthic algae. In captivity, they are omnivores, feeding on a variety of food, both of vegetable and animal origin, including shrimp feed pellets in the culture system. The results



of the feeding trials suggested that the dietary protein requirement for this species is above 30 percent. Fish fed with high dietary protein levels display faster growth than fish fed low protein diets or live seaweed. Rabbitfish reportedly eat amphipods, copepods, sponges, foraminifera, crustaceans and brittle stars, which suggests these species may in fact be opportunistic omnivores. The juveniles can be fed with a mixture of phytoplankton, rotifers, copepods and the larvae of *Artemia* in culture. The results of fry being fed algae and fish feed pellets over a seven-week period are reportedly twofold, an increase in their length and weight.

Finally, on April 17, 2015, five biology majors from the University of Guam participated in tagging and releasing of 300 adult *manahak* that were raised by the project into the Agana boat basin. Involving the University of Guam college students in the *manahak* project provided exposure to the project and opportunities for the students to participate in fishery research and support sustainability of Guam resources. ➡

HAGATNA FISHING PLATFORM NEARS COMPLETION

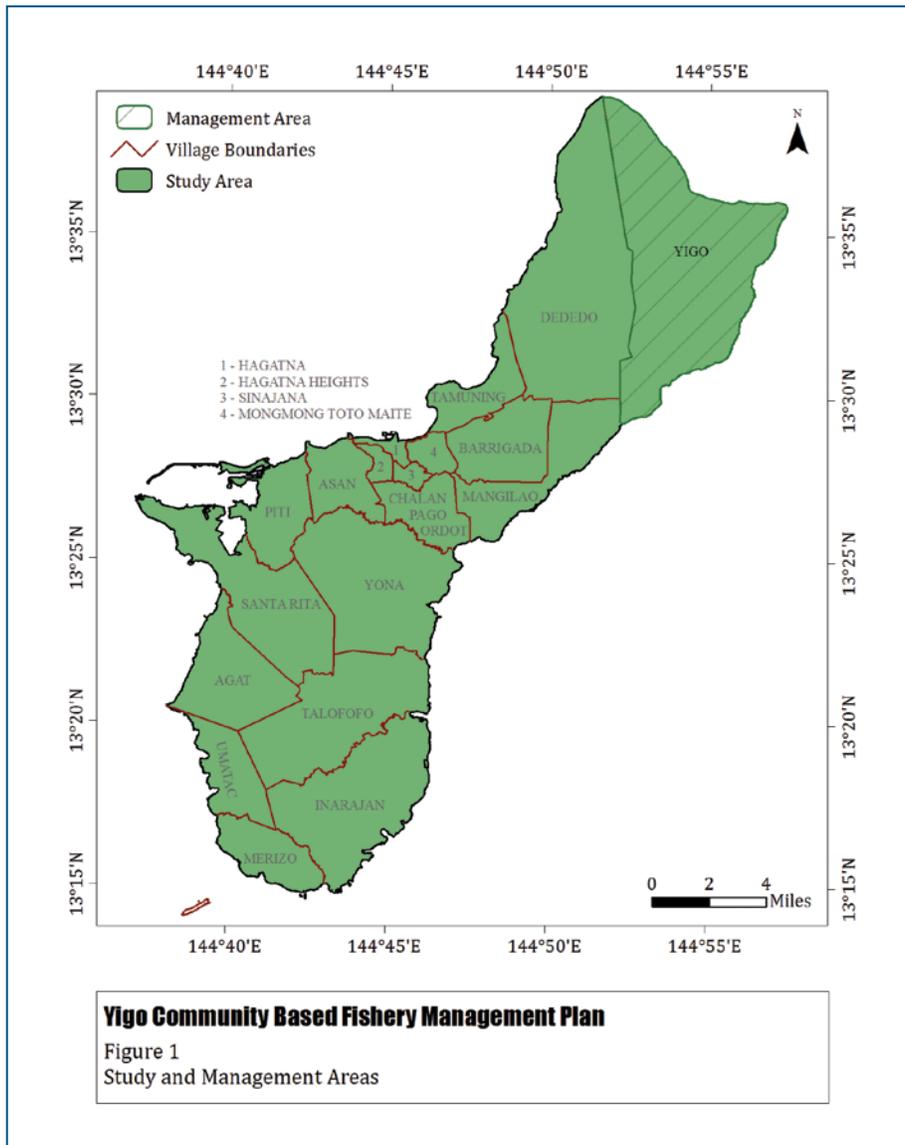


After several years in the making, the first phase of a fishing platform has been completed in Paseo de Susana Park, a popular recreation park administered by the Government of Guam in the Hagatna Boat Basin area. For decades, many of Guam's anglers have braved this area's rocky shoreline to fish, especially during the seasonal run of the *atulai* (bigeye scad). There have been several reports of anglers slipping or losing their balance while trying to navigate the large, uneven boulders of this shoreline. For Guam's physically challenged citizens and *manamko* (senior citizens), accessing the channel is nearly impossible. The objective of constructing the fishing platform is to provide a safe fishing location for all of Guam's anglers, including senior and disabled citizens.

In 2009, the Guam Organization of Saltwater Anglers (GOSA), a local community fishing organization, received a Western Pacific Community Demonstration Project Program grant from NOAA to develop plans for and construct the fishing platform. The GOSA plan was for a 500-foot platform constructed with durable materials and designed to have a small footprint over the existing shoreline area. In 2011, the Western Pacific Regional Fishery Management Council provided supplemental funding for the project from its Western Pacific Sustainable Fisheries Fund. In 2013, the Guam Department of Agriculture received a federal Sports Fish Restoration Grant to also supplement the construction of the platform. After the Council completed an Environmental Assessment for the project in 2014, GOSA and the Council provided their funds to the Department of Agriculture to conduct a public bid and select a contractor.

Construction of the platform began in late 2015 with funding for an approximately 130-foot platform. In 2016, the Council will be providing the Department of Agriculture additional funds stemming from the 2015 agreement between the Guam government and the Hawaii longline vessels for the transfer of bigeye tuna longline quota that was not used by Guam. The funding will add to the length of the platform. ➡

COMMUNITY-BASED FISHERY MANAGEMENT UNDERWAY IN GUAM



In January 2016, the Malessso Peskadot Committee convened at the Office of the Mayor of Malessso, Guam. The Peskadot Committee is one of the committees formed in 2015 to implement the Malessso Community-Based Fishery Management Plan (CBFMP). This plan was developed by the village of Malessso and published in 2014. The plan identifies resources in Malessso, the community's goals and objectives for these resources and management of them and an implementation plan for achieving those goals.

The Peskadot Committee reviewed and approved a draft code of conduct for Malessso. Once approved by the

community, the code will be publicized on signs and a brochure. The signs will be posted at Malessso Pier Park. The brochures will be available at the Mayor's office.

The committee is waiting on the results of the analysis of PCB contamination in Cocos Lagoon. Jason Miller reported that he had collected samples of fish, seaweed, sand and coral. After the Guam Environmental Protection Agency completes analysis of the material, it will be invited to share the findings with the community.

Addressing the zoning objectives of the Malessso CBFMP, the Mayor's office submitted a resolution to include Cocos Lagoon in the Guam Recreational Water Use Management Plan (RWUMP). The

Malessso Zoning Committee reviewed and approved the resolution. Guam waters in the RWUMP are administered and regulated by the Guam Department of Parks and Recreation (DPR). If the RWUMP were to include Cocos Lagoon, the DPR could create rules to regulate use of the lagoon. The Peskadot Committee adopted the resolution.

Elsewhere in Guam, the third and final workshop to develop the Yigo CBFMP was held at the Yigo Senior Center in January 2016. Mayor Rudy Matanane was on travel to Rota for the Mariana Islands' Mayors Association meeting and could not attend but sent a representative from his office. The two previous workshops were held in 2015. This workshop was used to identify stakeholders and prioritize resource management goals and objectives. Staff of the Western Pacific Regional Fishery Management Council assisted the community to meet the challenges of the planning process.

The community prioritized two cultural objectives.

- Protect cultural features or historical sites and monuments linked to coastal resources.
- Enhance or maintain cultural values.

The community's multiple-use objective includes development of alternate energy solutions that would provide 75 percent of the energy needs of local communities within the management area. The governance objective is to have the local and/or informal governance system recognized and strategically incorporated into management planning.



Yigo community members in a breakout session.

While the goal was to have the final draft of the plan ready for community review, certain pieces of the plan need further research and development. While the current plan does not

address all of the issues and challenges the community faces, it gives them the tools needed to refine the plan. The challenge now is to develop implementation plans to move the community toward the ultimate achievement of the plan's objectives.



GUAM CREATES LOCAL FISHERIES AND OCEAN MANAGEMENT COUNCIL

On April 4, 2016, Bill No. 160, introduced by Guam Sen. Brant T. McCreddie, was passed into law creating the Guam Ocean and Fisheries Conservation Act of 2015. The Guam Ocean and Fisheries Management Council will coordinate and promote the conservation of Guam's oceans, fisheries, and marine and freshwater resources. One of the key duties of this council is to coordinate the implementation of indigenous fishing rights under Public Law 29-127. Two members from Chamorro grassroots organizations will be included in the fishery council to represent and vote on behalf of the indigenous communities.

Manny Duenas, president of the Guam Fishermen's Cooperative Association, spoke in support of the measure. "The Council will be the first locally devised fisheries management council that I know of," he stated. "Federal authorities have always spoken for us on ocean and fisheries affairs. This Council gives our people a voice; it empowers the people of Guam." Duenas had drafted a petition in support of Bill 160, which was signed by more than 300 community members, local fishermen and their families. The petition was received by the Office of Sen. McCreddie last year shortly after the bill was introduced.

The original bill introduced in August 2015 included a \$2 marine user fee raised through an occupancy tax. The anticipated \$2 million to \$3 million that could have been generated annually

would have funded construction of marine structures, such as a canoe storage facility for the paddling community and a surfer's watch tower. The funds would also have improved enforcement in marine preserves around Guam. After several public meetings, the marine user fee was not included in the final bill.

The final Bill 160 that passed incorporates the rules and regulations set by the fishery council and requires permits and fees for fishing vessels and harvesting of fish and other marine life in the waters of Guam. In addition, Bill 160 establishes the Guam Ocean and Fisheries Conservation and Development Fund. The Development Fund will support construction of additional boat ramps in the northern and southern villages of Guam, which will improve access by fishermen, first responders, emergency personnel and the general public. The Development Fund will also help with the conservation of ocean resources and coral reefs, marina improvement, mitigation of surface and storm water runoff and erosion, and activities related to the preservation and perpetuation of Guam's indigenous Chamorro culture and heritage as it relates to the ocean and fishing. The council will oversee the use of funds through the Guam Department of Agriculture to promote sustainable use of Guam's oceans, fisheries, and marine and freshwater resources.



12TH FESTIVAL OF PACIFIC ARTS FEATURES COUNCIL EXHIBITS

Guam is hosting the 12th Festival of Pacific Arts from May 22 to June 4, 2016. The theme of the festival is *Håfa Iyo-ta, Håfa Guinahå-ta, Håfa Ta Påtte, Dinanña' Sunidu Siha Giya Pasifiku* (What we own, What we have, What we share, United Voices of the Pacific). Twenty-seven Pacific Island countries and territories at the festival include American Samoa, Australia, Cook Islands, Easter Island, Federated States of Micronesia, Fiji Islands, French Polynesia, Guam, Hawaii, Kiribati, Marshall Islands, Nauru, New Caledonia, New Zealand, Niue, Norfolk Island, Northern Mariana Islands, Palau, Papua New Guinea, Pitcairn Islands, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu, and Wallis and Futuna.

One of the festival's guiding principles is to foster the protection of indigenous cultural heritage and cultivate global awareness for Pacific arts and cultures. Traditional folk arts are an integral part of the heritage and practices of the Pacific island countries and territories that makes this region unique. An equally important principle is to ensure community awareness of the impacts and threats that may bring harm to the islands' cultural heritage and the resources that provide sustenance and livelihoods, according to John Calvo.

Calvo is the Guam education and outreach coordinator for the Western Pacific Regional Fishery Management Council and chair of the Festival's

Traditional Arts Committee. The Committee covered various disciplines, including body ornamentation (jewelry and tattoo), canoe and navigation, carving, culinary arts and traditional cuisine, fishing and hunting traditions, healing arts, tools and musical instruments, and weaving (rope-making, weaving, etc.) amongst other activities. Calvo also chaired the Festival's Fishing and Hunting Traditions Committee.

The Fishing and Hunting Traditions venue featured Council exhibits on Ecosystem Threats and Management, Fishermen's Code of Conduct, Community-Based Fisheries Management, Pelagic Fishing and the Chamorro Lunar Calendar. These are Council programs that are active on Guam.

The ecosystem exhibit has been very popular over the years. The colorful exhibit includes an interactive "Identify the Threat" game, which has been an eye-opener for many a participant.

The Council has promoted a Fishermen's Code of Conduct for some years. The code provides guidelines for fishing responsibly. It has been translated into Chamorro and other languages. Postcards featuring the various languages are being distributed at the exhibit.

With help from the Council, the village of Malesso (Merizo) has been developing a marine resource management plan to assist the community in retaining and



About a dozen sailing canoes from various islands arrived for the opening of the Festival of the Pacific Arts in Guam.

expanding its utilization of the resources to perpetuate cultural practices and traditions. The Council has been working with the Mayors Council of Guam to assist villages in the development of such tools.

Pelagic fishing has been a traditional practice on Guam and the Northern Mariana Islands for approximately 4,000 years. While the gear has evolved, the cultural activity and values continue to be strong within the local community.

The Council has produced the Chamorro Lunar Calendar since 2007 and has funded various efforts to document traditional knowledge. It has been a major sponsor of the *Gupot Fanha'aniyan Pulan CHamoru* (Chamorro Lunar Calendar Festival) and the *Gupot Y Peskadot* (Fisherman's Festival). Council participation in the 12th Festival of Pacific Arts is a continuation of that commitment. ➡

NORTHERN ISLANDS PLAN REDUCES MILITARY PRESENCE, ENSURES COMMUNITY ACCESS



Workshop participants map resources on Pagan.

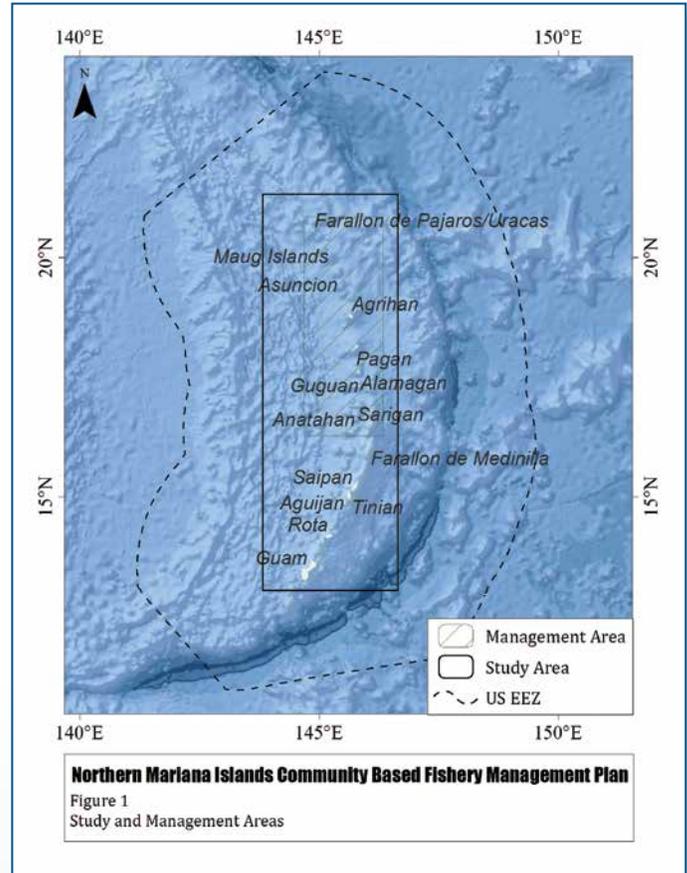
In January 2016 the second and final workshop to develop the Northern Islands Community-Based Fishery Management Plan (CBFMP) was held at the Hyatt Regency Saipan in the Commonwealth of the Northern

Mariana Islands (CNMI). The meeting was attended by the Mayor of the Northern Islands, a dozen community members, the secretary of the CNMI Department of Lands and Natural Resources (DLNR) and staff members from the DLNR and the Western Pacific Regional Fishery Management Council. Adequate information was collected to begin drafting the plan.

The Northern Islands community identified two objectives for the plan. One is a governance initiative spurred by the military's efforts to turn Pagan, the main island in the Northern Islands, into a military training area. The objective is to exclude or reduce the military presence in the Northern Islands. The second objective is socioeconomic and aims to ensure the Northern Island community has a continued presence and access to the area.

During the workshop, participants mapped the natural, cultural and historical resources in the Northern Islands. The community's knowledge of the resources in the area is voluminous, detailed and valuable and will take many years to inventory.

The Northern Islands CBFMP project began in 2014, when the mayor of the Northern Islands approached the Council to assist the community in developing the CBFMP. Council staff facilitating the first workshop found the community was enthusiastic about this activity. The CBFMP project builds on a relationship between the Northern Islands community and the Council that began in the early 2000s. The CNMI Remote Fishing Station Project was one of the first projects granted funding under the Community Demonstration Project Program.



The project aimed to establish remote fishing stations on Anatahan and Alamagan and to ship harvested fish to Saipan for sale. During the project development phase, the Anatahan volcano erupted. In May 2003 the project was implemented only on Alamagan. The first harvest was sent to Saipan in June 2005. While the fishing stations still exist and have been maintained, shipping to Saipan has not been viable as a commercial enterprise.

CNMI PROPOSES VISITOR FEE TO SUPPORT MPA MANAGEMENT

Marine conservation areas established in the Commonwealth of the Northern Mariana Islands (CNMI) in 2000 and 2001 aimed to continue resident and visitor use while minimizing impacts on fish and marine life. These areas on the islands of Rota, Tinian and Saipan have thrived through strict conservation measures and soon may provide fiscal support for fishery management as well.

The 19th CNMI Legislature has introduced bills in both the House and the Senate that propose to charge fees to non-residents who visit Saipan's Managaha Marine Conservation Area, Bird Island



Visitors to CNMI's Bird Island Sanctuary could soon be charged fees.

Sanctuary and Forbidden Island Sanctuary; Sasanhaya Bay on Rota; and the Tinian Marine Reserve Area.

House Bill No. 19-105 and Senate Bill No. 19-66 both authorize the CNMI

Department of Lands and Natural Resources and its Division of Fish and Wildlife to charge a yet-to-be-determined fee for non-residents that would be deposited into a Marine Conservation Revolving Fund. The fund would then be used by the Department and the Division for operation costs related to marine protected area management, including, but not limited to, enforcement, conservation and research activities. This could provide an additional source of revenue for the Department to fill in the gaps in fishery science and develop policies and regulations that are appropriate for CNMI fisheries.

The bills are being discussed by the CNMI legislature and subject to amendments. For more information see <http://www.cnmileg.gov.mp>.



Sunrise over Uracas (also known as Farallon de Pajaros). NOAA photo by Jake Asher.

CNMI GOVERNOR OPTIMISTIC ABOUT SUBMERGED LANDS ISSUE, CRITICIZES MONUMENT'S UNFULFILLED PROMISES

Commonwealth of the Northern Mariana Islands (CNMI)

Gov. Ralph Torres's visit in late February 2016 to Washington, DC, resulted in some positive results about the submerged lands from 0 to 3 miles around the islands of Uracus, Maug and Asuncion within the Marianas Trench Marine National Monument (MNM). According to the *Marianas Variety*, the governor said his administration and the federal authorities came up with an agreement.

"We agreed that they will be doing the management, and, upon availability of funds, they will revert [sic] the property to us," the governor said. "That was the negotiation that we had, but the biggest issue is funding the management [of submerged lands] ... We agreed that if funding is appropriated by the US Congress, we will work together on management—it will be co-management, and we will be working with [the National Oceanic and Atmospheric Administration]," he added.

On Sept. 18, 2013, Congress approved Public Law 113-34, which amended US Public Law 93-435 so as to transfer submerged lands within 3 miles from the coastline of the CNMI from the United States to the Commonwealth. However, on January 14, 2016, President Barack Obama through Proclamation 9077 exempted from the transfer the submerged lands adjacent to the three islands within the monument. The proclamation says these islands are "the most biologically diverse in the Western Pacific, with relatively pristine coral reef ecosystems that have been proclaimed objects of scientific interest and reserved for their protection."

Also exempted from the transfer were the submerged lands adjacent to the land leased by the United States on the islands of Tinian and Farallon de Medinilla under the Lease Agreement Made Pursuant to the Covenant to Establish a Commonwealth of the Northern Mariana Islands in Political Union with the United States of America, dated January 6, 1983, as amended. According to the Proclamation, these submerged lands are essential for ensuring that United States forces forward deployed to the Western Pacific are adequately trained and ready to respond immediately and effectively to orders from the National Command Authority, and for ensuring the safety of citizens of the Commonwealth of the Northern Mariana Islands.

On May 4, 2016, the Department of the Interior's US Fish and Wildlife Service announced the availability of a draft environmental assessment (Draft EA) for the Marianas Trench MNM's Northern Islands submerged lands transfer to the CNMI for public review and comment. The Draft EA describes the Secretary of the Interior's proposal to convey specific



The island of Maug. NOAA photo by Annette DesRochers.

submerged lands within the Monument from the United States to the CNMI government under the authority of the Territorial Submerged Lands Act. The deadline for written comments is June 6, 2016.

In related matters, Gov. Torres wrote to President Barack Obama on May 3, 2016, about the proposed Papahānaumokuākea MNM expansion and the unfulfilled promises related to the establishment of the Marianas Trench MNM.

Gov. Torres said that "leading up to the designation of the MTMNM, some government officials and some environmental organizations touted great potential economic impacts that the CNMI would receive from the creation of our Monument. One study suggested for example that the CNMI would benefit from approximately \$10 million per year in direct spending with approximately \$5 million per in year in tax revenue and the creation of nearly 400 jobs as a result of the creation of the MTMNM. Unfortunately that has not happened; the CNMI has yet to receive any such benefits."

Gov. Torres encouraged President Obama "to consider and set into place the necessary administrative tools and support to ensure the proper management of all the existing US marine monuments." He noted that immediately after the creation of the Marianas Trench MNM, the Departments and Commerce and the Interior were instructed to finish the management plan within two years of the monument designation. "We are now in our eighth year since the [monument] was established and our monument and the management plan process have yet to come to fruition," Gov. Torres noted. "I therefore respectfully request your focus include the monuments already in existence and assistance with the completion of the existing [Marianas Trench] MNM mandates." 🐟

CNMI SEEKS TO IMPROVE GARAPAN FISHING BASE



Using funds derived from the transfer of bigeye catch limits to Hawaii longline vessels, the Commonwealth of the Northern Mariana Islands (CNMI) government has identified improvements to Garapan Fishing Base as a high priority. Known locally as Fishing Base, the area has had a long history of supporting fishing operations in Saipan. Prior to World

War II, Fishing Base was the location of Saipan's commercial fishing industry, which at the time consisted of Okinawan pole-and-line tuna vessels. By the late 1930s, around 12 diesel-powered vessels, approximately 60 feet in length, operated out of Fishing Base. A pier of approximately 485 feet was constructed to service the vessels. The vessels predominately targeted skipjack tuna using pole-and-line gear but also targeted yellowfin tuna using longline methods. After World War II, the US government reestablished Fishing Base by constructing a few buildings and rubble pier and reconditioned two of the Okinawan vessels that were damaged during the war. Carolinian men were recruited to fish, and the Saipan fishing Company was formed.

Currently, Fishing Base has a small gravel parking lot and boat ramp. The old rubble

pier remains but is not maintained. Still to this day, Fishing Base is the primary access point for fishermen with trailered vessels.

Over the next two years, the Western Pacific Regional Fishery Management Council will be working with the CNMI Department of Marine and Wildlife Resources to fund improvements to the Fishing Base area. These improvements include 1) paving the parking lot area and establishing designated parking stalls; 2) shoreline revetment, 3) floating docks, 4) widening the boat ramp, 5) placing navigational buoys and aids, and 6) dredging to allow larger vessels to access the area. Collectively, these improvements will help return the Fishing Base area to its past glory, supporting its rich history and serving to facilitate fisheries development in Saipan. ➡



Postcards from the Pacific

1 & 2: Thirty-three boats participated in the 2016 San Jose Fishing Derby, April 30 in Tinian. CNMI Advisory Panel Chair Richard Farrell spearheaded this year-long effort to increase the number of fishing tournaments in the Marianas. Also helping to organize the derby were the Tinian Fisherman's Association (Ray Dela Cruz, chair; Wayne Villagomez, vice chair; Anthony Hofschneider, secretary/treasurer); the Tinian Mayor's Office; the Saipan and Tinian Department of Fish and Wildlife; and the Saipan and Tinian Department of Public Safety.

3: Anne Lagaspi (left), captain of the *Princess Mimi*, receives a check from Saipan Fishermen Association President Gene Weaver after landing a 23.15-pound dolphinfish to win the 12th Annual Mahi Fishing Derby on April 2, 2016.

4: Grace Christian Academy and **5:** Hopwood Junior High School winners of the Council's student poster contest on traditional navigation, seafaring and fishing were happy to receive their prizes in April. The winning posters are featured in the 2016 *Eskaleran Pulan Chamorro* and *Refaluwasch Papaal Maram* calendars, available for download at <http://www.wpcouncil.org/education-and-outreach/lunar-calendars>.

6: Hawaii longline representatives Sean Martin and Khang Dang with CNMI Gov. Ralph Torres at the April 2016 signing of the agreement to transfer 1,000 metric tons of CNMI's bigeye tuna quota to the Hawaii Longline Association for an annual payment of \$250,000 for three years. The funds will support fisheries development projects identified in the CNMI's Marine Conservation Plan.

1.



2.



3.



4.



5.



6.



OUTCOMES OF THE 165TH COUNCIL MEETING

The 165th meeting of the Western Pacific Regional Fishery Management Council opened March 15, 2016, in Honolulu with laudatory remarks from Samuel D. Rauch III, NOAA Fisheries Deputy Assistant Administrator for Regulatory Programs. Praising the US Regional Fishery Management Councils as the “key for the success” of both “environmental and economic progress” in the nation’s fisheries, Rauch said, “That’s a difficult thing to accomplish, but we have the statistics to prove it.”



At the 165th Council meeting, Council Executive Director Kitty Simonds (center) presents Claire Poumele, Council member and American Samoa Port Administration director, with a check to support development of a longline vessel dock in Pago Pago Harbor. Also pictured are (l-r) Council Advisory Panel members Christinna Lutu-Sanchez and Krista Corry and Council Vice Chair William Sword.

During the three-day meeting, the Council took action on a suite of management measures for federally managed fisheries of American Samoa, Hawaii, Guam and the Commonwealth of the Mariana Islands, including the following, among others:

American Samoa

- Presented the American Samoa Port Administration, with \$94,000 to support development of a longline vessel dock extension at the Malaloa Marina in Pago Pago Harbor.
- Requested that the National Marine Fisheries Service (NMFS) provide pelagic catch rates and other fishery statistics for the American Samoa Large Vessel Prohibited Area waters that recently have been opened to federally permitted, American Samoa-based longline vessels longer than 50 feet in length.
- Reiterated its recommendation that NMFS expedite an economic analysis of the impact on US purse-seine effort limits on American Samoa. On June 15,

2015, NMFS had closed the US purse-seine fishery on the high seas and US exclusive economic zone in the Western and Central Pacific Ocean (WCPO) after the fishery reached its 1,828 vessel day limit. A subgroup of vessels petitioned NMFS for an exemption. NMFS said the economic analysis was needed before a decision could be made.

Guam

- Asked the Guam Department of Agriculture (DOA) to review the information from enforcement reports on the sea cucumber harvest and report back to the Council in June 2016.
- Asked the Guam DOA to include the fishing community in the development of Sport Fish Restoration Program funding proposals, projects and priorities.
- Moved to work with NMFS and the fishing community on a regional approach to develop a marine mechanics training and certification program.

Hawaii

- Moved to seek Council membership on the Bureau of Ocean and Energy Management (BOEM) Hawaii Intergovernmental Task Force. Lease applications for three planned offshore wind farm projects are under review by BOEM. The Council will work to ensure access to fishing grounds is not restricted and fishing is allowed near these wind energy structures.
- Called for an assessment of any potential impacts of the proposed Kaupulehu closure on the bottomfish fishery and on fisheries in the US Exclusive Economic Zone.
- Called for NMFS to expand its Integrated Ecosystem Assessment (IEA) effort to South Oahu and Mamala Bay (Barbers Point to Diamond Head) to determine non-fishing impacts as these waters and their hinterland are areas of intense use by Honolulu’s population.
- Asked NMFS to expedite the administrative rule making processes that allows the US Territories to allocate part of their bigeye tuna quota in the WCPO to the US longline fleet based in Hawaii. In 2015, the Hawaii deep-set fishery experienced a two-month closure as it waited for completion of the paperwork.
- Moved to ask the United States to request that longline spatial management options be evaluated by the Secretariat of the Pacific Community and to have the Western and Central Pacific Fisheries Commission (WCPFC) Science Committee endorse this work program in 2016.

- Asked that reports generated by NMFS for the Hawaii longline fishery include maps showing trends of catch and fishing effort over time because these would be useful for understanding spatial trends in the fishery.
- Moved to ask the US delegation to the Inter-American Tropical Tuna Commission (IATTC) to propose that countries in the EPO report their catches by vessels greater than 24 meters and less than 24 meters, in the same manner as required by the United States.
- Moved to work with NMFS and IATTC scientists to evaluate options to provide relief to the Hawaii longline fishery from bigeye tuna quotas in the EPO that would not compromise conservation goals. The US quota, under which the Hawaii longline fishery operates, is 500 metric tons (mt) for vessels greater than 24 meters in length. Hawaii longline vessels greater than 24 meters were prohibited from fishing in the EPO from Aug. 12 to Dec. 31, 2015, after reaching the quota. They were the only longline fleet in the EPO to reach its quota and to be shut down in the EPO.
- Recommended that the overfishing of North Pacific EPO swordfish be addressed by continuing NMFS monitoring of the incidental catch of swordfish in the EPO by the Hawaii deep-set longline fishery and by asking the US Delegation to the IATTC to propose that the IATTC eliminate overfishing on this stock by reducing its fishing mortality by at least 10 percent. The Hawaii shallow-set fishery that targets swordfish operates in the WCPO and not in the EPO. The Hawaii deep-set fishery targeting tuna incidentally catches about 4 mt of EPO swordfish, i.e., 0.04 percent of the total annual catch of swordfish in the EPO.

The Council will hold its 166th meeting June 6 and 7 in Saipan, CNMI, and June 9 and 10, 2016, in Guam. There are two key action items.

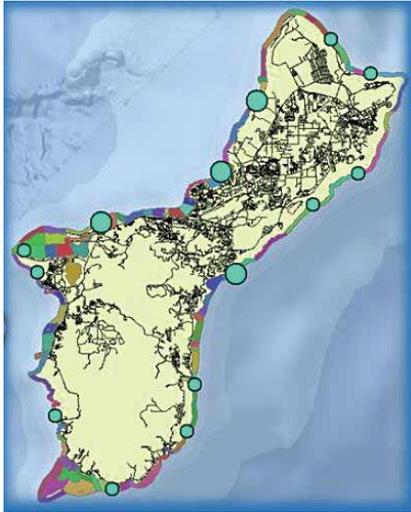
- Initial action to consider lowering the observer coverage for the Hawaii shallow-set longline fishery to below 100 percent and the risk curve analysis level on which to base it.
- Initial action to establish a process to evaluate when to trigger revisiting the risk of overfishing level used to set annual catch limits and initial action on options to modify or retain the existing control rule.

For more information, go to www.wpcouncil.org, email info.wpcouncil@noaa.gov or call the Council at (808) 522-8220. ➡

UPCOMING EVENTS

Fishermen, Public Invited to Coral Reef Fisheries Mapping Events

Fishermen who target coral reef fish are invited to participate in a mapping workshop from 9 a.m. to 2 p.m. on June 11, 2016, at the Guam Hilton Micronesia



Ballroom. A preview of the GIS technology that will be used at the workshop will be given at the Fishers Forum from 6 to 9 p.m. on June 9 also in the Micronesia Ballroom. Mapping the coral reef fishing grounds utilizing fishermen knowledge could help fishery scientists and managers to understand island-scale and within-reef spatial variation in the Mariana Archipelago. This in turn could improve stock assessments, catch reporting, and descriptions of essential fish habitat and habitat areas of particular concern in the Mariana Archipelago.

The workshop is part of a project by the Western Pacific Regional Fishery Management Council, through the Coral Reef Conservation Program, to map coral reef fishing grounds in Guam in 2016 and the Commonwealth of the Northern Mariana Islands (CNMI) in 2017. The project aims to map fishing effort for the top 10 priority species in Guam and CNMI and identify important habitats for juvenile and adult life stages of key target

species and areas of high fishing effort for different key targeted fish species. It will conclude by sharing information with fishermen about the status of fisheries and collaborating with them to form appropriate fishing regulations and implement more sustainable fishing practices.

The project will proceed in four phases: stakeholder engagement and analysis of existing fishing spatial data; participatory mapping data workshop; data revision and validation, including GPS data collection by a subset of fishermen citizen scientists and a second workshop; and data presentation in a final workshop. As an outcome of the project, planners and ocean users will have a better understanding of where the important fishing grounds are in the Mariana Archipelago. These data will support the protection of fishing grounds in marine planning and federal action agency planning.

Forum to Focus on CNMI Fishery Resources – Are They Really Overfished?

The Fishers Forum in Saipan will be held at the Fiesta Hotel and Spa in Garapan on Monday, June 6, 2016, from 6 to 9 p.m. as part of the 166th meeting of the Western Pacific Regional Fishery Management Council. The focus is the status of CNMI fishery resources based on information available. Environmental groups and some academia have advocacy campaigns that portray fisheries as bad. Overlooked are the cultural aspect of Pacific Island fisheries and their importance as a profession that feeds individuals, communities and tourists. Fishery managers strive to achieve a sustainable fishery that benefits the communities and the economy of the states and territories. Fishery management is based on sound science. CNMI has been subject to numerous scientific studies, data collection, statistical analysis and modeling. Much of the publicized results are from the academia and private entities that provide one side of the story. Unknown to the general public are the large efforts from fishery



agencies and fishery groups to collect a sizeable amount of fishery information to shed light on the side of the story that asks: Is CNMI's marine resources really overfished? The public is invited to attend this free, family friendly event to learn more about CNMI's marine resources and how they are being managed.

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IUCN World Conservation Congress

The International Union for Conservation of Nature (IUCN)'s World Conservation Congress will be held in the United States for the first time on Sept. 1 to 10, 2016,



at the Hawaii Convention Center in Honolulu. This year's theme is

Planet at the Cross-roads. The World Conservation Congress consists of a public forum during the first half and members' assembly during the second half.

The Western Pacific Regional Fishery Management Council joined the IUCN membership in 2016 and will be participating in the World Conservation Congress along with over 1,200 members from nearly 160 countries.

Founded in 1948, IUCN brings together States, government agencies and a diverse range of non-governmental organizations in a unique world partnership. As a Union, IUCN seeks to influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable.

For more information, go to <http://www.iucnworldconservationcongress.org>.

COUNCIL FAMILY UPDATES

CNMI Regional Ecosystem Advisory Committee: New members include **Robert Guerrero; Robert Hunter; Brooke Nevitt; Crispin M. Ogo**, head of the Indigenous Affairs Office; and **Marianne C. Teregeyo**. ➔

Recipe

Guam-Style Marlin Kelaguen

Courtesy of Chefs Eddie Mafnas and Jeffrey Sampson, Firehouse Food Truck and Mafnas Catering and Events

Ingredients

- 1 lb fresh baatto (marlin), ½-inch dice
- ½ cup fresh lemon juice
- 4 tbsp lemon powder
- 2 tbsp chili peppers
- ¼ cup onion, small dice
- To taste, sea salt
- 1 cup freshly grated coconut
- 3 tbsp scallions, thinly sliced

Method and Plating

Combine fish, lemon juice and salt. Refrigerate for 20 minutes. Drain lemon juice and add remaining ingredients. Refrigerate for 15 minutes. Serve with your favorite corn tortillas.

Serves 8 people



Chef Eddie Mafnas

Chef Jeffrey Sampson



**Western Pacific Regional Fishery
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2016 Council Calendar

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June

June 6–8: 166th Meeting of the Western Pacific Regional Fishery Management Council, Saipan, CNMI, and Tumon Bay, Guam

June 11: Community Resource Mapping Workshop, Tumon Bay, Guam

June 19–24: 13th International Coral Reef Symposium, Honolulu

June 25–July 1: National Marine Educators Association, Orlando, Fla.

June 27–July 1: 90th Meeting of the Inter-American Tropical Tuna Commission, La Jolla, Calif.

August

Aug. 3–1: 12th Meeting of the Western and Central Pacific Fisheries Commission's Science Committee, Bali, Indonesia

Aug. 10–13: 6th International Pacific Marine Educators Network Conference, Manado, Indonesia

Aug. 29–Sept. 2: Northern Committee, Western and Central Pacific Fisheries Commission's, Fukuoka, Japan

September

Sept. 1–10: IUCN World Conservation Congress, Honolulu

Sept. 15–16: Our Ocean Conference, Washington, DC

Sept. 19–23: US Coral Reef Task Force, Saipan and Guam

Sept. 21–27: Technical Committee, Western and Central Pacific Fisheries Commission, Pohnpei, Federated States of Micronesia

Sept. 28: FAD Management Working Group, WCPFC, Pohnpei

October

Oct. 4–6: 124th Scientific and Statistical Committee, Honolulu

Oct. 11–14: 167th Meeting of the Western Pacific Fishery Management Council, Honolulu

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