

HAWAI'I HUMPBCKS RECOVERED, GREEN TURTLE RECOVERY QUESTIONED



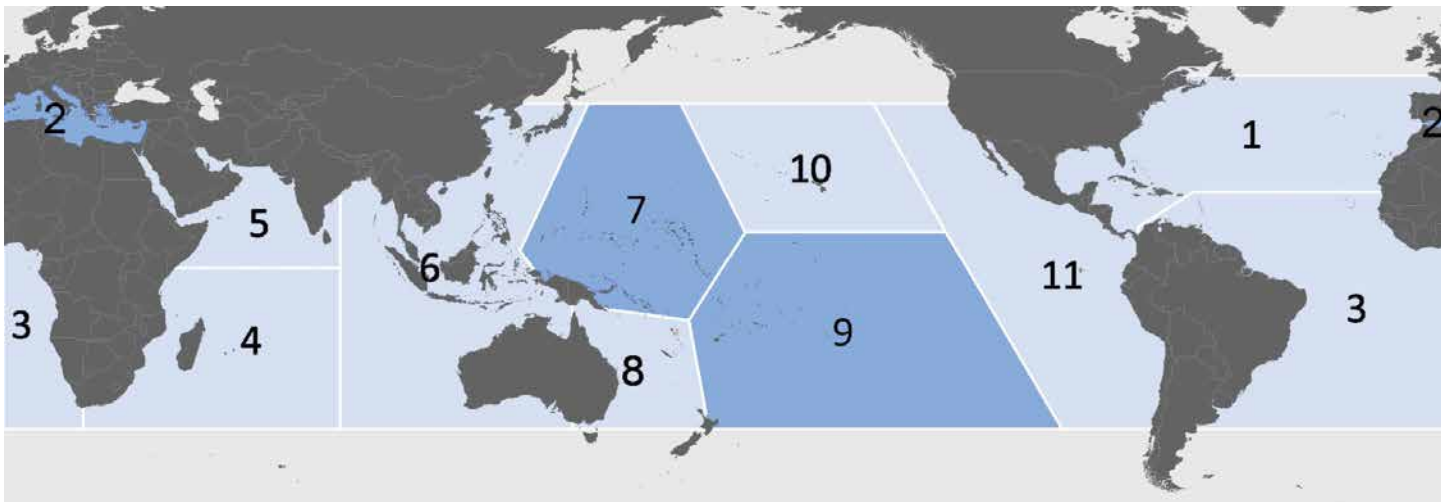
Hawai'i green sea turtles (*Chelonia mydas*) on O'ahu.

The National Marine Fisheries Service (NMFS) on April 21 and March 23, 2015, published proposed rules and 12-month findings that addressed petitions to categorize the North Pacific humpback whale and Hawai'i green sea turtle as distinct population segments (DPSs) and remove them from the Endangered Species Act (ESA) listings. The petitions were submitted in April 2013 by the Hawaii Fishermen's Alliance for Conservation and Tradition (HFACT) and in February 2012 by the Association of Hawaiian Civic Clubs, respectively. While NMFS' humpback whale finding warranted a subsequent Alaska petition to categorize the Hawai'i humpback whale breeding population as a DPS and delist it, NMFS' denial to delist the entire North Pacific population or the Hawai'i green sea turtle population demonstrates an alarming trend in NMFS' approach to species that have had ESA protection. The approach is overly risk-averse and shows a lack of intent to return management of living marine resources to state, territorial and other responsible management authorities.

When the HFACT petition was submitted to NMFS, the best available science concluded that the population structure of the North Pacific humpback whale was highly complex and that various uncertainties and data gaps remained for this population. Eight months later in December 2013, a group of 19 authors, including five who served on the 11-person Humpback Whale Biological Review Team (BRT), published a paper suggesting that the North Pacific population could be viewed as not a single DPS but as four DPSs. In February 2014, nearly a year after HFACT's petition (to which NMFS had not yet published a 12-month finding), the State of Alaska submitted a petition to delineate the Central North Pacific stock of the humpback whale (which includes the humpbacks that breed in

The approach is overly risk-averse and shows a lack of intent to return management of living marine resources to state, territorial and other responsible management authorities.

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Map illustrates the global reclassification of the green sea turtle population into 11 Distinct Population Segments. Threatened (light blue) and endangered (dark blue) green turtle distinct population segments (DPSs): 1. North Atlantic, 2. Mediterranean, 3. South Atlantic, 4. Southwest Indian, 5. North Indian, 6. East Indian-West Pacific, 7. Central West Pacific, 8. Southwest Pacific, 9. Central South Pacific, 10. Central North Pacific, and 11. East Pacific.

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 Hawai'i, American Samoa, Guam, the Commonwealth of the Northern Mariana Islands and the eight US Pacific remote island areas.

HAWAI'I HUMPBACKS RECOVERED, GREEN TURTLE RECOVERY QUESTIONED

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Hawai'i) as a DPS and remove that DPS from the ESA endangered species list.

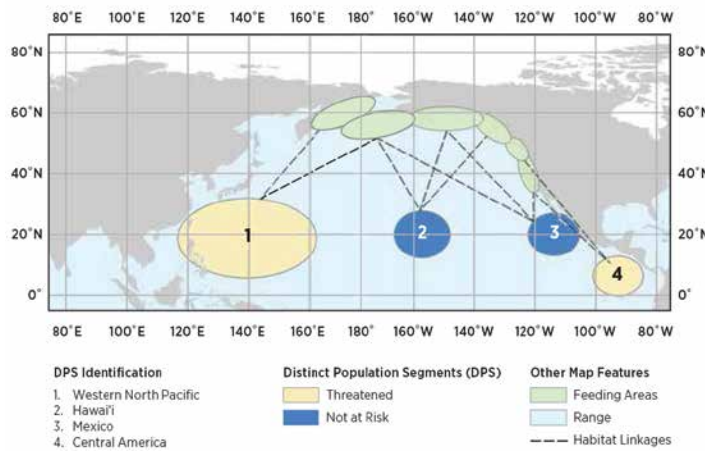
In its recently released proposed rule and 12-month findings for the two humpback whale petitions, NMFS denied the HFACT petition to delist the entire North Pacific population and pursued the Alaska petition to categorize the Hawai'i humpback whales as the Central North Pacific DPS. NMFS identified 14 DPSs globally, including four DPSs for the North Pacific population (see map). All four of these DPSs migrate to winter feeding grounds in the North Pacific where some of the populations co-mingle

the BRT considered in determining the extinction risk for a species/DPS is its population size. The division resulted in the continued listing of two fringe populations, which together represent less than 10 percent of the North Pacific population.

Similar to the humpback whale petitions, the delisting petition for the green sea turtle triggered a global status review of the species. Green sea turtles were listed under the ESA as threatened in 1978, except for the Florida and Mexican Pacific Coast breeding populations, which were listed as endangered. As

a result of the status review, NMFS and the US Fish and Wildlife Service (FWS) identified 11 DPSs worldwide and proposed listing eight as threatened and three as endangered. The Florida and Mexican Pacific Coast populations would move from the endangered to threatened status, while

Humpback Whale Distinct Population Segments (DPS) in the North Pacific

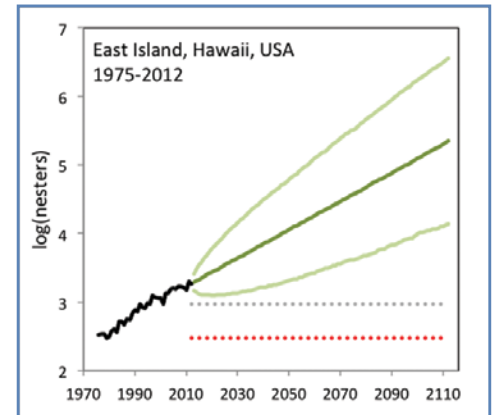


before returning to their respective breeding grounds in the Western North Pacific, Hawai'i, Mexico and Central America. NMFS also proposed delisting the Hawaii and Mexico DPSs in the North Pacific and all seven DPSs in the southern hemisphere (including the Oceania DPS to which American Samoan belongs). NMFS proposed retaining the threatened list for the Central America DPS and the Western North Pacific DPS, which might be found in the waters around the Mariana Archipelago.

NMFS acknowledged in the proposed rule that "the petitioned North Pacific population could also satisfy the discreteness and significance criteria of the DPS Policy." However, NMFS explained that it exercised discretion as "an expert agency charged with administering the ESA" in dividing the North Pacific population into four DPSs, as the approach "represented a more risk averse approach." One of the criteria

the Central Western Pacific DPS (which includes Guam and CNMI green turtles) and Central South Pacific DPS (which includes American Samoa green turtles) would move from a threatened to an endangered status along with the Mediterranean DPS. None of the DPSs were proposed for delisting. NMFS and FWS recommend denying the delisting petition for the Hawai'i population (i.e., Central North Pacific DPS) due to its small and narrowly distributed nesting population and threats of climate change and sea level rise.

The decision to maintain the threatened listing for the Hawai'i green turtles comes despite the finding in the Green Turtle Status Review report that the population has a zero percent probability of falling below critical thresholds (see accompanying chart). For the Hawai'i population, the Status Review team conducted a Population Viability Analysis (PVA) using the long-term nesting data



The Population Viability Analysis using the long-term nesting data at East Island in French Frigate Shoals shows that the nesting population of green sea turtle is unlikely to drop below two critical thresholds, 50 percent decline from the current abundance (gray dotted line) and less than 300 nesting females (red dotted line). The light green solid lines indicates the 95 percent confidence interval of the projection, based on 10,000 simulations. Source: Green Turtle Status Review

at East Island in French Frigate Shoals, where nearly half of all nesting in the Hawaiian Islands occurs and the nesting population trend has continuously increased for nearly 40 years. Results of the PVA showed that the population was unlikely to experience any substantial decline over the next 100 years.

Despite the recovering trend, NMFS and FWS found that the concentrated nesting in the low-lying atoll in the Northwestern Hawaiian Islands and the current level of nesting abundance, which was considered low at approximately 4,000 nesting females, make the Central North Pacific DPS vulnerable to sea level rise and at risk of extinction within the foreseeable future.

"To suggest that the honu (Hawaiian green sea turtle) could be at risk of extinction because of sea level rise is highly speculative and not based on any modeling or rigorous analysis," notes Kitty Simonds, executive director of the Western Pacific Regional Fishery Management Council. "Sea turtle experts have said that green turtles will find another nesting beach if one disappears. Whale-Skate Island in French Frigate Shoals submerged entirely in the 1990s, and we did not see a decline in nesting females in years following. On the contrary, we continue to see exponential increase in the face of many threats identified by NMFS."

Range-wide information for the Central West Pacific and Central South Pacific

DPSs are limited compared to the well-studied Hawai'i population. Green turtle nesting areas are scattered across the Pacific Islands, and, while abundances at most rookeries are small, the total estimated nesting females add up to approximately 6,500 in the Central West Pacific DPS and approximately 2,800 nesting females in the Central South Pacific DPS. However, NMFS and FWS considered these abundances low, especially given the small size of each rookery.

In addition to the low abundance, NMFS and FWS identified a number of increasing threats that put the DPSs for green turtles in Guam, CNMI and American Samoa in danger of extinction. For the Central West Pacific DPS including Guam and CNMI, threats include rapid human population growth in many areas of the insular Pacific resulting in coastal development and construction, destructive fishing methods, fishery bycatch, legal and illegal harvest of green turtles and eggs, and climate change impacts. In the Central South Pacific DPS including American Samoa, threats include chronic and persistent illegal harvest, sea level rise and loss of habitat resulting from climate change.

In comparing the humpback and green turtle proposed rules, it seems as if a species' ESA status determination hinges on the protection afforded to that species should it become delisted. Delisted humpback whales would still be afforded full protection in the United States under the Marine Mammal Protection Act and continue to be subject to the whaling moratorium under the International Whaling Commission. However, in the absence of an alternative federal law that would provide protections to green sea turtles similar to the ESA, NMFS appears to be reluctant in considering delisting the Hawai'i green sea turtle even though it is protected and managed under existing State of Hawai'i laws.

The green turtle population has seen dramatic recovery in many places around the world. The global abundance for nesting females alone is estimated at around 550,000 animals, which would easily translate into tens of millions of green turtles of all life stages worldwide. In the decision to keep all green turtle DPSs under the ESA protection, NMFS noted that the removal of ESA protections could pose a threat to certain populations. In other words,

NMFS appears to be operating under the assumption that species cannot maintain sustainable populations unless they are fully protected under the ESA or other federal mandate and that returning management to states and other applicable agencies would result in poor management after delisting. ➡

To read the humpback whale findings and proposed rule, go to <https://federalregister.gov/a/2015-09010>. Comments must be submitted to NMFS by July 20, 2015.

To read the green sea turtle proposed rule and status review, go to www.nmfs.noaa.gov/pr/species/turtles/green.htm. The proposed rule is open for public comment for 90 days until June 22, 2015.

COUNCIL SETS TERRITORIAL LIMITS, HOSTS INTERNATIONAL WORKSHOPS ON BIGEYE TUNA

The Western Pacific Regional Fishery Management Council is working with the US Pacific Territories and the tuna industry throughout the Pacific to tackle the persistent problem of overfishing of bigeye tuna. The Pacific-wide stock is internationally managed and assessed separately in the Western and Central Pacific Ocean (WCPO) and Eastern Pacific Ocean (EPO) by the Western and Central Pacific Fisheries Commission (WCPFC) and the Inter-American Tropical Tuna Association (IATTC), respectively. According to stock assessments and the stock status determination reference points in the Council's Pelagic Fishery Ecosystem Plan FEP, bigeye overfishing is occurring in the WCPO, but the stock is not overfished in the WCPO or EPO. However, bigeye is considered overfished when using the WCPFC's limit reference point, which is not associated with the maximum sustainable yield.

At its 162nd meeting in Honolulu, March 16 to 18, 2015, the Council set a 2,000 (metric ton) mt bigeye tuna longline catch limit each for American Samoa, Guam and the Commonwealth of the Northern Mariana Islands (CNMI) for fishing years 2015 and 2016. These are the same bigeye catch limits approved in 2014. Each of the US Pacific Territories would be allowed to enter into agreement to transfer up to 1,000 mt to US vessels permitted under Specified Fishing Agreements pursuant to Amendment 7 of the Pelagic FEP. The Specified Fishing Agreements include funding to support fisheries development projects identified in a Territory's Marine Conservation Plan, which are approved every three years by the Secretary of Commerce pursuant to Section 204(e)(4) of the Magnuson-Stevens Fishery Conservation and Management Act. The Territory bigeye catch specifications support fisheries development in the Territories, while ensuring that the Hawai'i longline fishery can operate in the WCPO near the end of the calendar year when local demand for fresh sashimi is highest.

In making its decision, the Council considered management measures for bigeye tuna in the WCPO developed by the WCPFC. Under the WCPFC, the US Territories are grouped with Small Island Developing States, which do not have bigeye longline quotas in recognition of the fisheries development aspirations of these small Pacific Island countries and territories. Together the Hawai'i and combined US Territorial catches account for approximately 3 percent of the total WCPO bigeye tuna catches by all countries. The Council also considered that, while the WCPO longline fishery (allcountries combined) has reduced its total catch of bigeye by approximately 30 percent from its 2001-2004 average baseline level, the WCPO purse-seine fishery's incidental take of bigeye tuna has increased by 40 percent from the same baseline period and is now at a record high. CONTINUED ON PAGE 4



COUNCIL HOSTS BIGEYE TUNA WORKSHOPS

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In an effort to identify more effective measures for both the WCPO longline and purse-seine fisheries to reduce their bigeye catch, the Council coordinated two international workshops in Honolulu.

On April 7, 2015, the Council hosted an informational meeting at the Council office that included about two dozen scientists, industry representatives and fishery managers from NMFS, WCPFC, Secretariat of the Pacific Community (SPC), Hawai'i, Japan and the Federated States of Micronesia (FSM) to review the status and management of WCPO longline fisheries and identify potential pathways for international cooperation. A main focus of the meeting was learning about the Parties to the Nauru Agreement (PNA) Longline Vessel Day Scheme (LLVDS).

"The bigeye fishery is destined for a very bleak future unless we do something about it"

Eugene Pangelinan, deputy director of the FSM National Oceanic Resource Management Authority, explained that the PNA has developed a VDS for longline fisheries similar to the purse-seine VDS, adjusting for the differences in the fisheries. The idea, he said, is to have an LLVDS that is a zone-based effort limit fishery rather than a flag-based catch limit fishery. After eight technical working groups and four workshops, five PNA members have signed on to the LLVDS, making it fully implementable, he added.

Pangelinan noted that there is a lot still to work out, such as improving provisional data, but the PNA thinks it has to move forward. "The bigeye fishery is destined for a very bleak future unless we do something about it," he said. There will be more development on the LLVDS with hopes that it will be promoted and receive some acceptance at the WCPFC meeting to be held in December 2015 in Bali. The Council will continue to monitor the development of the LLVDS and how it might affect management of Hawai'i and US territorial longline fisheries.

On April 8 to 10, 2015, the Council hosted a workshop in Honolulu that included nearly two dozen fishing industry representatives from the United States, Japan, Europe, Taiwan, Korea, China and Ecuador that operate in both the WCPO and EPO. Also attending were representatives from NMFS, WCPFC, IATTC, SPC, Pacific Islands Forum Fisheries Agency, International Seafood Sustainability Foundation, Marine Stewardship Council, the European Commission and fishery management agencies of FSM, Marshall Islands, Taiwan and Japan. The meeting was chaired by Drew Wright, former WCPFC executive director, and offered an opportunity for the industry representatives to focus in an informal manner on the issue of the juvenile bigeye tuna caught by purse-seine fisheries.

Several recurring issues surfaced during the three-day workshop, including but not limited to the following:

- Purse-seine bigeye tuna hotspots exist with higher purse-seine bigeye catch

per unit effort (CPUE) in the central equatorial Pacific. However, most of the purse-seine bigeye tuna is caught in the WCPO commensurate with high levels of purse-seine effort.

- There is considerable uncertainty surrounding the number of purse-seine FADs and their effect on purse-seine CPUE.
- Purse-seine capacity management is a very important component of solving the problem.
- Purse-seine catch limits are an option, but distinguishing small (<3.5 kg) bigeye and yellowfin is difficult. Many of the measures depend on accurate catch monitoring. It is important for countries and canneries to cooperate to monitor the catch.
- Research on gear modifications and other critically important technological solutions is underway, but more development is required before they can be used to address the problem. For example, the Japanese fleet has reduced bigeye mortality by increasing the efficiency of free school setting through increased mesh size and more powerful winches.
- Market-based measures are important but will need to be combined with effective management measures.

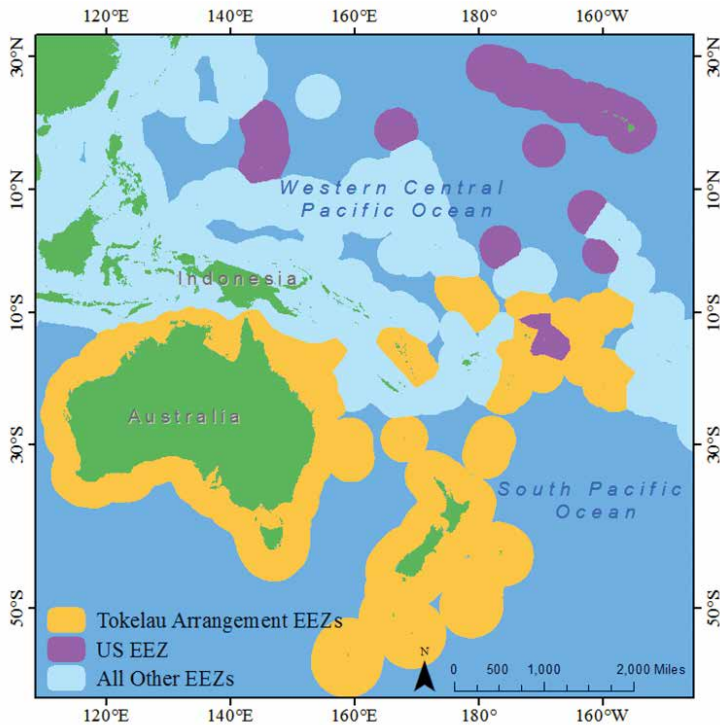
In his summary of the workshop, Wright commented that this workshop was successful in its endeavor to create a non-commission environment in which the industry could be heard and noted that the bigeye stock status requires urgent management action for all gear types. ➔

Participants of the Purse-Seine Bigeye Tuna Workshop included industry, government and non-government tuna interests from throughout the Pacific and Europe.



ACTIONS ADDRESS INTERNATIONAL COOPERATION, DOMESTIC MANAGEMENT OF

ALBACORE FISHERIES



Map illustrates the exclusive economic zones of the United States and the Tokelau Arrangement in the Southern Pacific.

The Western Pacific Regional Fishery Management Council at its 162nd meeting, March 16 to 18, 2015, in Honolulu, addressed the growing concern for the highly migratory South Pacific albacore stock and the domestic longline fisheries that depend on it. American Samoa, Samoa, Fiji and other South Pacific islands have experienced low albacore catch rates, high operating costs and low ex-vessel prices, which have made longline fishing generally unprofitable since 2013.

Fishermen throughout the Central South Pacific believe that an influx of Chinese longline vessels across the region is mostly responsible for the lower catch rates and increased supply, which is impacting the economics of the fishery. The Chinese government has encouraged and facilitated the influx and provides generous subsidies on vessel construction, fuel, licensing, freight costs, exports, tax, loans and labor.

International Cooperation

Although South Pacific albacore is not currently overfished or subject to overfishing, existing international management measures have not restrained the overall catch from rapidly increasing over the past decade.

The Forum Fisheries Agency (FFA) has proposed a sub-regional approach to address this issue. The legally non-binding Tokelau Arrangement provides a framework to develop cooperative zone-based management of South Pacific albacore tuna fisheries and allows for "Associate Participation" by non-FFA members. Particularly sought are South Pacific Territories, such as American Samoa, whose waters host fisheries for South Pacific albacore tuna and who declare zone limits on the catch of albacore in ways that

are compatible with the limits adopted by Tokelau Arrangement participants.

In keeping with the spirit of the Tokelau Arrangement, the Council at its 162nd meeting recommended limiting the amount of South Pacific albacore that can be taken from the US exclusive economic zone (EEZ) waters around American Samoa to 5,425 metric tons (mt). The proposed limit would apply to vessels operating with federal American Samoa longline permits for fishing years 2015 and 2016. The proposal will be transmitted to the US Secretary of Commerce for final approval. The Council also recommended that it work with the Department of State, NOAA and the American Samoa government to identify potential options for American Samoa to obtain formal status under the Tokelau Arrangement.

Domestic Management

Also at its 162nd meeting, the Council recommended a modification to the American Samoa Large Vessel Prohibited Area (LVPA) to allow federally permitted American Samoa longline vessels greater than 50 feet in length overall to operate in waters seaward of 12 nautical miles (nm) around the islands of Tutuila, Manu'a and Swains. Currently, the LVPA restricts all vessels of this size to waters seaward of 50 nm from shore around these islands. The measure would continue to exclude all vessels of this size from operating 3 to 12 miles from shore and would require the Council to annually review the LVPA exemption. The recommendation is pending approval by the US Secretary of Commerce.

The LVPA exemption would improve the operational efficiency of large vessels in the American Samoa longline fleet and allow them to continue to provide an important domestic source of albacore tuna to local canneries, while still protecting important areas for other coastal resource users, including troll and recreational fisheries. The measure is not anticipated to lead to overfishing of South Pacific albacore or any other pelagic management unit species occurring in the EEZ waters around American Samoa.

Explaining his decision to support the LVPA modified area, Council Chair Ed Ebisui Jr. said that the National Standards of the Magnuson-Stevens Fishery Conservation and Management Act require federal fishery management measures to strive for optimal yield, promote fishing efficiency and not discriminate among fisheries.

The LVPA was created in 2002 when about 40 alia longline vessels of less than 50 feet in length overall were operating in American Samoa. Its purpose was to mitigate potential user conflict between the smaller and larger vessels. Today, only one small alia longline vessel is operating in the Territory. ➡



The proposed amendment to the Large Vessel Prohibited Area would allow this US-flagged American Samoa longline vessel and other local US longline vessels that are greater than 50 feet in length overall to fish seaward of 12 nm around Tutuila, Manu'a and Swains islands.

TWO OUTLETS FOR FISH OPEN IN

American Samoa

American Samoa celebrated the start of 2015 with the opening of two new outlets for fish.

Tri Marine International, one of the world's largest tuna companies, celebrated the grand opening of its cannery, Samoa Tuna Processors, Inc., in Atū'u, American Samoa on Jan. 24, 2015. The facility was four years and \$70 million in the making and is expected to employ about 1,500 workers when fully operational.

Company executives welcomed local and regional guests to tour the newly built, air-conditioned facility. Tri Marine Chief Executive Officer Renato Curto expressed special thanks to Gov. Lolo Moliga and the current administration for their strong support and cooperation. He also expressed his wish for American Samoa's island neighbors to increase US fishing vessels access to their



Clockwise from top left: Western Pacific Regional Fishery Management Council Vice Chair William Sword with Council Executive Director Kitty Simonds at the inauguration of Tri Marine International's tuna cannery in American Samoa; New fresh fish displays provided by the Council show off the "catch of the day" at the newly renovated Fagatogo Fish Market in American Samoa; Simonds addresses the audience at the Fagatogo Fish Market dedication ceremony on Jan. 29, 2015.



American Samoa Gov. Lolo Moliga cuts the ribbon at the grand opening of Tri Marine's new tuna cannery facility on Jan. 24, 2015. Photo courtesy of Tri Marine.

waters, as this would support jobs and economic development in the Territory and in the region.

Tri Marine officials said the cannery will focus on the US market, where canned tuna products from American Samoa enter duty-free and carry the "Made in the USA" label.

A week later, American Samoa government and business leaders joined the American Samoa Department of Marine and Wildlife Resources (DMWR) and the Western Pacific Regional Fishery Management Council at a dedication ceremony for the newly renovated Fagatogo Fish Market on Jan. 29, 2015. DMWR Director Ruth Matagi-

tofiga welcomed distinguished guests, including Gov. Moliga and Council Executive Director Kitty Simonds.

Major improvements to the fish market include floor drainage, air-conditioning, a table saw for large fish, counter space, refrigerated fish display cases and a preparation area that includes an ice maker, walk-in freezer, refrigerator, commercial-grade wash down and small office.

The renovation of the fish market was funded by the Council and undertaken in coordination with the DMWR and the Territory's Department of Commerce, as well as an independent architect and local contractors. The fish market has been leased to a local fisherman who will work with other local fishermen to utilize the market for seafood sales to the public.

The fish market was officially opened to the public on Feb. 12, 2015, and offers mainly fresh whole fish as well as value-added products, such as fillets, oka (raw fish and vegetables in coconut milk) and poke (raw fish relish).

The fish market is important to American Samoa's fisheries develop-

ment plan and, according to Simonds, the next thing that needs to happen is to get fishermen from Manu'a as well as Tutuila to bring their catches to the market. She said the Council supported several projects to encourage Manu'a fishermen to fish including setting up fuel tanks, an ice maker and fishermen cooperatives to manage the facilities.

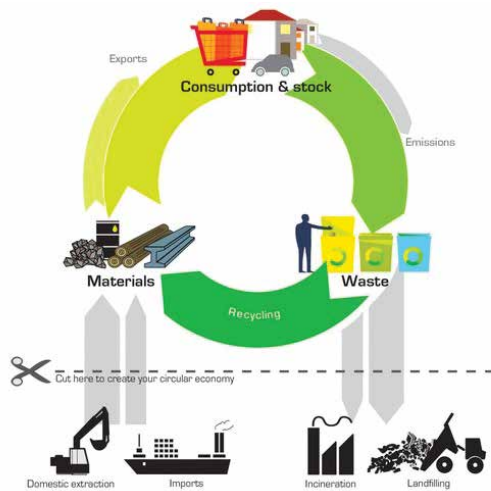
The Council has recently finished reports that will enhance fisheries development in American Samoa.

The facility was four years and \$70 million in the making and is expected to employ about 1,500 workers when fully operational.

The reports include "Development of a Multiplatform Fishing Boat for American Samoa Fishermen," "Training Program for American Samoa Fishermen" and "Development of the Fishermen Lending Scheme for American Samoa Fishermen." They can be found on the Council's website under grey literature (<http://www.wpcouncil.org/fishery-plans-policies-reports/>).

HAWAI‘I FISH WASTE IS WORTH MILLIONS, STUDY SAYS

Each year, the State of Hawai‘i produces an estimated 4,215 tons of fish processing waste (FPW), equal to about 40 percent of the fish landings. Some of this FPW is converted and sold as an organic soil amendment by the local rendering plant on O‘ahu. Some farmers are also composting FPW and feeding it to pigs. However, much of the FPW is treated as garbage and trucked off to the landfill for disposal. Currently, fish wholesalers pay \$100,000 each year on O‘ahu and more than \$1 million state-wide to dispose of the FPW. However, according to a recent study funded by the Western Pacific Regional Fishery Management Council, instead of becoming an economic burden, this waste could generate up to \$3 million annually and contribute to the sustainability of Hawai‘i’s local food production.



Graphic illustrates the reduction, reuse and recycling of waste. Image credit: European Environment Agency

from FPW include a dry, high quality fishmeal; fish oil; ground, fresh frozen fish blocks; and fish silage. These products could be added to feed formulations for pet foods as well as livestock and aquaculture feeds that could be manufactured locally. Due to the high demand and shortage of fishmeal and fish oils on the commodity markets, the local FPW could also be exported to markets overseas. FPW that does not meet the quality and specification for a high quality fishmeal, fish oil or fish silage could be converted into a liquid or dry fish fertilizer for use by farmers to raise local plant crops.

The study also provided a model for fish processing waste utilization for other Pacific Islands that face similar challenges in recycling and creatively utilizing their FPW.

Effective recycling and utilization of FPW aligns well with the Council’s vision and goal of sustainable ecosystem-based management for the fisheries industry throughout the US Pacific Islands. The report is available as grey literature on the Council’s website at www.wpcouncil.org under the Fishery Plans and Publications tab. ➡

Left: A 64-gallon container filled with fish processing waste equates to about 100 to 200 pounds of raw material and a potential income stream.; Right: Fish processing waste coming out of a grinder and being recycled for use as compost or pig feed.



THE HUMAN DIMENSIONS OF ‘AHI SIZE IN HAWAI‘I

The Western Pacific Regional Fishery Management Council has been discussing the implications of data suggesting that yellowfin tuna are more residential to the Hawaiian Islands than previously thought. In light of this information, some members of Hawai‘i’s fishing communities have called for the State of Hawai‘i and the Council to take additional action to conserve small class sizes of the species. While there is no federal rule pertaining to the allowable minimum harvest size for yellowfin tuna, the State currently prohibits the sale of yellowfin under 3 pounds. Some feel that size needs to be increased.

At its 161st meeting in October 2014, the Council requested additional biological and socioeconomic information with regard to raising the minimum commercial size of yellowfin tuna in Hawai‘i. In late 2014, the Council and the State jointly held a series of community meetings around the islands to describe the issue and solicit public input. Council staff subsequently met with additional community members, developed a small survey of potentially affected residents and implemented a brief project to learn about the prevalence and price of small yellowfin in O‘ahu markets.



Waimalu (O‘ahu) community members share their perspectives regarding potential implications of increasing the commercial minimum size of ‘ahi in Hawai‘i.

The findings suggest that those who will be affected by an increase in the minimum size are relatively small in number but are found in discrete areas around the islands and stand to be impacted greatly in terms of obtaining fish protein for themselves and their families. Small yellowfin are important in these communities because they are reasonably priced, easy to handle and cook, and can feed several people for a couple of days without spoilage. The demand is high enough that small yellowfin were present in 75 percent of the markets surveyed in February. Several community members spoke passionately about maintaining smaller yellowfin in the formal markets, and some suggested any increase to the minimum size of more than a few pounds would eliminate yellowfin with these attributes from the market. Approximately 325 O‘ahu residents have signed petitions to the State and Council advocating against raising the current minimum size limit.

Nonetheless, even in these communities that stand to be disproportionately impacted, attitudes are not uniform. Several respondents in Wai‘anae who reported that they regularly eat small yellowfin also stated that they favor raising the minimum size by more than 10 pounds. Efforts to learn more about potential socioeconomic impacts thus far have been informative and have helped to better frame the issue. However, they have not relied on large or representative samples. Going forward, the Council and the State are working on efforts to obtain more social and economic data, including those from the neighbor islands. ➡

SCIENTISTS FROM 8 COUNCILS FOCUS ON UNCERTAINTY IN FISHERIES MANAGEMENT



More than 50 fishery and marine scientists participated in the fifth National Scientific and Statistical Committee meeting, hosted in Honolulu by the Western Pacific Regional Fishery Management.

Scientists from throughout the United States gathered Feb. 23 to 25, 2015, in Honolulu to explore ways of incorporating climate, ecosystems and other areas of uncertainty into the sustainable management of the nation's fisheries. The scientists included 40 representatives from the Scientific and Statistical Committees (SSCs) of the eight Regional Fishery Management Councils (RFMCs), established by Congress in 1976 to manage fisheries operating in the US exclusive economic zone. The Western Pacific Council hosted the event, which was the fifth gathering of the National SSC. About a dozen fishery experts provided keynote presentations leading to discussions on five subthemes. Below are some general findings from the meeting.

- 1) Acceptable biological catch (ABC) specification for data-limited and model-resistant stocks:** The regions shared several commonalities in terms of the data-limited situations, particularly the Western Pacific and the Caribbean, both of which do not have sufficient and reliable fishery information to set limits. There were also some striking contrasts in other regions that have an abundance of data for the same stock where the assessments yield different results and model convergence is difficult.
- 2) Implementation of National Standard (NS) 2 in the face of uncertainty:** The discussion suggested that the best scientific information to be used for fishery management should be jointly determined by the SSCs and the National Marine Fisheries Service (NMFS). Procedures should be developed for situations when the SSC and NMFS do not agree on the best scientific information available.
- 3) Evaluating existing ABC control rules:** Some consistency is needed in describing the risks associated with ABCs and reporting on the performance of the ABCs across the regions.
- 4) Incorporating ecological, environmental and climate variability in stock assessment and ecosystem-based fishery management:** There is a need to enhance regional capabilities of examining ecosystem dynamics and effects of natural and anthropogenic factors on production dynamics of exploited species.
- 5) Building habitat condition in the stock assessment process and fishery management strategies:** The majority of the SSCs do not use essential fish habitat and habitat areas of particular concern designations explicitly for fisheries management. More information is required on the relationship between habitat attributes and stock productivity. This information has direct impacts on stock assessment advice.

"Above all, the past three days have shown that fisheries are dynamic and probably becoming more so with climate change," noted Charles Daxboeck, chair of the workshop and of the Western Pacific SSC, during closing remarks. "But will SSCs be able to adapt to the change, and how will they communicate this to the Councils, and what does this mean to Councils in their management decisions for their respective fisheries? We've heard a great deal about uncertainty and risk over the past three days and I think that there is general consensus that we need to conduct more management strategy evaluations."

A report with more detailed findings will be forwarded to the Councils Coordination Committee, a group of the leadership from the eight RFMCs, which is scheduled to meet June 22 to 25, 2015, in Key West, Fla. 🐟

COUNCIL HOSTS SOCIAL SCIENCE IN FISHERIES WORKSHOP

From Dec. 17 to 19, 2014, the Western Pacific Regional Fishery Management Council hosted the first face-to-face meeting of the "Social Scientists in Regional Fisheries Management" (SSRFM). Since 2012, these policy-based social scientists have met three or four times per year via conference call or webinar to coordinate and collaborate to improve the work of the nation's eight Regional Fishery Management Councils (RFMCs).



During the workshop, the SSRFM members focused on issues in social science that are important and relevant to the work of the councils as well as understanding and improving how the councils address common directives. They also engaged in collaboration that can only be achieved through in-person interaction.

The workshop topics examined the history and challenges of fishery social science in each region; relevant federal requirements (e.g., National Standards 2, 4, 8 and 10; the National Environmental Policy Act; relevant Executive Orders); regional approaches to social impact assessment; social indicators; and predicted versus actual regarding social assessment.

Each of the RFMCs was represented, as were two of the National Marine Fisheries Service science centers. One academic and one consultant also attended. Presenters described how their councils addressed each topic and barriers to obtaining and using social data in the management process. Group discussion following each presentation typically focused on developing solutions to these barriers or improving practice.

A comprehensive meeting report will be available at www.fisherycouncils.org. ➡

EFFORTS TO IMPROVE FISHERY ECOSYSTEM PLANS CONTINUE

In January and February 2015, the Council convened joint meetings of its various advisory body members in American Samoa and Hawai'i. As in Guam and the Commonwealth of the Northern Mariana Islands in November 2014, participants shared candid perspectives on the objectives of the Fishery Ecosystem Plans (FEPs), the Council process, communication and awareness, and data sufficiency.

In January 2015, the Council also received the results of an external review of the FEPs conducted by Sustainable Resources Group International. The consultant's report recommended a number of improvements to the FEPs such as 1) contain goals and objectives more specific to the island areas, 2) emphasize the role of humans and society in ecosystem management, 3) identify relevant interactions between biological, physical and social elements, and 4) incorporate fishery and management process performance metrics. The report also advised the Council to monitor additional fishery ecosystem elements, such as protected species, climate change, habitat, large marine protected areas and socioeconomic issues, and to develop prescriptive guidelines to translate Council policy into action to achieve ecosystem-based fishery management. Many of these issues were also identified at the recent aforementioned Council advisory body meetings throughout the Western Pacific Region. ➔



Council staff member Asuka Ishizaki addresses the joint meeting of the Council's advisory bodies in Hawai'i in January 2015 as part of efforts to improve the Fishery Ecosystem Plans.

COUNCIL APPROVES MARINE PLANNING AND CLIMATE CHANGE POLICY



Marine Planning and Climate Change Committee Chair Eileen Shea and Vice Chair Frank Villagomez (seated) with Committee members and Council staff (l-r) Phoebe Woodworth-Jefcoats, Lorilee Crisostomo, Sheena Black, Rose Taman Ada-Hogoc, Lusila Minoneti, Kitty Simonds, Sylvia Spalding, Fran Castro and Timmy Bailey. For a complete list of the Committee members go to www.wpcouncil.org/about-us/council-advisory-panels/other-advisory-bodies.

At its 162nd meeting March 16-18, 2015, the Western Pacific Regional Fishery Management Council approved a Marine Planning and Climate Change Policy to guide the Council and its staff in development and implementation of fishery ecosystem plans, programs and activities.

The policy was developed by the Council's Marine Planning and Climate Change Committee over the past several months. The Committee is comprised of coastal zone managers, community members and local government representatives from Hawai'i, American Samoa, Guam and the Commonwealth of the Northern Mariana Islands (CNMI) as well as federal government representatives, including an ecosystem modeler from the Pacific Islands Fisheries Science Center.

The policy emphasizes collaboration, a regional and sub-regional focus, and the impacts of climate change on a variety of security issues for the US Pacific Islands. The policy defines climate change as including not only man-made changes to the climate but also natural variability, such as the El Niño southern oscillation, and ocean acidification.

The policy can be found at www.wpcouncil.org/fishery-plans-policies-reports.

Several members of the Committee are now working with Council staff to identify marine planning and climate change data to incorporate into the Council's annual fishery reports. ➔

2015-2018 ADVISORY PANEL UPDATE



Glenn Nelson (standing) representing the Port Authority of Guam spoke about ongoing and future marina projects to the Advisory Panel members meeting March 27, 2015, on Guam.

The first meetings of the 2015-2018 term of the Western Pacific Fishery Management Council's Advisory Panel (AP) were held by webinar and teleconference in March 2015. The AP meetings provided an opportunity for members to discuss actions that would be deliberated by the Council at its upcoming meeting and provide recommendations on them.

AP members from the Mariana Archipelago, which includes both Guam and the Commonwealth of the Northern Mariana Islands (CNMI), met on March 10, 2015. CNMI AP members were most concerned with the US military expansion and current activities in the region, which would increase the loss of habitat and fishing grounds. Guam AP members continue to be concerned about shark depredation (i.e., loss of fish to sharks) and offered to work with

the Council to research the problem and develop solutions. Other discussion topics were safety at sea, loss of public access to fishing, runoff/pollution in the lagoon, and developing curricula based on traditional fishing practices.

On March 12, 2015, the Hawai'i AP members met and discussed the Main Hawaiian Islands bottomfish fisheries as well as possible regulation of Cross Seamount fisheries. In regards to bottomfish, the AP said that there needs to be more outreach and education on how fishermen fill in their Commercial Marine License report forms, particularly the "hours fished" section. They noted that this affects

of the Cross Seamount due to reports of gear conflicts between longline vessels and other fishing boats. The Council, at its 162nd meeting in March, agreed to look into the matter further to determine if there is a resource or social issue that needs to be addressed.

The American Samoa AP members met on March 13, 2015. Their concerns centered on the Council's action to amend the Large Vessel Prohibited Area (LVPA) around American Samoa to allow federally permitted longline vessels to operate outside of 12 nautical miles from shore. The AP noted the limited use of the area and said, if the area can be opened to provide



The Advisory Panel members from the Commonwealth of the Northern Mariana Islands (CNMI) met at the Azucena at Fiesta Resort Hotel and Spa on April 21, 2015. (l to r) Lawrence Conception, Lino Tenorio, Perry Mesngon, Mike Fleming, Pete Itibus (partially hidden), Jack Villagomes and Richard Farrell (chair of the AP group from CNMI). Also pictured in the background is Council staff Charles Ka'ai'ai.

the catch per unit effort (CPUE), which is used in stock assessments. They suggested the section be changed to "line hours" to more accurately reflect the needed information. The Hawai'i AP members asked the Council to explore options for federal fishery management

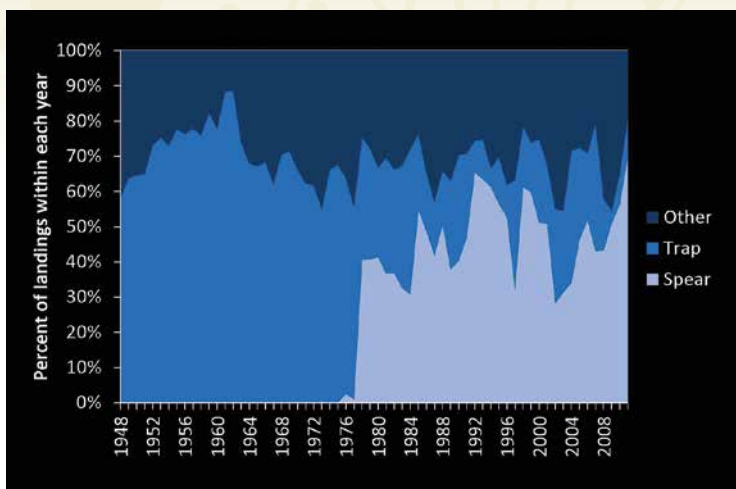
economic relief to the longline fishery, it should be done, especially given that both a National Marine Sanctuary and a Marine National Monument in the territory have closed off areas to fishing. They also noted that opening the area would provide a way for data to be collected in the area to get a better understanding of the resources in American Samoa.

The reports of the AP meetings were provided to the Council at its 162nd meeting and are available on the Council's website. At its meeting, the Council recommended soliciting for alternate members for each of the AP subpanels. Alternate members serve in place of regular members when they are unable to attend meetings or are removed from the AP. Solicitation for new alternate AP members began online in late April through the Council's website, www.wpcouncil.org.



Guam Advisory Panel members met March 27, 2015, at the Guam Fishermen's Cooperative to follow up on the outcomes of 162nd Council meeting: (l to r) Alan Ainbinder, Mayor Dale Alvarez, Felix Reyes, Cecilio Raiukilipy, Roberto Cabreza, Michael Duenas, Peter Perez, Mr. Gumson "Octopus," Ken Borja, Stephen Meno, William Bradford, Carl dela Cruz, James Borja and Jason Miller. Not pictured: Judith Guthertz, Manuel P. Duenas II, Matthew Orot, Ray Flores and Jesse Rosario.

HAWAI‘I FISHERS FORUM FOCUSES ON STOCK ASSESSMENTS



Left: Martha Maciasz’s draft assessment for kūmū reveals the importance of the spearfishing in the fishery; Right: Initial results of Lennon Thomas’ study show the importance of Penguin Bank for the commercial Kona crab fishery.

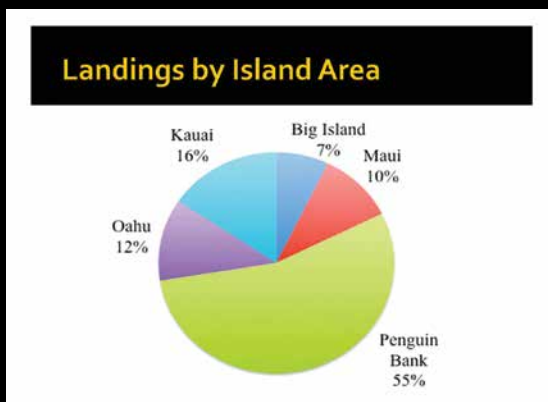
The coral reef ecosystem fishery is culturally and economically important to Hawai‘i and the other US Pacific Islands that comprise the Western Pacific Region, yet few stock assessments exist for the hundreds of species that comprise this fishery. At the March 17, 2015, Fishers Forum in Hawai‘i, more than a hundred fishermen, educators, students and other members of the public gathered to learn more about stock assessments and the initial results from recent assessments for three main Hawaiian Islands (MHI) stocks. The Fishers Forum was an evening event held as part of 162nd meeting of the Western Pacific Regional Fishery Management Council.

Annie Yau from the Pacific Islands Fisheries Science Center provided the opening presentation on what goes into a stock assessment. She explained that stock assessments provide biological information to fishery managers to help them set annual catch limits and are based on the biology of the fish, abundance trends of the fishery (from catch-per-unit-effort data and other non-fishery information) and mortality from the fishery. She stressed that, to have accurate stock assessments, it is important for fishermen to report the amount of fish they catch as well as their fishing effort.

Yau’s overview was followed by three assessments that used commercial marine license data collected by the Hawai‘i Division of Aquatic Resources as well as environmental variables. The draft assessments are Hawai‘i Pacific University master’s thesis projects that were funded by the Council. They will not be used for fishery management until they have undergone a Western Pacific Stock Assessment Review.

Lennon Thomas provided an assessment for Kona crab. She noted that Kona crabs account for up to 25 percent of all commercial crab landings in Hawai‘i and up to 5 percent of all commercially landed reef species. To date, only three studies have been conducted on Kona crabs in Hawai‘i; therefore, local regulations are based largely off information coming from other regions. The last stock assessment of the MHI kona crab fishery was over 30 years ago. An interesting point Thomas brought up, which led to some audience discussion, is males must be larger than females

for successful reproduction. Thomas suggested that a future study to consider is to determine the impact of the current State of Hawai‘i regulation that prohibits the take of female Kona crabs.



Martha Maciasz provided results of her study on kūmū (white saddle goatfish). Among the points covered was the dominance of spearfishing in this fishery since 1979, accounting for 51 percent of kūmū landings from 1985-2011. Kūmū is a species of goatfish found only in Hawai‘i. It inhabits waters as deep as 140 meters, hiding in the reef structure by day and feeding on crabs in sand flats by night. It is a highly valued species, which is reflected in its price at market. Kūmū has been commercially fished continuously since 1948 when data collection began and prior to that as well. It is managed with a minimum size at catch limit, which was 7 inches until 2002 and later revised to 10 inches in 2003 (based on length at maturity information).

Cassandra Pardee’s assessments of uhu (parrotfish) revealed the importance of spearfishing in the fishery and an increase in effort and landings over time. She noted that recreational catch data was not included in the assessment, even though recreational catch most likely exceed the commercial catch. For future work, she suggested including the recreational data and also assessing the stock by island.

The presentations were followed by an audience discussion. Participants also enjoyed informational tables highlighting projects and programs of the Council, the Hawai‘i Institute of Marine Biology, Hawaii Marine Recreational Fishing Survey (HMRFS), Hawai‘i Pacific University, Marine Education Training Center, Pacific Islands Fisheries Group and the US Coast Guard. Door prizes were donated by Hawaii Skin Diver, HMRFS, Honolulu Fish Company, Kusuma Cooray, Nico’s at Pier 38, POP Fishing and Marine, and University of Hawai‘i Press. The event was emceed by Mike Buck of KHNR’s Go Fish radio show.

The next Hawai‘i Fishers Forum is scheduled for June 17, 2015.



7th Annual Guṗot Fanha'anigan Pulan Chamoru



CHAMORRO LUNAR CALENDAR FESTIVAL PROMOTES TRADITIONAL RESOURCE MANAGEMENT

Guam celebrated the 7th Annual Gupot Fanha'aniyan Pulan CHamoru (Chamorro Lunar Calendar Festival) on Saturday, Jan. 17, 2015, at the Sagan Kotturan Chamoru (Chamorro Cultural Center). For approximately 4,000 years, Guam and the Northern Mariana Islands have been inhabited by the Chamorro people who hold the moon in high regard and recognize that the lunar movement synchronizes the life cycles of the flora and fauna of the islands and ocean. The ancient Chamorro, being a seafaring people, relied on the moon phases to guide daily activities including fishing and farming. Modern Chamorro traditions and cultural values have evolved from these practices and continue to encourage living in respect and harmony with the island environment.

At the festival, the Chamorro Lunar Calendar Committee under the auspices of the Western Pacific Regional Fishery Management Council distributed the 2015 *Fanha'aniyan Pulan CHamoru* (Chamorro Lunar Calendar), which included the moon phases in the Chamorro language, and Guam tide charts and fishing seasons. The calendar featured artwork from local students who were recognized at the opening ceremony with prizes provided by Fish Eye Marine Park, Guam Tropical Dive Station, McDonald's of Guam and Under Water World. The theme of the calendar "Nihi ta fameska, hagas kustumbre ginen mañaina-ta" (Let's go fishing, a responsible and traditional activity) encourages the perpetuation of traditional knowledge and cultural values and practices, which historically have provided the people of the Marianas resiliency and ensured the availability of food through sound traditional management of natural resources.

The festival, which was free and open to the public, also featured exhibits, demonstrations and entertainment promoting the Chamorro language and values.

The Festival was a partnership of the HAYA Foundation, a non-profit, Chamorro cultural community organization that links "food, culture, health, and the environment" and the Guam Fishermen's Cooperative Association, with support from the Council, the Department of Chamorro Affairs, Farmers Cooperative Association of Guam, Guam Hotel & Restaurant Association, Guam Organization of Saltwater Anglers, Guam Visitors Bureau, Mayor's Council of Guam and the Marianas Underwater Fishing Federation.

Event sponsors included GUALÁFFON (full moon) level sponsors Ambros Inc., Atkins Kroll/AC Delco, Nanbo Insurance and Pacific Daily News; PULAN (moon) level sponsors BankPacific, Coast 360 FCU and Southern Pacific Petroleum Corporation (76); and SINAHÍ (new moon) sponsors Deloitte & Touche, Guam Premium Outlets, Kloppenburg Ent/Turtle Tours, Lam Lam Tours, Nissan Motors and Triple J Hertz Rent-A-Car. ➡

Photos on page 12, top left, clockwise: Cultural fisherman Ray Viloría demonstrates how to weave a guagua (fishing basket); A festival participant, with Council Advisory Panel member Peter Perez (left) and Guam island coordinator Carl Dela Cruz (right), shows off her Fanha'aniyan Pulan CHamoru (Chamorro lunar calendar); Joseph Cameron, president of the Guam Department of Chamorro Affairs (center), with fishermen at the annual Gupot Fanha'aniyan Pulan CHamoru; Students from Daniel L. Perez Elementary School perform during the opening ceremony of the 7th Annual Gupot Fanha'aniyan Pulan CHamoru.

TERRITORIES CAPACITY-BUILDING SCHOLARSHIP WINNERS ANNOUNCED



Fa'asalafa Kitiona (left) and Keena Leon Guerrero.

Fa'asalafa Kitiona of American Samoa and Keena Leon Guerrero of the Commonwealth of the Northern Mariana Islands (CNMI) are the winners of the inaugural US Pacific Territories Fishery Capacity-Building Scholarship. The scholarship is an out-

come of a memorandum of understanding (MOU) developed by the Western Pacific Regional Fishery Management Council's Education Committee and signed by the Council; the National Marine Fisheries Service (NMFS) Pacific Islands Regional Office and Fisheries Science Center (PIFSC); the local fishery agencies in American Samoa, Guam and the CNMI; and six higher education institutions in the three territories and Hawai'i. The purpose of the MOU and the scholarship is to build the capacity of the US Pacific Territories to manage their fisheries and to improve the capacity of Hawai'i and Guam to provide robust higher education in fisheries science and management.

Scholarship recipients are required to participate in a paid internship at the Council, PIFSC or other approved agency/organization and to work with their local fishery agency after graduation for one year for each year of scholarship received. The scholarship is open to upper division undergraduates and graduates who have close ties with one of the territories and demonstrated interest in conservation and management of fishery resources and who are pursuing a fisheries-related degree at Hawai'i Pacific University (HPU), University of Hawai'i (UH) at Hilo, UH Hawai'i Institute of Marine Biology or University of Guam.

Kitiona is pursuing a marine science degree at UH Hilo and Leon Guerrero is studying marine biology at HPU.

"I never truly knew the path I wanted to take for my career until my grandfather started to take me on his boat," wrote Kitiona in her application statement. "I learned to understand the sea by working alongside my grandfather when he would go out fishing. He taught me how the tides were affected by the moon and the sun. He told me how each season would mean a different catch. 'As long as there is fish, we will always have food on the table,' he once said. Because of this, I developed a passion for studying the sea and the critters that live there."

"During my childhood, we would often spend the day at Pau Pau Beach, [where] a favorite game would be to throw Balati' (sea cucumber) at each other," wrote Leon Guerrero. "The Balati' were everywhere; you would simply squat in the water, reach around your feet and easily grab one. I was home for the Christmas break and spent time at the beach. I did not realize this at the time, but I had to search for the Balati' from our beaches. Could it be the result of contaminants like lead in storm water runoff or some other pesticides used by farmers percolating through the water tables? Perhaps [this is] a research opportunity."

The Scholarship Selection Committee was comprised of five members of the Education Committee, including the representatives from the three fishery agencies and two representatives for higher education institutions. They included Celestino Aguon (Guam), Frank Camacho (University of Guam), Lusila Minoneti (American Samoa), Richard Seman (CNMI) and Craig Severance (UH Hilo, retired). ➡

APPLICATIONS OPEN FOR HIGH SCHOOL MARINE SCIENCE AND FISHERIES SUMMER COURSES

The Western Pacific Regional Fishery Management Council will again be sponsoring a marine science and fishery and resource management course this summer for students entering grades 10 to 12 in Hawai'i and the US Pacific Territories. The program in the Territories is part of a capacity-building effort to increase interest and provide hands-on training in local fisheries and marine resource management among students in American Samoa, the Commonwealth of the Northern Mariana Islands (CNMI) and Guam.

Each course in the Territories includes three weeks of classroom studies, hands-on learning, field trips, traditional and modern fishing activities, and water safety lessons including cardiopulmonary resuscitation and first aid certifications. Course topics cover science and management of local fisheries, fish processing and marketing, regulations and enforcement, seafood safety, stock assessments and marine biology.

The Hawai'i course runs from June 9 to July 14, 2015, and students are eligible to receive a Department of Education science credit.

About 15 to 20 students are expected to participate in each program. For more information and to apply to one of the summer programs, call or email the following contacts.

HAWAI'I

Erron Yoshioka (808) 227-8493 or miki_yosh@yahoo.com

AMERICAN SAMOA

Nate Ilaoa (684) 252-3175 or nate@lava.net

CNMI

Jack Ogumoro (670) 287-9842, (670) 322-9834 or jacko@lava.net

GUAM

Carl Dela Cruz (671) 687-6812 or carld@lava.net



Mac Poepoe shares his generational knowledge of fishing techniques with students in Hawai'i as part of last year's high school summer course.



NEW EDUCATION AND OUTREACH MATERIALS AVAILABLE



Updated Hawai'i Speakers Program Brochure

Need a speaker for your classroom or meeting? The Hawai'i Speakers Program offers specialized speakers on the topics of fisheries ecosystem research, the Hawai'i seafood industry, fisheries management and marine planning, protected species, recreational fishing, human dimensions/social science, community initiatives, marine debris and climate change and ocean acidification. To view or print the brochure, go to www.wpcouncil.org/education-and-outreach/educational-brochures/.

fish and why mercury in Hawai'i tuna is not a health concern; groundbreaking research suggesting that yellowfin, once assumed to be highly migratory like other species of tuna, if spawned in Hawai'i waters tend to remain in Hawai'i waters; and why state and federal fishery managers are reviewing the current 3-pound minimum size limit for the sale of 'ahi in Hawai'i.

The video premiered in Hawai'i earlier this year on KGMB-TV and is being screened at various free public events around the Western Pacific Region. On April 5, 2015, it was presented in Hawai'i at the Hanauma Bay



Nature Preserve, as part of the Sundays at the Bay! Film and lecture series, presented by the University of Hawai'i's Sea Grant Hanauma Bay Education Program. It is scheduled to air Aug. 7, 2015, at 6:30 p.m. at the American Memorial Park Visitors Center, Garapan, Saipan, Commonwealth of the Northern Mariana Islands, as part of the First Friday Films series. The video can be viewed and downloaded at the Council's YouTube and Vimeo accounts (youtube.com/user/wpcouncil/videos and vimeo.com/wprfmc) as well as the Council website (www.wpcouncil.org/education-and-outreach/educational-videos-4/). Or contact Sylvia Spalding at (808) 522-5341 or sylvias@lava.net to request a copy and arrange to have it screened in your area.



Code of Conduct Posters in Native Languages

The Western Pacific Regional Fishery Management Council's *Fishermen Code of Conduct* posters have been translated into multiple languages including Hawaiian, Refaluwasch, Chamorro (Guam and the Commonwealth of the Northern Mariana Islands dialects), Samoan and Chuukese. The posters are available for viewing and downloading at www.wpcouncil.org/education-and-outreach/educational-posters/.

'Ahi – The Yellowfin Tuna Full-Length Video

The Council is pleased to announce the availability of the full-length version of the locally made documentary 'Ahi – The Yellowfin Tuna: Managing Our Fisheries'. This important film examines the cultural and economic importance of yellowfin tuna, a favorite among Hawai'i chefs, consumers and fishermen. The video also addresses the issue of mercury in

Grey Literature

The importance of grey literature has been on the increase, and the Council is acknowledging this by making reports produced for the Council available on its website. Grey literature is information produced by government, academics, business and industry in print and electronic formats, but which is not controlled by commercial publishers and thus is often hard to find. To access the Council's grey literature, go to www.wpcouncil.org/fishery-plans-policies-reports/grey-literature/. The list of available reports will be growing, so visit the site frequently or go to the Council's website homepage and sign up to receive the Council electronic communiques. ➡

Postcards from the Western Pacific Region



Left: A family fishing at sunset off the coast of Merizo (Malesso' in CHamorro), Guam. Cocos Island (Islan Dãno in CHamorro), a part of the municipality, can be seen in the background.



Above: Capt. Diego Benavente (left) at Smiling Cove, Saipan, with the winning 24.40 lb catch during the 31st Annual Mahimahi Tournament held April 11, 2015. The Team Victoria crew members included the captain's wife Vicky (standing next to him), their son James (far right) and their family friend Scott Shuler. The event attracted 36 vessels, despite strong winds and rough waters throughout the day.

Right: Kai Rizzuto (2nd from left), the 16-year-old grandson of The Kona Fishing Chronicles author Jim Rizzuto, reeled in the first "grander" of the year, a 1,058-pound marlin, while visiting from New York on his winter break. The captain of the vessel was none other than McGrew Rice (far left), a member of the Western Pacific Regional Fishery Management Council. Also pictured (l to r) are Ming Yuen-Schatt (kneeling), Reiko Rizzuto, Jim Rizzuto and Carlton Arai.



Above: Hulu kùpuna (Hawaiian for esteemed elder and master fisherman) 'Anakala "Val" Ako (center) receives the Kupuna Award at the Kùpa'a Hō'ike (culminating event) of Project Holowai, on Kaua'i, Feb. 19, 2015. Project Holowai is a community resource management and education project supported by the Western Pacific Regional Fishery Management Council. It culminated in a bilingual guidebook and several public service announcements for the Waialua area. Pictured with Ako are Sue Kanoho (Kauai Visitors Bureau) and Kamealoha Hanohano-Smith (Project Holowai director).



Above: On April 4, 2015, the Chief Aghurubw Foundation collected 120 pounds of trash from the beach stretching from Oleai beach Bar, Oleai, to Sugar Dock, Chalan Kanoa, in the Commonwealth of the Northern Mariana Islands.



Above: Council member Mike Goto (left) of the United Fishing Agency was sworn in as a new US Commissioner to the Commission for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean during the 162nd Council meeting. The Commission develops international conservation and management measures for species such as tuna. NOAA Fisheries Pacific Islands Regional Administrator Michael Tosatto presented a plaque with the letter from President Barack Obama recognizing Goto's integrity and ability for the appointment.

NATIONAL MARINE FISHERIES SERVICE RELEASES PROPOSED RULES, LISTS, DRAFT REPORTS



Coral Prohibitions, Critical Habitat

On Jan. 13, 2015, the National Marine Fisheries Service (NMFS) published an advanced notice of proposed rulemaking to develop take prohibitions for coral species that were listed in September 2014 as being threatened under the Endangered Species Act (ESA). They include six coral species in American Samoa and three in Guam and the Commonwealth of the Northern Mariana Islands (CNMI). The meaning of "take" under the ESA means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Regulations may prohibit some or all of the activities that constitute take. NMFS solicited public input to help determine what, if any, protective regulations may be necessary.

In addition, NMFS is developing a proposed rule to designate critical habitat for the ESA-listed coral species. Critical habitat applies to federal actions only. Federal agencies must ensure that any actions they authorize, fund, or carry out are not likely to destroy or adversely modify designated critical habitat. As part of the rulemaking process, NMFS will consider economic, national security and other relevant impacts that may result from such designation.

To learn more about the listed corals, visit the NMFS Pacific Islands Regional Office website at www.fpir.noaa.gov/PRD/prd_listed_coral.html.

Revised National Standards

On Jan. 20, 2015, NMFS published proposed revisions to National Standards (NS) 1, 3 and 7 of the Magnuson-Stevens Fishery Conservation and Management Act (MSA). The proposed revisions do not establish new requirements or require Regional Fishery Management Councils (RFMCs) to revise their current management plans; rather, they offer additional clarity and potential flexibility in meeting

current MSA mandates as well as aim to minimize costs and avoid unnecessary duplication, where practicable.

The revisions to NS1 (that “conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each US fishery”) are likely to have the most impact on the eight RFMCs. Changes to NS1 necessarily require complementary changes to NS3 and NS7, which are respectively concerned with the appropriate management units for stocks and stock complexes and the criteria for determining whether a fishery needs management through a Fishery Management Plan or Fishery Ecosystem Plan (FEP). Most of the management unit species managed by the Western Pacific Council are stock complexes, so the proposed changes in NS1 for stock complexes are of particular interest to the Council. NMFS is proposing that in a mixed stock assemblage the use of one or more assessed stocks may be used for the complex as a whole.

NMFS has also recognized that the fluctuations in stock abundance may be independent or not wholly dependent on fishing. NMFS therefore proposes adding the term “depleted” to the NS1 guidelines. Rebuilding plans will still be required for stocks but rebuilding times will be scaled to the productivity of the stock and allow sufficient time for fishery scientists to determine which environmental forcing agent impacts the stock.

Similarly, NMFS has recognized that exceedance of the maximum fishing mortality threshold (MFMT) for a single year may not be indicative that a stock is being overfished. Councils may now elect to have status determination criteria for two to three years where the fishing mortality exceeds MFMT.

NMFS addresses the seeming disconnect between catch limit management through annual catch limits (ACLs) and optimum yield (OY). The Council has commented in the past that ACL management makes the concept of OY redundant. Nevertheless, NMFS still regards OY as a key concept and requirement of the MSA. NMFS does state that where it is not possible to specify OY quantitatively, Councils may instead provide a qualitative description of OY that explains how OY accounts for the economic, ecological and social factors that are important to the fishery. This is consistent with the Council’s current process.

NMFS proposes allowing Councils to phase in acceptable biological catches (ABCs) over a three-year period, rather than implementing them as an annual limit in one year. NMFS is also considering allowing a carry-over of an ACL to the following year if the entire ACL has not been caught and thus, potentially increasing the ABC. The Council’s Scientific and Statistical Committee must, however, ensure that any ABC specified as a result of a carry-over does not lead to overfishing.

NMFS proposes to modify the one-year lifespan exception from ACL specification to a stock for which the average age of spawners in the population is approximately one year or less. It is possible that this may apply to species such as akule and other short-lived species in the Council’s FEPs.

NMFS provides guidance on establishing ACLs for recreational fisheries but does not address the issue of subsistence fishing. NMFS notes the difficulties in establishing status determination criteria (SDC) for recreational fisheries and that it may not be possible to specify maximum sustainable yield (MSY) or MSY proxies. NMFS proposes that SDC could be based on recent average catch, fish densities derived from visual census surveys, length/weight frequencies or other methods.

NMFS will be accepting comments on the proposed rule until June 30, 2015. To view the proposed revisions, go to www.nmfs.noaa.gov/sfa/laws_policies/national_standards/documents/ns1_proposed_rule_ppt.pdf.

Marine Mammals Draft Assessment, List of Fisheries

On Jan. 29, 2015, NMFS published a Draft 2014 Stock Assessment Report (SAR) on the Hawaiian monk seal and the Hawaiian Islands stock complex of false killer whales. The false killer whale SAR included updates on the observed and estimated takes in the Hawai’i longline fishery and a revised approach for prorating takes between the three stocks (pelagic, main Hawaiian Islands insular and Northwestern Hawaiian Islands stocks). NMFS annually updates the SAR under the Marine Mammal Protection Act (MMPA) to incorporate new information of marine mammal stocks occurring in waters under US jurisdiction. The SAR includes a description of the stock’s geographic range, population estimates and trends, each stock’s potential biological removal level and estimates of

PERMITS ISSUED

The numbers of federal fishing permits issued in the Western Pacific Region as of April 2, 2015, are as follows:

Hawai’i Longline – 134
American Samoa Longline – 48
Western Pacific (WP) General Longline – 0
WP Receiving Vessel – 9
WP Pelagic Squid – 0
Pacific Remote Island Areas Troll and Handline – 4
Western Pacific (WP) Bottomfish – 4 (2 Guam, 2 Pacific Remote Island Areas)
Commonwealth of the Northern Mariana Islands Bottomfish – 6
Main Hawaiian Islands (MHI) Noncommercial Bottomfish – 4
WP Lobster – 3 (2 MHI, 1 American Samoa)
WP Deep Water Shrimp – 4 (3 MHI, 1 American Samoa)
WP Precious Coral – 1 (MHI)

For more information, contact NMFS Pacific Islands Regional Office at piro-permits@noaa.gov.

human-caused mortality and serious injury. The Draft 2014 SAR can be viewed at www.nmfs.noaa.gov/pr/sars/draft.htm.

NMFS also annually classifies US commercial fisheries into one of three categories according to the level of likely impacts to marine mammals. On Jan. 28, 2015, NMFS issued the final 2015 List of Fisheries (LOF). Most commercial fisheries in Hawai’i, American Samoa, Guam and the CNMI are classified as Category III (remote likelihood of or no known incidental mortality or serious injury of marine mammals). Hawai’i shallow-set longline, American Samoa longline and Hawai’i shortline fisheries are classified as Category II (occasional incidental mortality or serious injury of marine mammals). The Hawai’i deep-set longline fishery is categorized as Category I (frequent incidental mortality or serious injury of marine mammals). To review the 2015 LOF, go to www.nmfs.noaa.gov/pr/interactions/lof/. ➔

NEW COMMERCIAL FISHING VESSEL REQUIREMENTS GO INTO EFFECT

The US Coast Guard has released a reminder to the commercial fishing industry about safety and equipment requirements established by the Coast Guard Authorization Act of 2012 and the Coast Guard and Maritime Transportation Act of 2012 as well as other applicable laws.

Mandatory Dockside Safety Examinations: State-registered and federally documented vessels must receive a safety examination no later than Oct. 15, 2015, if they operate beyond 3 nautical miles (nm) of the baseline of the US territorial sea or the coastline of the Great Lakes and operating anywhere with more than 16 individuals on board (either inside 3 miles of the baseline or beyond 3 miles of the baseline). These vessels will need to complete this dockside safety examination at least once every 5 years. Some vessels may be subject to a more frequent examination schedule. The safety decal of a recently examined vessel will remain valid until its expiration. Vessels without a valid safety decal after Oct. 15, 2015, are subject to a civil penalty or operational controls that may affect your ability to fish.

Survival Craft: Commercial fishing industry vessels operating beyond 3 nm of the base line or the coastline of the Great Lakes will be required to carry a survival craft that keeps individuals out of the water (i.e., a lifeboat, inflatable liferaft, or inflatable buoyant apparatus) in the event of an abandon ship need. Current life floats and buoyant apparatus are not designed to keep an individual out of the water when used in an emergency. This requirement is scheduled to go into effect on Feb. 16, 2016. Commercial fishermen from American Samoa, Guam, Hawai'i and the Commonwealth of the Northern Mariana Islands have a "class exemption" for vessels less than 36 feet that operate less than 15 nautical miles from shore with four people or less on board.

Automatic Identification System: Effective March 2, 2016, all commercial vessels including fishing vessels over 65 feet will be required to carry either a Class A or Class B Automatic Identification System (AIS). The AIS is a shipboard broadcast system that acts like a transponder, operating in the VHF maritime band.

Questions regarding these requirements should be forwarded to the First District Office at (617) 223-8315 or to your local Sector Vessel Examiner. The examiners and other information can be found at www.fishsafe.info. Click on local examiners on the left side drop down menu. ➔

PUBLIC COMMENT PERIOD EXTENDED FOR CNMI JOINT MILITARY TRAINING



The public comment period for the Commonwealth of the Northern Mariana Islands (CNMI) Joint Military Training Draft Environmental Impact Statement (CJMT DEIS) has been extended to Aug. 3, 2015, Eastern Daylight Time (Aug. 4, 2015, Chamorro Standard Time). The Department of Defense (DoD) on May 15 announced the 60-day extension beyond the original closing date of June 3. The Western Pacific Regional Fishery Management Council had requested a six-month extension in support of the CNMI government's request.

The Council is concerned because the EIS does not accurately portray the affected environment or propose enough mitigation.

Fishing access and direct impacts on fish and their ecosystem are the main concerns of the Council's Advisory Panel. Live fire training would close waters around the northern part of the island of Tinian up to 20 weeks per year and around the island of Pagan up to 16 weeks per year. These closures would be in addition to a new closure around Farallon de Medinilla (prime bottomfishing grounds) that extends up to 12 nautical miles under a different EIS as well as closures around the three northernmost islands due to the establishment of the Marianas Trench Marine National Monument. The Council will discuss the CJMT DEIS at its 162nd Council meeting in June prior to sending its official comments.

The CJMT DEIS proposal would establish joint military training on Tinian and Pagan, including the construction and management of training areas; operations for live-fire, combined arms and maneuver training; establishment of danger zones; and acquisition of land interest on Pagan for combined level training. Weaponry and equipment would include rifles, hand grenades, machine guns, rocket launchers, amphibious assault vehicles and unmanned air vehicles, among others. Training on Pagan would include naval surface fire support (ship-to-shore bombardment) and impact areas for the above weaponry and air-delivered ordnance such as laser and inertial-guided bombs.

The DoD held public hearings on the proposal between April 29 and May 1 on Saipan and Tinian. Many residents voiced opposition to increased training activities and supported the no action alternative. Some residents expressed concern that the proposed training is incompatible with tourism. Others supported the military's need to train somewhere but maintained that the land belongs to the children of CNMI.

For the full CJMT DEIS, go to www.cnmijointmilitarytrainingeis.com/documents. Submit public comments electronically at <https://extranet.cardnotec.com/cjmtteis/>. According to the Council on Environmental Quality, comments should be as specific as possible and may address either the adequacy of the statement or the merits of the alternatives discussed or both. ➔

MEDIA FAILS TO TELL THE WHOLE MERCURY STORY

Eating fish is an important part of a healthy diet. Being rich in vitamins, minerals and omega-3 fatty acids as well as a low calorie source of high quality protein, fish is consistently touted in the medical community for benefits to the heart, brain, blood vessel function, skin, hair and more. Both the American Heart Association and Dietary Guidelines for Americans recommend eating fish rich in omega-3 fatty acids at least twice a week. However, recent reports in the media about mercury in fish, specifically tuna, have left people concerned about the risks. So what do we need to know?

First, according to researchers, none of the measured levels of methyl mercury, the kind that is absorbed by the body, in tuna are likely to be a current hazard to health.

Second, with strong evidence of the protective effects of selenium against mercury toxicity, considering mercury content alone is inadequate. Studies of pelagic fish collected from the Pacific Ocean near Hawai'i have consistently found an excess of selenium to mercury. Thus, eating the fish not only protects against mercury toxicity but also provides an excellent source of health-promoting selenium. In addition, research out of the Seychelles suggests that the fatty acids in fish may also shield the brain from mercury damage.

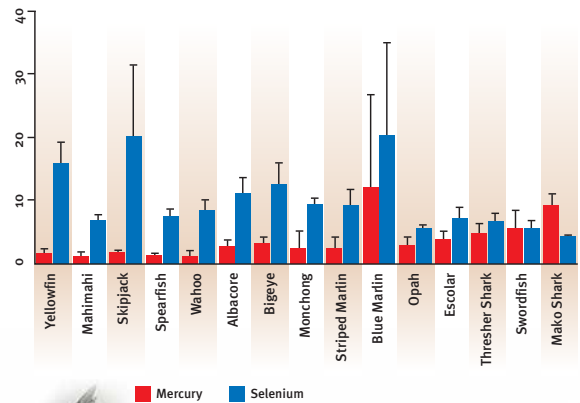
Lastly, a Harvard study looked at the benefits

Selenium in Ocean Fish Protects Against Mercury

Selenium, an essential element in our diet, is vital to the body's antioxidant system and proper immune system function. It has anti-cancer effects and is known to detoxify metals including mercury.¹

Regardless of the amount of mercury in fish, if the selenium level is higher, the fish is safe to eat. On the graph, molar concentrations of mercury and selenium in 15 Hawaii fish species are expressed as means ± standard deviations. The graph lists the species from lowest to highest mercury-to-selenium ratios.²

All of our popular ocean fish are an excellent source of health promoting selenium as well as high quality protein and omega-3 fatty acids. (Mako shark is not popular or commonly eaten in Hawaii.) Our favorite fish are more likely to protect against mercury toxicity, than cause it.



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¹ Nelson MC, El-Shaarawi M and Li B. 2002. Importance of fish intake in selenium-dependent protection against methylmercury toxicity. *Biol Trace Elem Res* 159: 455-468

² Kuroki J and NRC. 2003. Selenium and Mercury in Pelagic Fish in the Central North Pacific, near Hawaii. *Biol Trace Elem Res* 159: 447-454

of fish consumption on a developing fetus and found that babies whose mothers had two or more servings of fish per week scored highest on memory tests. The US Food and Drug Administration and the Environmental Protection Agency have updated their recommendations about

fish consumption and, for the first time, are recommending that pregnant women's weekly diet include a minimum of 8 to 12 ounces of fish to promote fetal development and growth. This recommendation confirms that the health benefits of a fish-enriched diet outweigh any risks. ➔

Recipe: Tomato Goatfish (Kūmā) Soup*



This recipe looks long, but once you get the ingredients together it takes no time to finish. It can be done in two steps; make the stock first (or buy it from the store) and cook the fish just before you serve. Goatfish is delicate and makes an appealing first course for an elegant dinner. You may also use snapper or other similar fish.

Courtesy of
Chef Kusuma Cooray.

4 servings

Ingredients:

- 1 tbsp. olive oil
- ¼ cup sliced onion
- ¼ cup sliced leeks, white part only
- 2 celery stems, sliced
- 2 parsley stems
- 1 tbsp. flour
- 4 large tomatoes, sliced
- 4 cloves garlic, crushed
- 1 bay leaf
- ½ tsp. cumin seed
- 8 black peppercorns
- 4 cups fish stock (recipe available in *Ocean to Plate: Cooking Fish with Hawai'i's Kusuma Cooray*)
- Salt (to taste)
- ½ cup sherry
- 1 tbsp. lemon juice
- 2 goatfish about 1 lb. each, filleted
- 1 tbsp. snipped dill
- 4 lemon slices

Directions:

Heat olive oil in a medium sauté pan and sauté vegetables on medium heat until the onions turn a light golden color. Stir in flour and cook for 2 minutes. Add tomatoes, garlic, bay leaf and spices and stir in the water. Simmer uncovered for 25 minutes. Pass the soup stock through a fine strainer into another clean pan and season with salt to taste. Add sherry, lemon juice, and fish and cover and simmer 7 minutes. Ladle the soup into bowls, sprinkle with dill, and float a slice of lemon on each portion.

* Recipe available in *Ocean to Plate: Cooking Fish with Hawai'i's Kusuma Cooray*. 2014. University of Hawai'i Press.



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Council Family Updates

Council Members



Matt Brown joins the Western Pacific Regional Fishery Management

Council as the designated member representing the US Fish and Wildlife Service. Brown is the superintendent for the policy, partners and support at the newly reorganized Pacific Islands Refuges and Monuments Office. Brown previously served as a project leader at the Midway Atoll National Wildlife Refuge and deputy project leader at the Guam National Wildlife Refuge.



Matthew Sablan is replacing Mariquita Taitague, who is retiring,

as the designated state official for Guam. Sablan was recently appointed as the acting director of the Guam Department of Agriculture and previously

served as the deputy director since December 2013. Prior to that, he worked as a planner at the Department of Public Works for 28 years, along with 27 years in the Guam Army National Guard.



Richard Seman joins the Council as the designated state official from the

Commonwealth of the Northern Mariana Islands (CNMI). Seman is the newly appointed secretary for the CNMI Department of Lands and Natural Resources (DLNR), a longtime DLNR employee and former director of the Department's Division of Fish and Wildlife. Prior to his current appointment, Seman was a member of the 12th CNMI Legislature.

Plan Team

Annie Yau, PhD, has replaced Dr. Gerard DiNardo, PhD, as the NMFS Pacific Islands Fisheries Science Center ex-officio member on all Plan Teams.

Advisory Panel

Judith Guthertz, PhD, and **Edwin Watamura** have been appointed as the Advisory Panel (AP) chair and vice chair, respectively. Also appointed were Fishery Ecosystem Plan (FEP) chairs: **Gary P. Beals** (Hawai'i), **Christinna Lutu-Sanchez** (American Samoa), **Richard Farrell** (Mariana from CNMI) and **Peter Perez** (Mariana from Guam). New AP subpanel members include **Krista Corry** (American Samoa) and **Michael Flemming** (Mariana CNMI) for Pelagic Fisheries; **Clay Tam** (Hawai'i) for Islands Fishery; **Fa'asala Augafa** (American Samoa) and **Nathan Abe** (Hawai'i) for Indigenous Fishing Rights; and **James Kuwada** (Hawai'i) for Ecosystems and Habitat.

Fishery Data Collection and Research Committee

New members include **Michael Seki**, NMFS Pacific Islands Fishery Science Center, and **Richard Seman**, CNMI Department of Lands and Natural Resources.

Marine Planning & Climate Change Committee

Eileen Shea and **Frank Villagomez** were appointed chair and vice chair, respectively. **Augustine M. Kaipat**, CNMI Department of Lands & Natural Resources, has replaced Therese Ogomoro.

Education Committee

New members include **Todd W. Miller, PhD.**, CNMI Division of Fish and Wildlife, and **Lusila Minoneti**, American Samoa Department of Marine and Wildlife Resources.

Council Staff

Eric Kingma has been designated as the US lead on the Western and Central Pacific Fisheries Commission's Electronic Reporting and Electronic Monitoring Working Group.

Sylvia Spalding has been appointed to the NOAA Marine Fisheries Advisory Committee's Climate and Marine Resources Task Force.

2015 Council Calendar

May

27-28

Protected Species Advisory Committee, Honolulu

June

1

Advisory Panel, Nu'uli, American Samoa

2

Inter-American Tropical Tuna Commission (IATTC) Scientific Advisory Subcommittee, La Jolla, Calif.

3

IATTC General Advisory Committee, La Jolla, Calif.

4-5

US Insular Area Climate Change Stakeholders Meeting, Tumon, Guam

5

Advisory Panel, Hagatna, Guam, and Tanapag, Commonwealth of the Northern Mariana Islands

6-8

Western and Central Pacific Fisheries Commission (WCPFC) Regional Observer Programme Working Group, Nadi, Fiji

8-10

WCPFC Electronic Reporting and Electron Monitoring Working Group, Nadi, Fiji

8

Social Science Planning Committee, Honolulu

9-11

119th Scientific and Statistical Committee, Honolulu

12

Advisory Panel (Hawai'i), teleconference

15

Council Standing Committees, Honolulu

15

Fishery Data Collection and Research Committee, Honolulu

16-18

163rd meeting of the Western Pacific Regional Fishery Management Council, Honolulu

17

Fishers Forum on Seafood Safety and Traceability, Honolulu

22-25

Council Coordination Committee, Key West, Fla.

29-July 2

National Marine Educators Association, Newport, R.I.

29-July 2

89th meeting of the Inter-American Tropical Tuna Commission, Guayaquil, Ecuador

July

27-31

National Marine Fisheries Service Pacific Islands Fisheries Science Center Protected Species Program Review, Honolulu



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