



# PACIFIC ISLANDS FISHERY NEWS

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## Council Adopts Recommendations for Improving Science to Support Better Management of False Killer Whale Interactions

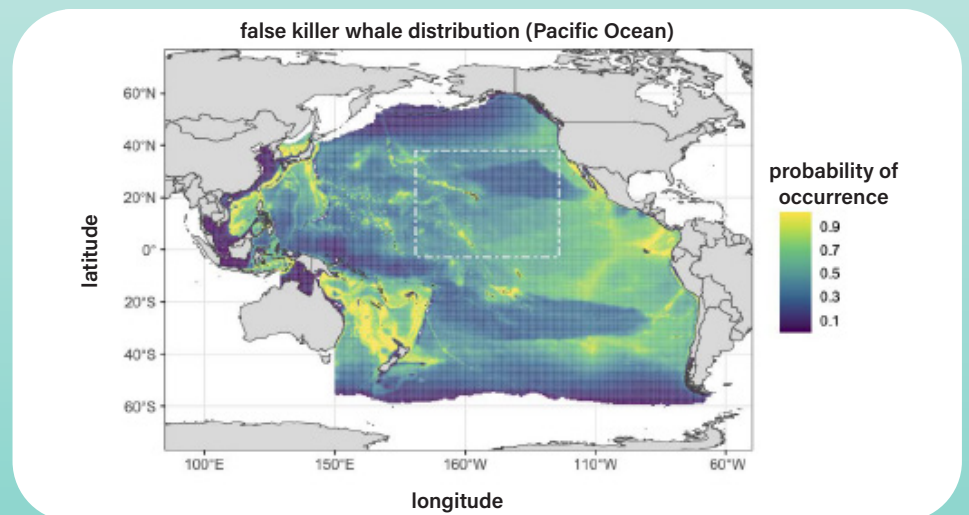
False killer whales (FKWs) are known to feed on fish and bait on longline fishing gear worldwide, a behavior known as depredation. The Hawai'i deep-set longline fishery that targets bigeye tuna is no exception, and fishermen occasionally experience only tuna and other fish heads left on the hook when they retrieve their gear—a sure sign that a FKW or similar cetacean species has taken a chomp out of the catch. Cameras attached to Hawai'i longline gear have filmed a FKW gently pulling the bait off of a hook, and swimming away with bait in its mouth, while leaving the hook behind. Every once in a while, a FKW will accidentally get hooked when attempting to capture the bait or fish.

FKWs known to interact with the Hawai'i deep-set longline fishery are part of the pelagic population, or "stock." This is different from the group found around

the main Hawaiian Islands, called the insular stock. Scientists estimate that there are approximately 2,100 pelagic stock FKWs that reside inside the 200-nautical-mile U.S. exclusive economic zone around Hawai'i, and approximately 34,500 in the broader central Pacific where the Hawai'i longline fishery operates. On average, less than 10 FKWs are hooked each year in the deep-set fishery, which has federal observers on 20% of the trips. In most cases, those animals are released alive, with some amount of trailing gear left behind. However, current guidelines developed by the National Marine Fisheries Service presume that most of the animals released alive are more likely than not to die as a result of the interactions, even though there are no species-specific data on post-hooking survivorship.

Until recently, FKW interactions in the Hawai'i longline fishery were considered to exceed potential biological removal

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False killer whale distribution throughout the Pacific Ocean. Yellow indicates a higher probability that false killer whales occur in a given area. Source: SSC Issues Paper.



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### STORY ICON KEY

#### REGIONAL INTEREST



#### FISHERMEN



#### CONSERVATION



#### EDUCATORS



#### GOVERNMENT



GOVERNMENT



HAWAII



GUAM/CNMI



AMERICAN  
SAMOA



Dedicated to ecosystem-based fisheries  
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## False Killer Whales

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(PBR)—a threshold above which the interaction level is considered unsustainable. That triggered the formation of a Take Reduction Team (TRT), as required under the Marine Mammal Protection Act (MMPA). Under a Take Reduction Plan recommended by the TRT, fishermen are required to use hooks of a certain diameter that are intended to straighten and release the animals if hooked. However, this “weak hook” measure, among other requirements, has not been successful in achieving the conservation goals under the MMPA of reducing interaction levels to 10% of the PBR. The Western Pacific Regional Fishery Management Council holds a seat on the TRT, which includes members from academia, conservation groups, fishing industry, government and fishery management organizations. The team was not able to reach consensus on measures to revise the existing plan after nearly three years of deliberations that started in 2018. In light of this situation, the Council’s Scientific and Statistical Committee (SSC) formed a working group to inform the future direction of this issue.

At the recent September 2021 meeting, the Council adopted recommendations to improve the management of impacts to FKWs in the Hawai’i deep-set longline fishery based on an issues paper developed by the SSC working group and endorsed by the full SSC. The issues paper reviewed cetacean avoidance research, interaction reduction measures and risk assessment methods used to evaluate the population-level impacts of fishery interactions. It raised concerns about the lack of fundamental population demographic information needed to support evidence-based policy guidance on the issue. The current risk assessment framework used to evaluate the potential impacts of FKW bycatch in the Hawai’i longline fishery relies

on the PBR approach, which the SSC acknowledged does not account explicitly for the assumption that long-term consequences exist for the pelagic FKW population. The working group found that available scientific data do not strongly support this assumption.

The SSC’s recommendations highlighted the need for a more rigorous scientific assessment to evaluate the potential impacts that the fishery may have on FKWs and suggested several approaches. One suggestion was to implement a conceptual framework called “population consequences of disturbance” that would consider a range of impacts, from observed changes in individual behavior to population-level effects like impaired reproductive, survival or population growth rates. Another recommendation noted a risk assessment model based on population dynamics may be necessary to assess the applicability of PBR for bycatch management.

The group also recommended that a post-release study on FKWs should be conducted using satellite tags or other technology to assess mortality rates and sublethal effects of capture and release. Currently, there is not enough demographic information, such as survival rates at different ages and reproductive rates, to do a population assessment or diagnose trends for FKWs. Additionally, the lack of post-release survival data has led to the assumption that most FKWs observed in the Hawai’i deep-set longline fishery are not likely to survive, even though most individuals are released alive.

“The underlying theme to all of these recommendations is that fishery impacts on FKWs to date have been seemingly small and infrequent,” said SSC Chair Jim Lynch, who presented the report at the September meeting and led the working group effort. “Take reduction measures imposed should balance the biological and economic impacts.” 🐟



False killer whale. Photo: Jim Cotton, NOAA/NMFS/PIFSC.



# Fall Meeting Highlights

187th Council Meeting, Sept. 21-23, 2021

## Climate Change Research Prioritized to Inform Management Decisions

The Western Pacific Regional Fishery Management Council approved several plans aimed at improving research and data in the region. The Council's work relies on robust scientific information for its fishery management decisions. The Council and its advisors developed research priorities with the Pacific Islands Fisheries Science Center, setting the direction for the future.

Climate change is a high priority, in line with the Biden Administration's efforts to mitigate the impacts and enhance fisheries resilience. Addressing the shift in distribution of stocks and fishing effort due to changes in oceanographic features is a good example.

The Council's Scientific and Statistical Committee Three-Year Plan focused its priorities on science that directly supports fishery management. A major focus is helping fishing communities to understand the value of data for fishery sustainability.

The Council's five-year regional research plan is mandated by the Magnuson-Stevens Fishery Conservation and Management Act (MSA). The plan covers research priorities for pelagic and island fisheries, protected species, human communities, cooperative



Cooperative research is one way local fishers can provide information for fisheries management. Photo: Eddie Ebisui.

research and management strategy evaluation.

The Council also endorsed the Fishery Data Collection and Research Committee's strategic plan for 2022 to 2026. The overarching goals of the plan are to:

- Build local agency capacity to improve fishery-dependent data collection.
- Provide non-peer-reviewed reports and unpublished datasets.
- Conduct science and research to support ecosystem-based fishery management.

## Improved Seabird Conservation Measures Recommended

The Council recommended modifications to a regulatory amendment as an initial action to improve seabird conservation in the Hawai'i deep-set longline fishery.

A recent tori line study showed that the streamer lines are significantly more effective than blue-dyed fish bait to deter seabirds like Laysan and black-footed albatross from interacting with longline gear. The Council supported using tori lines instead of blue-dyed bait, which is currently required as a seabird

interaction mitigation measure implemented under the Council's Pelagic Fishery Ecosystem Plan. The Council will consider a full analysis to make a final decision at its December 2021 meeting.

In addition, the Council recommended removing strategic offal (fish waste) discards from the regulatory requirement. Discharging offal and spent bait in the ocean away from where fishing gear is set may distract birds in the short-term, but may also increase seabird attraction to fishing vessels over time. The Council also recommended best practices training on offal management be added to the required annual protected species workshop for Hawai'i commercial fishermen.

"We support this change since blue dye is messy and not always effective," said Hawaii Longline Association Executive Director Eric Kingma. "Tori lines are extensively used around the world, including fisheries in Alaska, Australia, New Zealand and Japan. They are practical, easy to use and not expensive."

The Hawai'i longline fishery has been using seabird conservation measures for more than 20 years and pioneered many of the mitigation measures used internationally in pelagic fisheries.



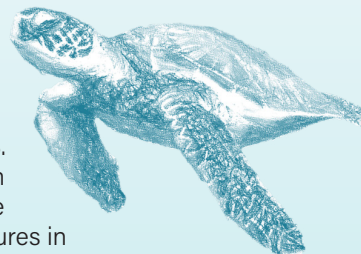
The Council recommended replacing blue-dyed fish bait with tori lines as a seabird conservation measure in the Hawai'i deep-set longline fishery. Photo on right courtesy of 'IKE Solutions.

## Uku Catch Limits Set and Cultural Take of Green Sea Turtles Considered in Hawai'i

The Council recommended that the National Marine Fisheries Service (NMFS) implement a 291,010-pound annual catch target for uku in the main Hawaiian Islands. This would include an in-season accountability measure to avoid surpassing this level for fishing years 2022 to 2025. The previous catch limit, effective from 2019 to 2021, was nearly half the amount at 127,205 pounds, but only applied to commercial fishers, whereas the new limit combines the commercial and noncommercial sectors.

The Council also heard a report on honu (green sea turtle, *Chelonia mydas*) management in Hawai'i, noting continued

requests from the fishing community to allow harvest for cultural purposes. Council members supported developing a way forward with NMFS. Manny Dueñas, Council member from Guam, expressed deep concern at the erosion of respect for indigenous cultures in our region, where turtles have been valued for medicine, food and sustenance for more than 4,000 years. The Council will work with communities to document the history of cultural harvest and use of honu in Hawai'i.



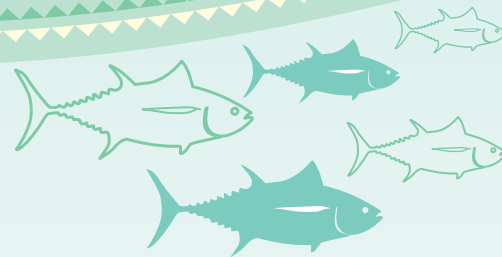
Fishing communities request the Council work with the National Marine Fisheries Service to pursue a cultural take of honu (green sea turtle).

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# Fall Meeting Highlights

188th Council Meeting, Oct. 19, 2021

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## Quota Set for American Samoa Bottomfish

The Council recommended NMFS implement a 5,000-pound annual catch limit (ACL) for the American Samoa bottomfish stock complex. According to a 2019 NMFS assessment, the 11-species bottomfish complex is overfished and the fishery is experiencing overfishing. A 10-year rebuilding plan is required by the MSA. Federal waters will be closed to bottomfishing when the ACL is projected to be reached. With 85% of the bottomfish habitat located within territorial waters, it is critical that federal and local fishery management efforts are coordinated.

The American Samoa Department of Marine and Wildlife Resources presented a draft Bottomfish Management Plan to the Council that was developed with input from fishing communities in Tutuila and Manu'a. The plan includes mandatory catch reporting; fisher and fish dealer licensing; vessel registration; seasonal, area-based and catch-based closures; and size limits.

In his remarks to open the Council meeting, American Samoa Governor Lemanu Mauga said fishing is a way of life in the islands and a vital aspect of his culture. He noted that only a tiny portion of the bottomfishers' catch is sold—most is "eaten, shared and distributed among families, especially during fa'alavelaves (cultural events, funerals, weddings, etc.) and holidays. Perhaps, it is also high time to explore more culturally appropriate ways of managing this type of small, cultural and subsistence fishery."

At the September Council meeting, Howard Dunham, Council member from American Samoa and president of the American Samoa Alia Fishing Association, noted "Fishing is how we keep in touch with Fa'a Samoa...our God-given right and our way of feeding our communities. We need to revive our alia fleet instead of further marginalizing a small underserved fishing community. Some alia still use wooden reels because modern reels are expensive." The territory has a population of approximately

58,000 people, with more than 54% living under the poverty level.

"The dilemma that we are facing in American Samoa is the difficulty of melding Western ways with cultural ways we live by every day," said Kitty Simonds, Council executive director. Simonds pointed out the Council has worked for many years to develop a management system without strict regulations that better fits the Western Pacific Region.

The ACL for the bottomfish stock complex specified in 2017, prior to the 2019 assessment, was 106,000 pounds. Following the assessment, fishermen were allowed to catch an interim limit of 13,000 pounds to alleviate the impact on their communities, which expired Nov. 18, 2021. The American Samoa bottomfish fishery is small, with six fishers catching an estimated 8,040 pounds in 2020. Fishery landings have been declining since a high of 21,536 pounds in 2015. The Council requested that the NMFS Stock Assessment Program separate the shallow- and deepwater-bottomfish into separate stock complexes in its next assessment, which is not scheduled to be completed until 2023.

"According to the Pacific Community (SPC), 5,000 metric tons of bottomfish are harvested in neighboring Samoa, which is an incredible amount of fish," said Archie Soliai, Council chair and director of the American Samoa Department of Marine and Wildlife Resources. "We obviously have a data problem, not a resource problem."

Join us at the Council's next quarterly meeting, which will be held by web conference Dec. 7-9, 2021. An agenda, meeting documents and a link to the Webex will be available on the Council website at [www.wpcouncil.org/event/189th-council-virtual-meeting](http://www.wpcouncil.org/event/189th-council-virtual-meeting).



Only a few small boats fish for bottomfish in American Samoa, with most in need of repair and experiencing high operational costs. Photo: Domingo Ochavillo.



American Samoa bottomfishers primarily use handline gear (shown on right) to catch fish due to the high expense of electric reels. Photo: Amy Vandehey.



# Council Coordination Committee Meeting

## Oct. 19-21, 2021

### Nation's Fishery Management Councils Find Consensus on MSA Changes, Advocate for More Time to Address Environmental Justice Issues



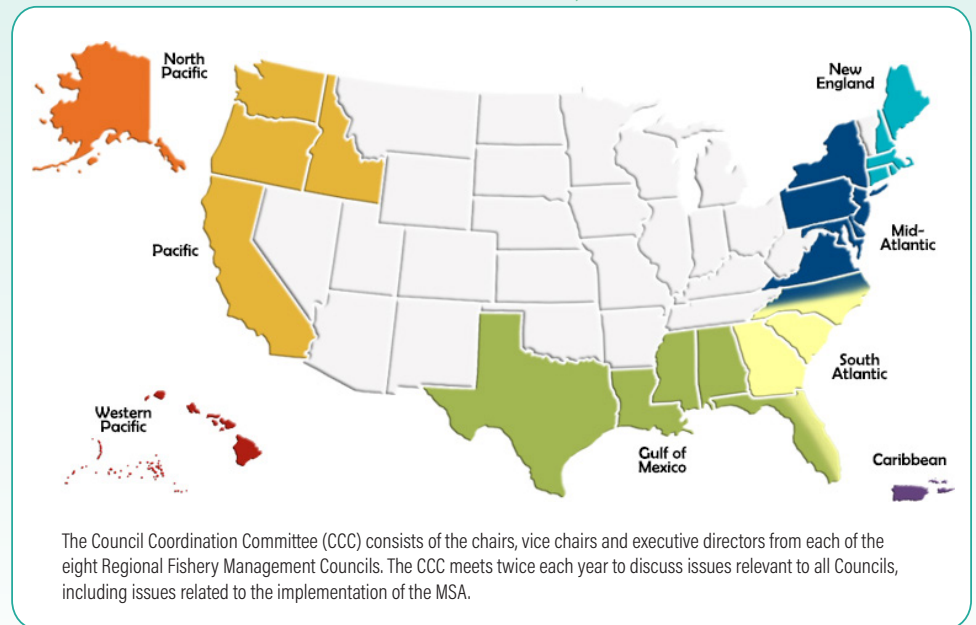
Leaders of the nation's eight Regional Fishery Management Councils concluded their second biannual meeting in 2021 by videoconference. The Council Coordination Committee (CCC) meeting provides the Councils and heads of NMFS an opportunity to discuss issues relevant to all of the Councils. Among its recommendations, the CCC addressed potential interactions between offshore wind development and fisheries, proposed changes to the MSA and the need to more fully address environmental justice for underserved fishing communities.

Congressman Jared Huffman (D-CA), Congressman Ed Case (D-HI) and Congressman Don Young (R-AK) joined the meeting to discuss MSA reauthorization activities in the House of Representatives. In opening remarks, all three emphasized the accomplishments of the MSA and the work of the Councils in successfully managing fisheries, noting reauthorization efforts are intended to refine a system that already works well.

In 2020, the congressmen held listening sessions with federal and state fishery managers, fishermen, seafood industry, conservations and other stakeholders, and gathered feedback regarding concerns with the MSA and fisheries that needed to be addressed. The CCC approved a letter responding to Reps. Huffman and Case's request for comments on their bill H.R. 4690, the "Sustaining America's Fisheries for the Future Act of 2021."

The CCC also approved the Legislative Workgroup's proposed consensus statements on climate change and Regional Action Plans for Climate Science, bycatch, Council jurisdiction, essential fish habitat, transparency requirements, ethics/standards of behavior and Secretarial plans. One notable proposed amendment to the MSA would replace the term "overfished" to "depleted" to distinguish between fish populations declining due to fishing or other external causes.

The CCC and NMFS discussed efforts to integrate equity and environmental justice into fisheries management. The North Pacific and Western Pacific Councils reported on efforts to engage communities in their regions. The



committee concluded that the issue is both too broad and regionally distinct to be addressed in one meeting agenda item alone. The members advocated for a joint workshop prior to the next CCC meeting in May 2022 to evaluate, respond to, and inform equity and environmental justice efforts. The Western Pacific Council volunteered to spearhead this issue and will work with the CCC to bring the workshop to fruition. The CCC also requested NMFS to provide funds to expand support for underserved communities to implement the Administration's priority areas.

NMFS Assistant Administrator Janet Coit outlined the priorities of the Biden-Harris administration and said the Councils would have a significant role in climate change resilience; greenhouse gas emission reduction; diversity, equity and inclusion emphasis; food supply, aquaculture and marketing; and climate change and science support.

NMFS Deputy Assistant Administrator for Operations Paul Doremus noted the president's budget includes priorities for the Blue Economy, science, climate change, offshore wind energy and social and environmental justice. Both the FY22 president's budget and the House mark have discretionary and programmatic increases, with the House mark including an additional \$1.5M for Regional Councils and Fisheries Commissions over the FY21 enacted budget. The Western Pacific

Council expressed concern that the House mark did not reflect the president's budget increase for territorial science, which would be important to restore functionality to its university scholarship capacity-building program and to support environmental justice programs.

Regarding the Biden Administration's America the Beautiful initiative (Executive Order 14008), the CCC's Area-based Management Subcommittee reported the group had proposed a working draft definition of conservation areas. Subcommittee members compiled a database for each Council region, with preliminary results indicating that more than 663 conservation areas have been established in the U.S. exclusive economic zone, and more than 54% is closed to all bottom-tending fishing gears. The CCC requested NMFS to assist the Councils with geographic information system (GIS) needs for this project.

Under the MSA, each Council is authorized to develop, monitor and amend fishery management plans for federally managed fisheries in its region. Once approved by the Secretary of Commerce, these plans are implemented by NMFS. The three-day meeting was open to the public and hosted by the Pacific Council. For more information on the CCC meeting, including briefing documents, go to [www.fisherycouncils.org/ccm-meetings/october-2021](http://www.fisherycouncils.org/ccm-meetings/october-2021).



# IF YOU OPEN THEM, THEY WILL COME

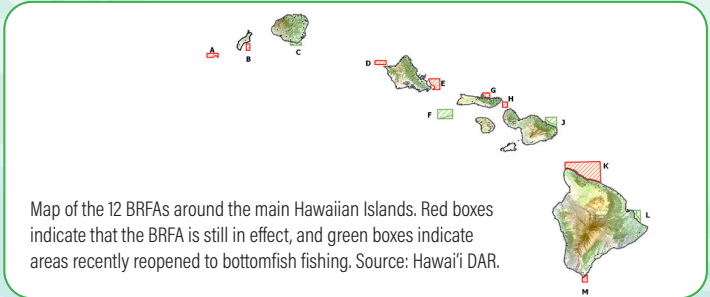
## —Does This Hold True for BRFAs Reopened in Hawai‘i?

Locally harvested bottomfish are an important marine resource in Hawai‘i, not only economically, but also for cultural and social purposes. The fishery is comprised of seven deep-water species known as the Deep 7 bottomfish complex and is composed of ‘ōpaka, onaga, ehu, hapu‘upu‘u, kalekale, gindai and lehi. The primary federal management framework is through a quota-based system previously called total allowable catch, but more recently called annual catch limit (ACL) in response to the Magnuson-Stevens Act reauthorization in 2006. The primary state management framework is through an area-based closure system, or bottomfish restricted fishing areas (BRFAs). These measures were enacted in response to an overfished stock status determination in 1996.

The NOAA Pacific Islands Fisheries Science Center completed a Deep 7 stock status update in 2021 (Syslo et al., 2021) which showed that as of 2018, the complex is healthy and can continue to be sustainably harvested. In fact, compared to the previous stock assessment through 2015 (Langseth et al., 2018), the Deep 7 biomass has increased as the harvest rate decreased. This recent evaluation provides a more optimistic outlook for the species than the 1996 overfished designation.

The Hawai‘i Board of Land and Natural Resources (BLNR) discussed reopening some of the 19 BRFAs originally closed in 1997 with the Hawai‘i Division of Aquatic Resources (DAR) based on the improved stock status for Deep 7 bottomfish complex, recommendations from the Western Pacific Regional Fishery Management Council and its Scientific and Statistical Committee (SSC) and requests from the fishing community. BLNR ultimately approved the motion to reopen four BRFAs in January 2019, including BRFA C (Poipu, Kaua‘i), BRFA F (Penguin Bank), BRFA J (Hana, Maui) and BRFA L (Leleiwi, Hawai‘i Island). BLNR asked DAR to provide a report in three years on the bottomfish stock status, along with an impact evaluation of reopening the four BRFAs for consideration in discussions of opening the remaining BRFAs. DAR is scheduled to present a summary to BLNR on fishery performance within the reopened BRFAs in January 2022.

DAR gathered catch and effort data from fishers that harvested bottomfish in the reopened BRFAs and revised the reporting grids to separate open and closed areas. DAR reported on the available data at the September 2021 SSC and Council meetings. However, the agency had concerns about data accuracy and quantity because the information seemed to indicate possible underreporting of catch and effort in the reopened areas. Possible data issues could stem from a lack of awareness of the requirement to report fishing activity in the reopened BRFAs,



### Bottomfish Restricted Fishing Area (BRFA)

An area designated by the Hawai‘i Division of Aquatic Resources in which it is unlawful for any person to take or possess bottomfish while in a vessel that is drifting or anchored within the area.



Four areas closed to bottomfish fishing around Hawai‘i were reopened in January 2019, but their conservation benefit is uncertain due to data quantity and quality concerns. 19 BRFAs were originally created in 1997, but revised down to 12 in 2007. Photo: Pacific Islands Fisheries Group, taken off Lehua Rock, north of Ni‘ihau.

a lack of enforcement in the areas when they were still closed, or other factors leading to misreporting. Inaccurate information complicates efforts to assess the effects of this management framework and its phased reopening. The SSC agreed with DAR’s data concerns and suggested that there may be distrust among the fishing community related to the establishment of the BRFAs that has led to misreporting and/or underreporting of fishing activity.

The SSC reiterated its recommendation since 2013 to eliminate all BRFAs in federal waters, due to the change in stock status since their establishment and because their management utility has been superseded by annual catch limits. The SSC noted that the lack of baseline data prior to the closure of the BRFAs meant that current fishing catch and effort in those areas could not be compared to anything.

The SSC also recommended that DAR continue to improve its fishery-dependent data collection through better fisher engagement to effectively manage the Deep 7 bottomfish fishery. Creating open lines of communication with the fishing community can help efforts to collect relevant information on local fisheries and assist management efforts. In the absence of trustworthy information, it is difficult for fisheries managers to make concrete decisions about implementing or removing management measures. With accurate data, fisheries managers can make informed decisions to ensure the long-term sustainability of important fish resources. 🐟

References:  
Langseth B, Syslo J, Yau A, Kapur M, Brodziak J. 2018. Stock Assessment for the Main Hawaiian Islands Deep 7 Bottomfish Complex in 2018, with Catch Projections Through 2022. NOAA Tech. Memo. NMFS-PIFSC-69, 217 p.  
Syslo J, Brodziak J, Carvalho F. 2021. Stock assessment update for the main Hawaiian Islands deep 7 bottomfish complex in 2021, with catch projections through 2025. U.S. Dept. of Commerce, NOAA Technical Memorandum NMFS-PIFSC-118, 212 p.



# ENVIRONMENTAL JUSTICE

## for Our Underserved Communities

The Western Pacific Regional Fishery Management Council is responsible for a region consisting of one state, two territories and one commonwealth that stretches over three time zones and the international dateline. Our region is the most isolated globally, requiring goods to be transported over the ocean for thousands of miles, resulting in a higher cost of living. Western Pacific communities also rely on local resources and access them through hunting, fishing and farming. Residents in the western Pacific consume more than twice as much seafood per capita as the rest of the nation.

Across the Pacific, our communities meet the definition of "underserved" as described in Executive Orders 13985 and 14031 on advancing social equity. These EOs represent a regional opportunity to access new, targeted resources for our communities. In 1996, amendments to the Magnuson-Stevens Act recognized traditional indigenous practices for native peoples in American Samoa, Guam, Hawai'i and the Commonwealth of the Northern Mariana Islands by establishing the Western Pacific Community Development Program. The program intends to provide western Pacific communities access to fisheries that they have traditionally depended upon, but may not have the ability to participate in, possibly due to economic, regulatory, or other barriers.



The Council supported a Puwalu series in Hawai'i in an effort to integrate traditional knowledge and governance into the fishery management decision-making process. Photo: Sylvia Spalding.

The Council has a long history of supporting Pacific Islanders' indigenous fishing rights. In 2009, the Council transitioned from species-based fishery management plans to archipelagic-based fishery ecosystem plans to better support communities, facilitate information exchange and integrate traditional knowledge into its decision-making process. The Council engages communities through their traditional governance, including the village mayors in the Mariana Archipelago, the Matai system in American Samoa and the Aha Moku system in Hawai'i. In Hawai'i, the Council and the Aha Moku convened a Puwalu (conference) series from 2006 to 2017 that gave traditional practitioners a platform to share their knowledge to support state and federal fishery management. Practitioners provided their insight into traditional fishing practices, resource management and monitoring, and conducted training workshops that supported capacity-building efforts in their communities.

Across the Western Pacific Region, each of the island's communities faces fishery development challenges. Fifty-three percent of the U.S. exclusive economic zone (EEZ) in the region is closed due to marine national monuments, which represents 99.6% of all U.S. marine monument designations. Limiting access to our own EEZ has displaced fishermen to distant fishing grounds, adding cost, time and logistical burdens, while heavy foreign fishing occurs right up to our 200-mile boundary.

The region is disproportionately impacted by rigid national policies that, when implemented without the proper level of investment, impede fishery and economic development. The National Standard 1 guidance in the MSA for data-limited stocks does not work in the western Pacific. For example, the American Samoa bottomfish annual catch limit (ACL) was reduced from 106,000 to 5,000 pounds, and the Guam bottomfish ACL was reduced from 66,000 to 31,000 pounds. At the same time, the United States continues to provide aid to Pacific Island and East Asian nations for economic development, yet these nations remain adversarial to U.S. Pacific Island fishing interests.

Despite that, there are opportunities for funding and services as the Biden Administration continues to prioritize resources and support for underserved communities. On March 11, 2021, President Biden signed the American Rescue Plan Act, a \$1.9 trillion economic relief stimulus package that allocated \$3 billion to the U.S. Economic Development Administration (EDA) to invest in infrastructure and workforce training to create good-paying American jobs and strengthen the nation's economy. This investment will include commercial and recreational fishing, aquaculture and the businesses and communities that depend on them.

At the October 2021 Council Coordination Committee (CCC) meeting, National Marine Fisheries Service (NMFS) leadership, and the North Pacific and Western Pacific executive directors discussed their efforts to integrate equity and environmental justice into fisheries management. The committee concluded that the issue is both too broad and regionally distinct to be addressed in one meeting agenda item alone. The members advocated for a joint workshop prior to the next CCC meeting in May 2022 to evaluate, respond to, and inform equity and environmental justice efforts. The Western Pacific Council volunteered to spearhead this issue and will work with the CCC to bring the workshop to fruition. The CCC also requested NMFS to provide funds to expand support for underserved communities to implement the Administration's priority areas.

On Indigenous Peoples' Day 2021 (October 8), the President proclaimed that, "The Federal Government has a solemn obligation to lift up and invest in the future of indigenous people and empower Tribal Nations to govern their own communities and make their own decisions." The sentiment is something that we embrace in our region. Chief Justice William S. Richardson, who served on the Hawai'i Supreme Court, said, "You must make difficult decisions, but if you make those decisions with the counsel and advice from traditional practitioners and those who are most closely affected by, and connected to a particular resource or area, your decisions will be sound." 🐟





the bigeye tuna catch limits for the Hawai'i-based U.S. longline fishery, improve fishing opportunities for purse seine vessels that offload in American Samoa, increase international protections for oceanic whitetip sharks and address future impacts of climate change. Newly minted NOAA Deputy Assistant Secretary for International Fisheries Kelly Kryc attended and addressed the PAC, noting that addressing climate change impacts is a primary concern of the Biden Administration.

The PAC recommended that American Samoa continue to provide a record of purse seiners that regularly land tuna in the territory in support of the local tuna industry. The PAC stated, "Such record can then be used by relevant flag states to regulate the purse seiners on that record as an integral part of the American Samoa tuna industry with the same rights and privileges as other small-island developing states (SIDS) fleet. This would eliminate the unfair treatment of American Samoa and the locally based purse seiners and help to reduce the disproportionate burden of conservation that is destroying the American Samoa tuna industry." SIDS, which include territories, are granted regulatory exemptions to reduce impacts to their fishery viability. PAC members also wanted to remove an additional two-month FAD closure, which creates disincentives for fishing in waters near American Samoa.





## Fair US Catch Limits for Hawai'i-based Fishery

The Hawai'i longline fishery and the Council, with support of ENGOs, provided compelling strategies for increasing the WCPFC bigeye longline catch limit for the Hawai'i-based U.S. longline fishery. The WCPFC should incentivize fisheries like the United States that has more than 20% observer coverage (international requirement is 5%), does not transship at-sea and operates in a portion of the ocean where regional depletion of bigeye tuna is minimal. The U.S. fleet is well regulated, with vessels less than 101 feet long and limited to 164 permits, yet has the lowest longline catch limit among WCPFC members with specified limits.

The PAC recommended that the United States submit a proposal to include in a draft revision of the current tropical tuna conservation and management measure that increases the annual U.S. longline bigeye limit by at least 3,000 metric tons. The Council helped formulate strategies for increasing catches, including rationale acknowledging that nearly 10,000 metric tons of accepted catch among other nations with catch limits goes unused annually.

Available information suggests that each of these options would not disproportionately burden SIDS and territories, and would not exceed the bigeye tuna management objective to maintain spawning biomass at 2012-2015 levels. The PAC further recommended that U.S. government officials discuss this objective as soon as possible with China, Japan, Korea, Chinese Taipei and the Pacific Island nations.

The PAC also recommended that the United States work closely with Pacific Island members to further understand and advance the scientific basis (per WCPFC Science Committee advice) regarding

zone-based longline management. Many Pacific Island nations favor this type of management, similar to that of the purse seine fishery, so that longline fisheries fish more time within their waters, paying access fees to do so. Given the lack of estimated regional tuna depletion in waters around Hawai'i (see map) and the lack of competition of Hawai'i-based vessels with Pacific Island nations, there could be mutual interests. Therefore, the PAC advised that references to zone-based longline management in any potential management measure include considerations of spatial differences in bigeye depletion within the WCPFC Convention Area, or area of jurisdiction. The Hawai'i longline fleet also engages in territorial fishing agreements with American Samoa, the Commonwealth of the Northern Mariana Islands and Guam, which provides much-needed financial support for the territories' infrastructure. The PAC recommended that the WCPFC still acknowledge these territorial agreements, even with an increase in U.S. catch limits.



The commercial longline fishing vessel *Katy Mary* in the Honolulu harbor. Photo: John Kaneko.

## Widespread Support for Council Provisions on Oceanic Whitetip Shark Conservation

The Council's action to switch from wire to monofilament leaders in longline fisheries and its international recommendations drew praise from several ENGOs. The gear change, along with removing extraneous trailing gear on released animals, is expected to greatly increase the survival of animals that interact with longline fisheries, including sharks. The PAC recommended that the United States work with other WCPFC members to introduce a binding measure to ban wire leaders in WCPFC longline fisheries, promote the use of circle hooks (for quicker release) and require safe release procedures for oceanic whitetip sharks. The committee further suggested that annual reporting of leader material by fleet be required as an added accountability measure and proposed as soon as possible to reduce fishing mortality and expedite the recovery of oceanic whitetip sharks, which are listed as threatened in the western and central Pacific.

The PAC also endorsed the Council's international recommendation to increase longline observer coverage and/or electronic monitoring on vessels operating between 10°S northward to 10°N within WCPFC waters, which is an area where oceanic whitetip sharks are highly vulnerable to capture. This recommendation notes that improved monitoring is critical for assessing the rebuilding of the oceanic whitetip shark population, and evaluating the effectiveness of management for species with nonretention measures in place. It also supports existing analyses that suggest 20% observer coverage would reduce uncertainty in the estimates of bycatch species, including oceanic whitetip shark.

The WCPFC annual meeting will be held virtually Nov. 28 to Dec. 6, 2021. The United States is expected to use recommendations by the PAC to guide their positions in negotiations. For more information on this year's meeting, visit <https://meetings.wcpfc.int/meetings/wcpfc18>. See also the WCPFC annual meeting schedule in the diagram on page 18.







# Council's Scholarship Program Student Updates

Since its inauguration in 2014, the Western Pacific Regional Fishery Management Council's U.S. Pacific Island Fisheries Capacity-Building Scholarship Program has supported 15 students from American Samoa, the Commonwealth of the Northern Mariana Islands (CNMI) and Guam. Graduates of this unique program return to their home islands to work for their local fishery management agency. This transferrable model increases technical capacity in the territories, affording better local fisheries decision-making.



All Photos page 10: Leilani Sablan.

## Leilani Sablan

I am currently pursuing my **master of science degree in biology at the University of Guam Marine Laboratory**. My passion has always been in marine science, thus I am furthering my education at one of the region's best marine institutions. My mentor is Dr. Peter Houk—his lab focuses on coral reef ecology, conservation biology, fisheries, food webs, population ecology and resource management. As someone who is an expert in fisheries work, I couldn't

have chosen a more fit advisor/mentor than Dr. Houk to guide me through my graduate school journey.

### What are you studying to satisfy your degree requirements?

My master's thesis is focused on Guam's noncommercial fisheries. As noncommercial fisheries are largely understudied on Guam (and throughout the Pacific), I aim to shed light on its various trends to assist in management efforts. Some of these trends include catch composition, size structure variation, harvested biomass and much more! I have also included a social and cultural aspect to my study, in which I will be mapping the post-landings geographical distribution of noncommercial catch as driven by social and cultural processes, known as "fish flow."

### What are your plans after graduation?

Shortly after I graduate, I plan to be working as a fisheries biologist with the Guam Department of Aquatic and Wildlife Resources (DAWR). The creel data collection efforts I have undertaken for my thesis project is something I hope to carry out long-term in order to maintain consistent and rigorous creel data for Guam over the years. My hope

is that current and future research can assist with generating management recommendations for Guam's fisheries.

### How has the Council's scholarship helped you?

I was hesitant about attending graduate school due to figuring out how I would pay for my tuition on top of the expenses I accrue by living independently. When I found out about the Council's scholarship, which is tailored towards students pursuing fisheries science, I saw my opportunity to further my education and strive for my master's degree. I'm able to attend school without having any financial burdens.



Leilani Sablan conducts an independent creel survey to track changes in target reef fish.



## What do you like to do in your free time?

I love fishing! Another reason I wanted to pursue fisheries as my thesis focus is because I myself am a noncommercial fisher. During my spare time, I'm in the water spearfishing for dinner or just simply freediving to enjoy Guam's marine life. When the water is too rough for fishing, I enjoy spending time with my dog. 😊

## What advice can you share to encourage other college students to pursue a degree in marine science?

There is no place better to study marine science than right here at home at the University of Guam. Guam's marine diversity makes our island ideal for pursuing your dreams as a marine biologist. In addition, as climate change is having negative impacts on marine life, we are faced with the critical need for more local capacity to manage what can soon be lost.

I want to thank my family, William Naden, Dr. Peter Houk, Amy Vandehey and the Council for the support and encouragement they have given me so I can continue my studies.



## Andrew Kang

I am studying towards my **master of science in biology at the University of Guam** under Dr. Terry Donaldson. I am conducting research on the life history



Council scholarship recipient from Guam Andrew Kang won 1st place for his bonita in the Greg D. Perez Sportfishing Derby in August.  
Photo: Andrew Kang.

and reproductive biology of *Cheilinus undulatus* (humphead wrasse) using their otoliths (ear bones) and gonads. My research is important to create a baseline of knowledge for the management and conservation of this species.

## What are your plans after graduation?

I plan to work with Guam DAWR and contribute towards its mission of working with the community to collect much

needed fishery data and understand the biology of fish species found in our waters.

## How has the Council's scholarship helped you?

I am so grateful to the Council for seeing potential in me to succeed in pursuit of my master's degree. Having the Council's scholarship helped me to focus on my studies and try to stay on track to graduate.

## What do you like to do in your free time?

My dad bought a small boat last year and ever since we have been going fishing regularly. It has been a great way to spend time with my dad and be a part of our local fishing community.

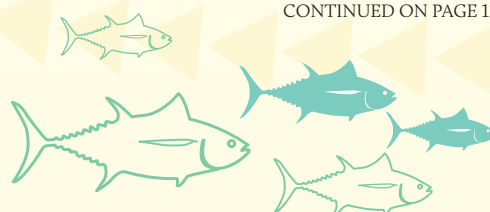
## What advice can you share to encourage other college students to pursue a degree in marine science?

Never give up. My pursuit of a master's degree in science has not been without its ups and downs. But with the right guidance and support, I hope to graduate soon and pursue my research interests and passion.

CONTINUED ON PAGE 12



Photo: Andrew Kang.







CNMI DFW Fishery Data Officer Angela DelaCruz collects data from fish caught at the ISLA Fishing Derby. Photo: Angela DelaCruz.

### Maria “Angela” I. DelaCruz

I graduated from the **University of Hawai‘i at Hilo with a bachelor of arts in marine science** in fall 2020 with support from the Council’s scholarship program. I returned home to the CNMI and started working for the CNMI Division of Fish and Wildlife (DFW) as a fishery data officer.

My main duties are to manage and supervise the Fishery Data Section’s data collection process; evaluate the data and monitoring protocols and programs to meet grant goals and objectives; review and verify shore-based, boat-based and commercial data; generate reports based on data collected; write grant proposals; schedule survey days; assist staff in the field; host fish species ID training; and take into account the advice and opinions of my staff regarding data collection in the CNMI.

#### What are your goals for DFW Fishery Data Section?

I want to improve the accuracy of data collection, data entry and data proofing by having open discussions with the staff on how to better define and understand concepts, more strictly enforce the protocols from the methodology and constantly review scheduled surveys to

make sure they have been completed and done well.

#### What does effective fishery data collection look like to you?

To me it would look like what our section is currently turning into. Data collection is consistently being done and recorded properly. We constantly brainstorm to figure out the most effective approach to tackle data collection, entry and proofing. Our goal is to eliminate as many errors as possible through the accuracy of our data.

#### How does mandatory data reporting play a part in having reliable data?

It would ensure we are getting the information we need to make efficient fishery management plans by having a clearer picture of fisheries in the CNMI. Mandatory data reporting would allow us to cross check information received

by fishermen, vendors and restaurants to improve accuracy.

#### What are some challenges that CNMI fisheries and data collection are facing?

We have had quite a bit of staff turnover in the Fishery Data Section. However, since there is now someone to take charge of the section and closely monitor staff, scheduling and protocols on data collection and execution, we have started to see progress. Guidance from Director Manuel Pangelinan, Fisheries Supervisor Michael Tenorio and Fishery Biologist Francisco Villagomez (another previous scholarship recipient) and the hiring of two new staff members have all contributed to improvements, and we look forward to achieving our goals and objectives as a whole section. 🐟



Photo: Angela DelaCruz.



# NORTHWESTERN HAWAIIAN ISLANDS PROPOSED SANCTUARY FISHERY REGULATIONS FAQs

**Why is a Sanctuary being proposed now?**

The Office of National Marine Sanctuaries (ONMS) has long desired a National Marine Sanctuary for the NWHI. In 2006, a Monument was designated. Given the recent example of a President altering an existing Monument through the Antiquities Act, there is a desire to create more permanence in the region.

**Which boundary options are ONMS considering?**

It's unclear at this time. The Council understands that the sanctuary designation process, which includes an Environmental Impact Statement analysis to satisfy the National Environmental Protection Act and formal public scoping, will examine boundary options.

**What does that mean for fishing in the NWHI?**

Currently there are federal and state regulations in place that prohibit commercial and recreational fishing from the beach to 200 miles offshore. As part of this process, Council staff is working with NOAA lawyers to better assess the existing regulatory frameworks regarding fishing. These existing legal frameworks include the State NWHI Marine Refuge; the NOAA Coral Reef Ecosystem Reserve; the Papahānaumokuākea Marine National Monument and the Monument Expansion Area Marine National Monument. This comprehensive understanding will serve as a starting point for any fishery proposal discussions.

**Can we undo what's there?**

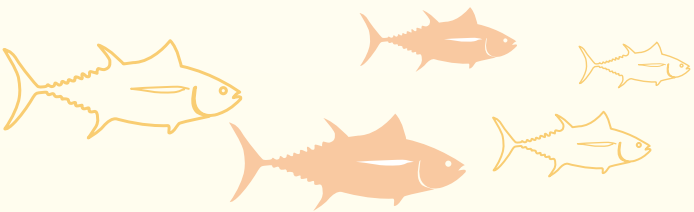
It doesn't appear that this is a likely outcome of the sanctuary designation process. If that changes given the legal review outcomes, we'll be sure to update our Council family and to modify any proposal with that in mind.

**Can fish come home to the Main Hawaiian Islands?**

This is part of the legal review. It appears that from some portions of the Monument this may be possible in a regulated/managed fashion that the Monument managers would implement via a permit. Customary exchange is allowed in other Pacific Monuments, though implementation has not yet occurred.




**Who is the sole management agency?**




The NWHI region is collectively managed through a high-level governmental partnership. There is no sole management agency in charge. The area is managed by the U.S. Fish and Wildlife Service, NOAA, the State of Hawai'i and the Office of Hawaiian Affairs. The agencies follow a consensus decision model.



## Council Family Updates

At the 187th Council meeting, the Council supported the following advisory body changes:

-  Appointed **Michael Dueñas**, Guam Department of Agriculture, as an alternate on the Guam AP
-  Appointed **Nate Ilaoa**, Flying Fox Brewing Co., as a member of the American Samoa Advisory Panel (AP)
-  Appointed **Sean Hanser** and **Kaipo Perez III**, U.S. Navy, to the Hawai'i Regional Ecosystem Advisory Committee (REAC)

-  Appointed **Kevin Lino** and **AJ Reyes**, U.S. Navy, to the Guam REAC
-  Appointed **AJ Reyes**, U.S. Navy, to the Commonwealth of the Northern Mariana Islands REAC
-  Appointed **Audrey Toves**, One Love GUD Vibes Charters, to the Non-Commercial Fishery Advisory Committee





TTT kicks off the 3rd year of their high school program in October 2021.

## Tasi to Table Collaborates with Community Partners to Support Youth

The Western Pacific Regional Fishery Management Council continues to partner with Tasi to Table (TTT), a nonprofit organization established in the Commonwealth of the Northern Mariana Islands (CNMI) in 2019. The group launched its 2021-2022 8-month program for the youth Saturday, Oct. 2, 2021. With almost 100 students from all public high schools on Saipan, Tinian and Rota, TTT's ambitious approach to secure support and collaboration from not only the community, but government and other nonprofit organizations to enhance program outcomes, has come to fruition for this school year. Council staff Floyd Masga talked to students about our activities in the community and about fishery regulations like the Magnuson-Stevens Act.

TTT was created to build capacity for sustainable fishing practices, environmental protection and preservation, while teaching safe boating practices, safety precautions and reel maintenance. The group follows the proverb, "Give a man a fish, and you feed him for a day. Teach a man to fish, and you feed him for a lifetime." TTT provides unequivocal learning opportunities that cannot be found in the classroom. Aside from the varied fishing methodologies offered in the program, like shoreline casting, shallow bottom, deep drop and trolling, the program also shares information about career pathways through higher education or the U.S. Armed Forces. "TTT as a youth program has grown immensely over the past three years. We continue to build on the program to enhance opportunities for the youth," said TTT President Gene Weaver.

The program focuses on four main areas—career pathways, the environment, mental health and fishing methodologies. In May, Masga presented information about the Council's fishery capacity-building programs, primarily the university scholarship program and the summer high school course on fisheries and

marine resource management. Masga also encourages students to use the Council's Catchit Logit e-reporting app to fill out fishing trip reports that will improve fishery management in the region.

New this year, TTT plans to collaborate with John Gourley (Council vice chair for Guam) at Micronesian Environmental Services to dissect fish and learn about their life history, including how to determine their age. Marianas Island Nature Alliance will also talk to the students about the environment and microplastic particle effects on marine life.

While the TTT program emphasizes four focus topics, it also teaches participants about mentoring and leadership qualities. This year, students will organize and coordinate the 3rd Wahoo in the Marianas fishing tournament to be held in early 2022, starting from the beginning by forming a team to handle all aspects of coordinating a tournament of this magnitude. Students engage in communications (public relations/marketing), solicitations, logistics and overall planning with support from TTT school advisors, officers and members. The skills offered through this program are unparalleled in the CNMI. This joint effort with government, nonprofit organizations, CNMI Public School System, fishers, CNMI Boating Safety and federally funded programs, among others, capitalizes on local expertise to develop youth into not only stewards of the future, but responsible young citizens.

TTT has grown from a two- to seven-man team, establishing clubs at Marianas High School, Saipan Southern High School, Kagman High School, Da'ok Academy, Rita H. Inos High School (Rota) and Tinian Jr/Sr High School. The program offers high school students an elective credit once they complete 120 hours, which counts toward graduation.



"We established TTT with great intentions," said TTT Vice President Wayne Pangelinan. "The support we have received continues to push the program forward, but growth does come with challenges. We thank our private business sponsors, as well as the government, for believing in our program, thus making it become a reality year after year." 🐟

TTT President Gene Weaver (left) and member Alex King teach students to tie lures. Photos: Floyd Masga.



# Samoans Disappointed When Palolo Fail to Show in October

Once or twice a year, Samoans eagerly wait along the shoreline for palolo to rise to the ocean surface, ready to scoop them up in nets. Palolo is the tail section (epitoke) with reproductive cells of a polychaete worm (*Eunice viridis*) that is found throughout the south central Pacific. The worm breaks in half and swims to the surface each year around one week after the full moon in October and/or November in a mass spawning event, typically associated with high surf, irregular rainfall and strong winds. For Samoans, other natural cues include the closing of the palulu flower (morning glory), brown foam from coral spawn, toxins in fish and customarily, the flowering of the moso'oi tree. Samoans say that it is when the moso'oi flower is the most fragrant that invites palolo to spawn.

To the unexperienced, palolo is merely a worm. To Samoans, palolo is a delicacy to be enjoyed once a year and is esteemed as the Samoan caviar. Ka palolo (harvesting palolo) is done late at night before the sun comes up. Participants check for the rise over the course of two to four days.

Some dedicated fishermen even take time off from their usual fishing trips to prepare for the palolo harvest. When asked how much work goes into preparing for the palolo harvest, one participant said that it takes days to prepare for an event that last only a few hours. Sewing nets, finding the best flashlight,

The palolo rising is preceded by the flowering of the moso'oi tree and Samoans traditionally make leis to greet this gift from the sea. Photo: National Park of American Samoa.



Palolo is often referred to as "Samoan caviar." Pictured here is the brown (males) and bluish-green (female) tails of palolo worms and juvenile fish caught in a ka palolo net. Photo: WPRFMC.

harvesting moso'oi flowers to make leis and planning for the harvest party takes time. "I plan on taking the day off (from work) the following day so I can rest," said Samuelu "Manuia" Lifa. "For palolo, it's worth it."

Always an exciting event, this year fisher folks and amateurs alike lined the coastlines of American Samoa, and by 11 p.m., participants could be seen wading into the water every hour to check for palolo with their flashlights. However, fishers were disappointed to see a weak spawning. Those fortunate enough to harvest palolo on their boats, caught only a handful. Since the rising occurred on October 27, many believe that there may only be one strong spawning this year.

Unlike previous years, there was not enough catch to be sold on the roadside the following day. The cost of palolo has increased over the last few years, going for \$25-\$60 a bundle (about one pound). This traditional practice has become a source of income for some Samoans. For others, this annual event is a way to stay connected with their ancestors who took part in this cultural practice that has been around for millennia. Whatever their reasons for taking part, all can agree that palolo is a rare delicacy that is so sacred, it should be harvested as a thanksgiving to the ocean. 🐟

Checking for palolo at Fatu ma Futi beach—little to none were harvested close to shore. Photo: WPRFMC.



Despite catching more than those on the shore, boaters harvested a weak spawning of palolo in late October. Photo: WPRFMC.





# Get to Know Your Council Members: Matt Ramsey

**Learn about the people who balance competing interests, while trying to make fishery management decisions for the overall benefit of the nation.**

We had a chance to sit down with recently appointed Western Pacific Fishery Management Council member Matt Ramsey to ask him a few questions. Matt's 3-year term as an obligatory voting member for Hawai'i started in August 2021. He is a lifelong avid recreational fisherman and currently the director for Conservation International's Hawai'i program. He is well-known in the local fishing community, having previously worked at NOAA Fisheries as a fisheries extension agent.

## **Why did you want to be part of the Council?**

Throughout my life, I have had the great fortune of being mentored by amazing fishers. Whether it was my father, Boy Scout leaders, fishing club members or tackle shop owners, many people generously took time out of their busy schedules to teach me about fishing. Those experiences on the water were much more than lessons on how to tie a knot or hook a fish. They were life lessons that connected me to nature, molded my career and made me who I am today.

As a proud "local boy," I want to ensure that Hawai'i fishers are represented well on a regional and national level and the Council is an excellent way to help make that happen. Council membership offers a tremendous opportunity to not only learn about fisheries management from global experts and contribute to decision-making, but also to share knowledge with others and give back to the fishing community.

## **How do you think your knowledge and experiences will contribute to fishery management efforts in the Western Pacific?**

If someone were to look at my resume, they may assume that I am a conservationist. If someone were to meet me on the beach or walk through my house, they would undoubtedly assume that I am a fisherman. If I was asked with which one I most identify, I would say "both."

Any good fisher practices conservation. Whether it's called pono, sustainable, or responsible fishing, there can be a balance between production and protection and that is the philosophy that I hope to bring to fisheries management efforts in the Western Pacific. I recognize that the concept is simple, yet finding that sweet spot can often be very complicated.

I will use my knowledge and experience to the best of my ability to provide a balanced perspective, but I cannot do it alone. I will rely heavily on the fishing community in Hawai'i to help guide my decision-making.

## **How long have you been involved with fisheries in Hawai'i? What changes have you seen since you started?**

In addition to being a lifelong fisher in Hawai'i, I have been involved in fisheries management since 2004.

The greatest change that I've noticed over the past two decades is the growth in fishers and technology. Growing up, I remember xeroxing pages from Mike Sakamoto's Pacific Shore Fishing book and HFN so that I could practice my knots on an empty beach while my dad and I waited for a bite. When I return to those same spots today, I see fly fishers, kayak fishers, spear fishers, SUP fishers and drone fishers. There have been amazing innovations in fishing practices and technology and the numbers of fishers seem to have grown tremendously.

The speed at which fisheries information is disseminated has also grown exponentially. With social media, YouTube and cell phone apps, fishers exchange information instantaneously. This has completely changed fisheries in the last decade. For example, it has led to improved efficiencies in the commercial fishing industry, lowered the barrier of entry for new recreational fishers and increased the visibility and discussions of fishery management issues.

## **What are some challenges that Hawai'i fisheries are facing?**

Like many other Pacific Island fisheries, Hawai'i's fisheries are all connected. Many people don't understand that the pelagic fisheries have a strong connection to the coral reef fisheries and habitat. And that the coral reef fisheries and habitat have a strong connection to the land and freshwater. Unfortunately, many of our nearshore habitats are severely degraded due to anthropogenic stressors on land. If the habitat continues to degrade, Hawai'i's fisheries, both nearshore and pelagic, will also decline.

In addition to land-based stressors, global climate change compounds the challenges to our fisheries. Increased frequency and severity of storms, changing rainfall patterns and rising sea temperatures are a few of the many climate change impacts that threaten our fisheries.

Lastly, I consider data gaps to be a very serious challenge in our fisheries. If you spear, net or hook fish, you know that your fishing effort has an impact. You are removing fish from the sea while you are feeding people and our economy, but do you know the cumulative impact in Hawai'i? How many fishers are in our islands? How do our noncommercial fisheries contribute to Hawai'i's food security? How do our commercial and noncommercial fisheries contribute to our state's economy? Statisticians have done an incredible job of giving us a glimpse into the value of our fisheries, but without a clear and accurate understanding of its true environmental, economic and social impacts, we face an uphill battle every time we try to balance protection and production.

## **Lastly, what is your favorite fish to eat and how do you prepare it?**

Aholehole—it's one of the first fish that I learned to spear and something that I've continued to target. I prefer to fry it and add a little salt. It's so simple, yet so ono! 🐟








# Science and Management 101:

## COLLECTING DATA FROM FISHERMEN

### - CENSUS VS. SAMPLE

Data collection is the backbone of fisheries management in the Western Pacific Region. Fishery managers need information about:

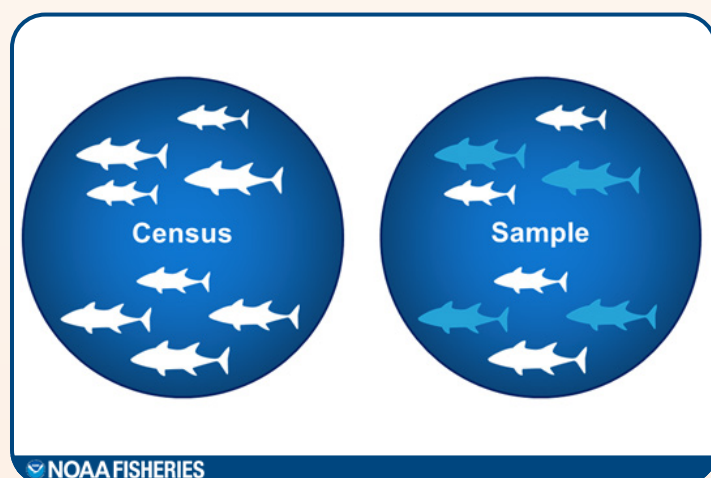
-  the total amount of fish caught
-  the amount of time spent fishing
-  the number of fishers harvesting various fish species (i.e., the “universe” of a local fishery)

With this data, they can make well-informed decisions about introducing new guidelines to ensure the sustainability of fish populations, or relaxing regulations to allow fishers more flexibility while fishing. Generally, there are two main approaches to collecting vital fishing data—censuses and sampling.

**CENSUS** – collects information from every member of a target group, which is only possible when the entire group is known. An example of a census is the Hawai’i commercial fishing license and mandatory reporting system. A commercial fishing license defines how many fishermen there are, while mandatory reporting defines the portion that is actively fishing.

**SAMPLE** – collects information from a randomly selected and typical portion of a target group that reflects the characteristics of the larger group. Sampling is used when conducting a census is not practical. The smaller sub-sampled population is estimated to represent the whole population, with certain assumptions, like a survey design is closely followed. An example of a sampling design is a creel (angler) survey that collects intermittent catch and effort data from returning fishers at select locations.

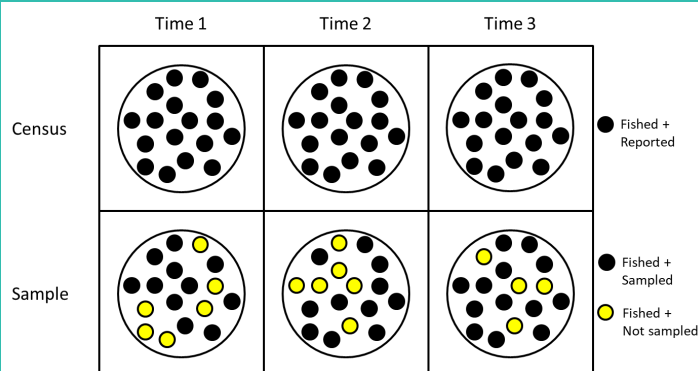
While sampling may generally be used more often than censuses due to practicality, there can often be sampling errors and/or uncertainties that impact the overall estimates. Thus, censuses are usually preferred to sampling when complete data are required. However, sampling designs are still used in cases where censuses cannot be utilized, including for estimating total fishing activity and harvest.



[fisheries.noaa.gov/recreational-fishing-data/survey-statistics-overview](https://fisheries.noaa.gov/recreational-fishing-data/survey-statistics-overview)

In an ideal scenario, the data collection agencies are able to identify all of the fishermen participating in the fishery and everyone reports how long they fish and what they catch (top row). This requires a fully enforced system of licensing and reporting.

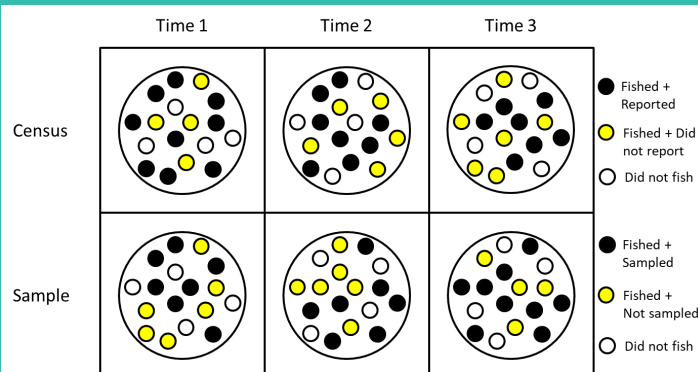
#### All fishermen are fishing and reporting.



#### All fishermen are fishing - some are sampled.


However, things are not always ideal. The reality is some parts of the population are not fishing all the time, and not everyone is reporting. Conducting a proper sampling design efficiently captures these situations. Notice that the two rows in the illustration are similar. Both collect the same information with varying levels of assumptions and reporting.

#### Some fishermen are fishing - some report, some do not.



#### Some fishermen are fishing - some are sampled.

In American Samoa, Guam and the Northern Mariana Islands, mandatory fishery licensing and reporting regulations are either not yet in place, or not fully enforced. Voluntary creel surveys have been implemented, as described above. Sampling may capture only a part of the fishing community, but it is the most realistic option due to limited resources in the island areas.

Data limitations can lead to an inaccurate picture of fish populations. The Western Pacific Fishery Management Council has supported a fishery data collection app in the territories called Catchit Logit to put the power of data into the hands of fishermen. Better data means better management for a sustainable fishery. 



# Congressional Corner

The push to reauthorize the Magnuson-Stevens Fishery Conservation and Management Act (MSA) is in full swing now with H.R. 4690, the “Sustaining America’s Fisheries for the Future Act of 2021,” introduced by Representatives Jared Huffman (D-CA) and Ed Case (D-HI), as the main vehicle. In 2020, the congressmen held listening sessions with federal and state fishery managers, fishermen, seafood industry, conservations and other stakeholders, and gathered feedback regarding concerns with the MSA and fisheries that needed to be addressed. According to Huffman, this bill looks to build upon the success of the MSA by strengthening fishing communities and fisheries to be resilient against climate change. It includes provisions to improve and update the MSA by increasing transparency in the fishery management process, utilizing electronic technology for monitoring and providing for greater science and collaboration. A public hearing on the bill is expected sometime this fall.

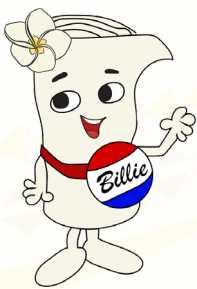
H.R. 59, the “Strengthening Fishing Communities and Increasing Flexibility in Fisheries Management Act,” introduced by Representative Don Young (R-AK), would also amend the MSA and was written with the fishing industry. The provisions in this bill would ensure the sustainable yield of resources, with the Regional Fishery Management Councils continuing to be at the

forefront of management. It is likely that parts of this bill will get added to H.R. 4690 as discussions in the House Natural Resources Committee progress this year.

The third bill with potential changes to the MSA is H.R. 3764, the “Ocean-Based Climate Solutions Act,” introduced by the chairman of the House Natural Resources Committee, Representative Raul Grijalva (D-AZ), is a comprehensive bill that seeks to address ocean issues. MSA changes addressed include essential fish habitat consultations, marine protected areas in areas beyond national jurisdiction and climate change impacts on fisheries. The provisions in this bill may be considered in the other MSA legislation as well.

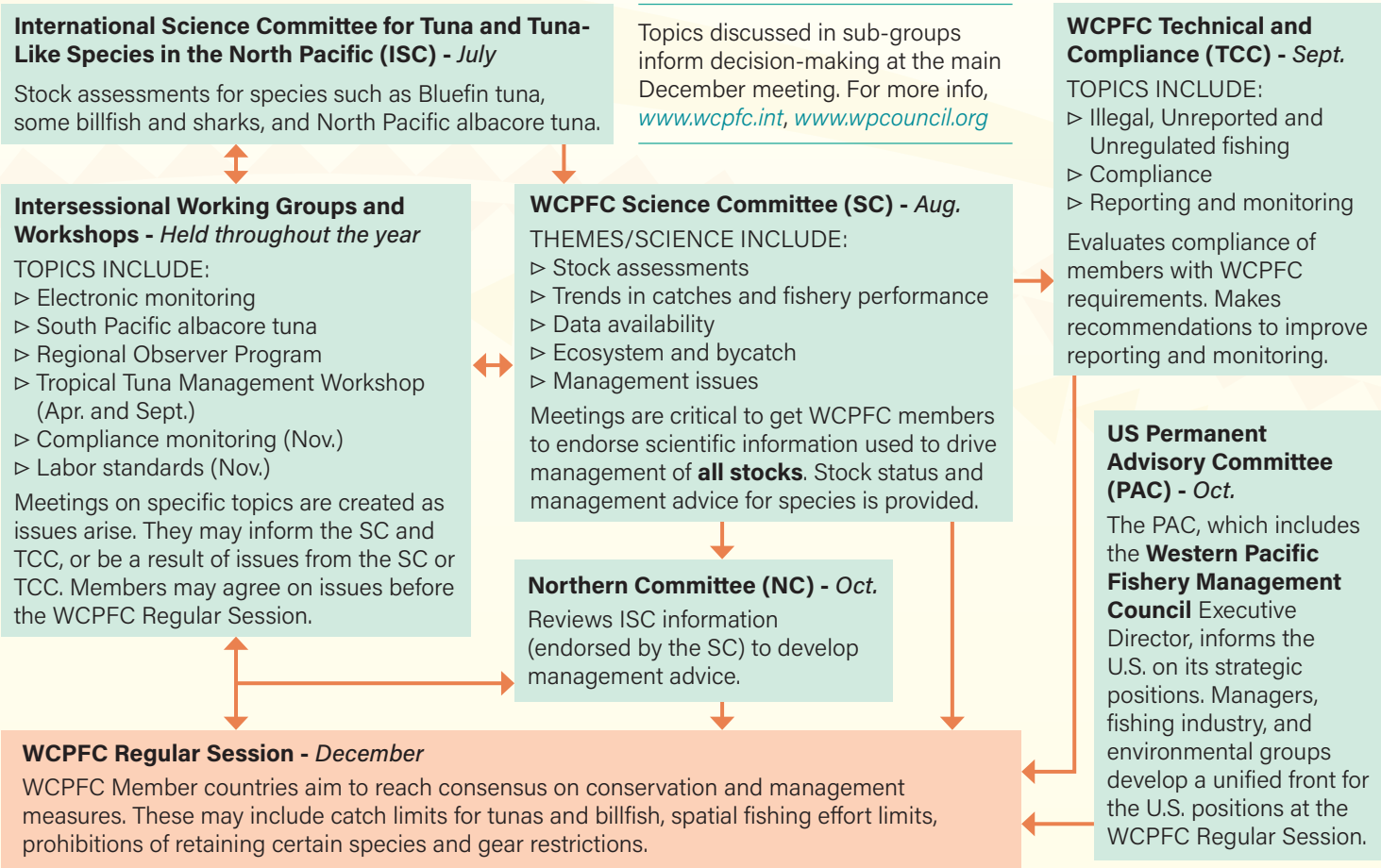
Other legislation that could affect domestic fisheries that is moving through Congress includes a bill to address illegal fishing and forced labor, bills to reauthorize the Coral Reef Conservation Act, bills to ban the harvest of sharks and bills to ban driftnet fishing. Congress is also expected to take up aquaculture management and forage fish, but bills have yet to be introduced in this 117th session.

For up-to-date information on the proposed MSA changes and other congressional legislation, visit [www.congress.gov](http://www.congress.gov).



## How Tunas and Billfish are Managed in the Pacific

Western and Central Pacific Fisheries Commission (WCPFC)\* *meetings start in July*



\*WCPFC Members - Australia, China, Canada, Cook Islands, European Union, Federated States of Micronesia, Fiji, France, Indonesia, Japan, Kiribati, Republic of Korea, Republic of Marshall Islands, Nauru, New Zealand, Niue, Palau, Papua New Guinea, Philippines, Samoa, Solomon Islands, Chinese Taipei, Tonga, Tuvalu, **United States of America**, and Vanuatu (Participating Territories: American Samoa, Commonwealth of the Northern Mariana Islands, French Polynesia, Guam, New Caledonia, Tokelau, Wallis and Futuna)



# REPORT CARD FOR TROPICAL TUNAS AND BILLFISH AROUND HAWAII

Management of fish that travel long distances, called highly migratory fish, can be tricky. Species like tunas and blue marlin often cross domestic and international boundaries, requiring international cooperation through regional fishery management organizations. Both U.S. commercial and recreational fishermen target these species, as well as foreign fishing fleets. But only a small fraction of the total harvest is caught in U.S. waters. Managers aim for stocks to optimize the amount of fish harvested, while supporting the long-term sustainable use of the resource.

For more information and the 2020 Annual Stock Assessment and Fishery Evaluation Reports, go to: [www.wpcouncil.org/annual-reports](http://www.wpcouncil.org/annual-reports).

Species / Stock Status		Other Information
 <p>Photo: flickr.com/roaming-the-planet</p>	<p><b>Albacore Tuna</b></p> <p>Good - not overfished, not experiencing overfishing.*</p> <p>Last Stock Assessment: 2020 (N. Pacific), 2021 (S. Pacific)</p>	<p>Albacore stocks are more than double sustainable levels, though managers want greater controls on fishing effort targeting albacore.</p>
 <p>Photo: Michael Goto</p>	<p><b>Bigeye Tuna</b></p> <p>Good - not overfished, not experiencing overfishing.</p> <p>Last Stock Assessment: 2020</p>	<p>Bigeye tuna is the main target for Hawaii's deep-set longline fishery. The stock is more than double sustainable levels. Managers seek harvest levels to reduce impacts of purse seine fishing on juveniles.</p>
 <p>Photo: Kevin Hibbard</p>	<p><b>Pacific Blue Marlin</b></p> <p>Good - not overfished, not experiencing overfishing.</p> <p>Last Stock Assessment: 2021</p>	<p>Blue marlin is highly productive due to its rapid growth and ability to withstand high fishing pressure. The population has remained stable since 2006.</p>
 <p>Photo: Amy Vandehey</p>	<p><b>Skipjack Tuna</b></p> <p>Good - not overfished, not experiencing overfishing. Subject to a target reference point,** to optimize access and revenue for all stakeholders.</p> <p>Last Stock Assessment: 2019</p>	<p>Purse seine fisheries target skipjack tuna (mostly as canned tuna) and catch small bigeye incidentally when setting their nets on schools of fish, often of mixed species, that assemble under fish aggregating devices. Skipjack are not considered overfished, but since their harvest is tied with bigeye, they are managed together.</p>
	<p><b>Swordfish</b></p> <p>Good - not overfished, not experiencing overfishing.</p> <p>Last Stock Assessment: 2018</p>	<p>Total catches have declined gradually since early 2000s and biomass** has increased steadily. Hawaii's shallow-set longline fishery targets swordfish.</p>
 <p>Photo: Layne Nakagawa</p>	<p><b>Yellowfin Tuna</b></p> <p>Good - not overfished, not experiencing overfishing.</p> <p>Last Stock Assessment: 2020</p>	<p>Available biomass of yellowfin tuna has been stable since early 2000s, well above sustainable levels.</p>
 <p>Photo: Marc Montocchio</p>	<p><b>Striped marlin</b></p> <p>Rebuilding - overfished and experiencing overfishing.</p> <p>Last Stock Assessment: 2019 (next one expected in 2022)</p>	<p>This internationally managed species has a rebuilding plan in place. Stock biomass has been stable since the mid-1990s, though below sustainable levels. For Hawaii, there is a quota limit for the longline fishery and no limit for trolling.</p>

\* Overfishing – more fish are being removed than is sustainable. Overfished – fish population size is too low and may not be able to recover.

\*\* Fish biomass comes from the total weight of fish in a certain area.

\*\*\* Managers aim for stocks to optimize the amount of fish harvested, while supporting the long-term sustainable use of the resource. This is called a target reference point. Managers also consider other objectives, such as catch rates and profitability, when defining these points.

2021-2022

## Council Calendar



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All meetings will be held virtually.

### November

**29 - Dec 7** ▶ 18th Regular Session of the Western and Central Pacific Fisheries Commission\*

**30 - Dec 2** ▶ 142nd Scientific & Statistical Committee (SSC) meeting

### December

**7-9** ▶ 189th Council Meeting

### February

**27 - Mar 4** ▶ 2022 Ocean Sciences Meeting\*

### March

**15-17** ▶ 143rd SSC meeting

**22-24** ▶ 190th Council Meeting

\*Meetings are not hosted by the Western Pacific Regional Fishery Management Council.

## UPCOMING EVENTS

**The 142nd Scientific and Statistical Committee (SSC) meeting** will be held Nov. 30-Dec. 2, 2021, via Webex. Direct link to the meeting: <https://tinyurl.com/142SSCMtg>.

**Major agenda items include:** Options for revising seabird mitigation measures in the Hawai'i deep-set longline fishery (action item); Environmental justice report; American Samoa Bottomfish Data Workshop report; and SSC and Council Coordination Committee area-based working group reports.

**The 189th meeting of the Western Pacific Regional Fishery Management Council** will convene Dec. 7-9, 2021, via Webex. Direct link to the meeting: <https://tinyurl.com/189CouncilMtg>. The meeting will have the following host sites, which are subject to local and federal safety and health guidelines regarding COVID-19:

Tedi of Samoa Bldg., Suite 208B, Fagatogo Village, American Samoa

BRI Bldg., Suite 205, Kopa Di Oru St., Garapan, Saipan, CNMI

Cliff Pointe, 304 W. O'Brien Dr., Hagatña, Guam

For more information on agendas, meeting documents and the web conference connection, go to [www.wpcouncil.org/meetings-calendars](http://www.wpcouncil.org/meetings-calendars).

## ACTION ITEMS

The Council will consider and may take action on the issue summarized below.

### Seabird Mitigation Measure Revisions in the Hawai'i Deep-set Longline Fishery:

The Council at the December 2020 meeting initiated the development of a regulatory amendment to evaluate options to allow tori lines to be used in lieu of blue-dyed bait and removing the strategic offal discharge requirement in the Hawai'i deep-set longline fishery. Two field trials to develop and test tori lines in the fishery were conducted in 2019-2021 under a joint cooperative research project.

Results show that tori lines are significantly more effective in preventing longline gear interactions with black-footed and Laysan albatrosses than blue-dyed bait, which is currently required as part of the seabird interaction mitigation measures implemented under the Council's Pacific Pelagic Fishery Ecosystem Plan. Discharge of offal and spent bait is also required under the existing measures, but available information suggests that this practice may increase interactions over time by attracting more seabirds to the fishing vessels. The Council will consider taking final action on the regulatory amendment.

## Pressed Spicy 'Ahi Sushi Squares

MAKES 8-10 SERVINGS

4 tbsp	mayonnaise
½ tsp	togarashi seasoning
2 tsp	sriracha chili sauce
1 lb	'ahi, diced
1 tsp	hot sesame oil
1 tbsp	tobiko (brightly colored flying fish roe)
5 cups	rice (short- or medium-grain "Japanese style" rice)
1½ cups	vinegar
¾ cups	sugar
1½ tsp	salt



Black sesame seeds, wasabi sprouts, roasted nori strips, hana ebi (shrimp powder), or additional tobiko for garnish

1. In a large bowl, mix together mayonnaise, sriracha, sesame oil and togarashi until smooth. Fold in 'ahi and tobiko. Mix until blended. Cover and refrigerate.
2. Cook 5 cups of rice. Let rest 5 to 10 minutes after completely cooked.
3. In a small bowl, combine vinegar, sugar, and salt. Stir until sugar dissolves.
4. Place hot cooked rice in a roomy wooden bowl. Pour vinegar mixture on top. Using a rice paddle and a vertical chopping motion, lift and mix rice to coat every grain with the seasoning liquid. Do not stir in a circular motion; fold lightly, lifting and turning, until all liquids are absorbed.
5. Lightly oil a 9x13-inch pan and pat half of the seasoned rice into the pan. Evenly spread the spicy 'ahi on top. Cover with remaining sushi rice and press gently. Cover tightly with plastic wrap and chill until needed.
6. Cut into small squares and garnish with black sesame seeds, wasabi sprouts, roasted nori strips, hana ebi, or additional tobiko.

Courtesy Kapi'olani Community College Culinary Arts Department