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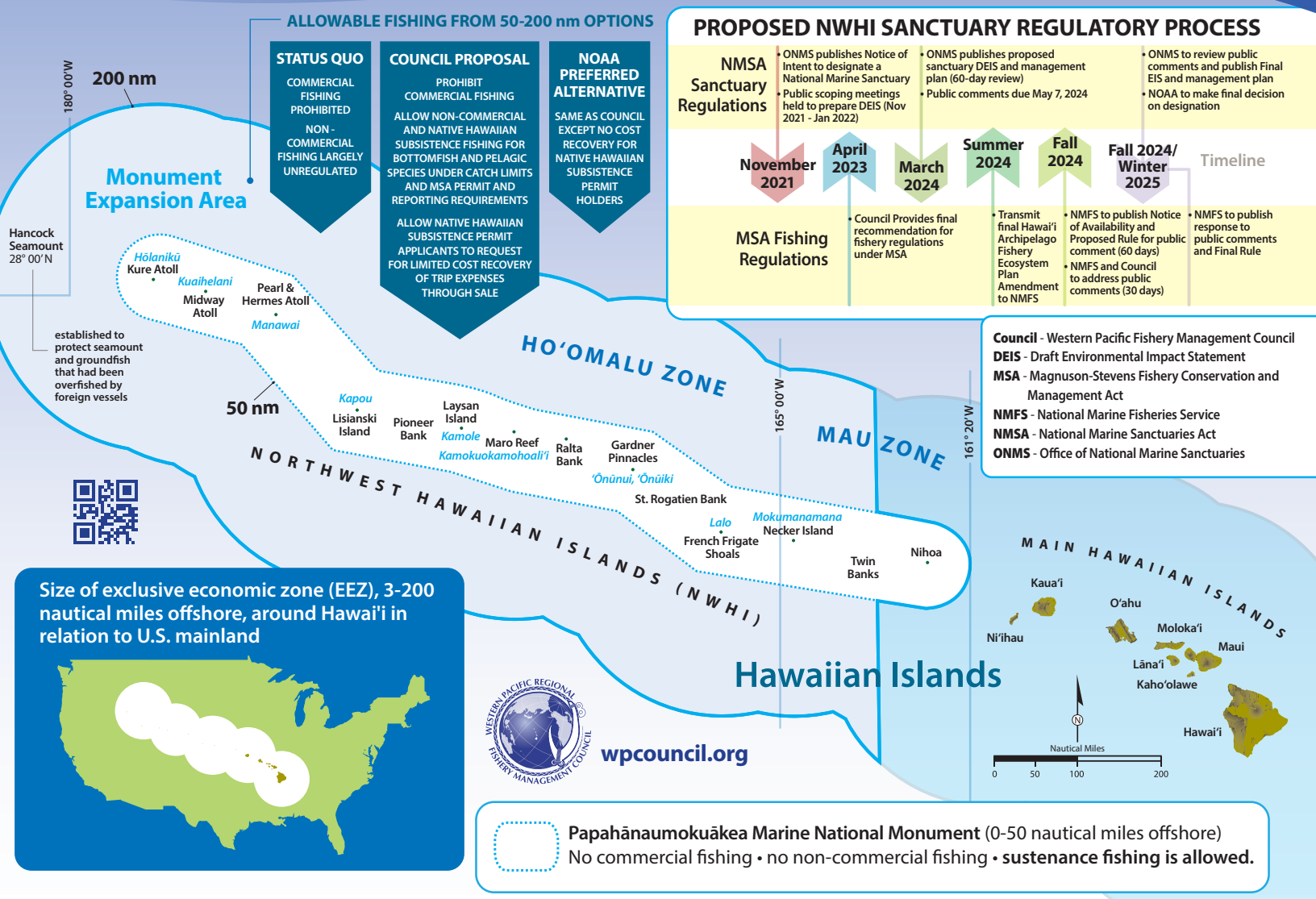

Adapting Amidst Challenges: Insights from the 198th WPRFMC Meeting

Amidst mounting concerns, the voices of frustrated fishing community advisors repeatedly called for urgent action to be taken by the Western Pacific Regional Fishery Management Council. The large roomful of Council advisors were meeting in Honolulu for the first time in six years, at the 198th interagency gathering held March 18-20, 2024. Representatives from American Samoa, Guam, the Northern Marianas Islands (CNMI) and all parts of Hawai'i, highlighted the dire challenges facing not only the regional fishing industry, but entire island communities. Critical status reports and forecasts had everyone concerned, along with their escalating anxieties over the increasing number of fishing area closures, and the destabilizing impact of foreign seafood imports on market dynamics.

Hawai'i Advisory Panel (AP) member and Kaua'i fisherman Abraham Apilado, Jr. said, "If the goal is to sustain fisheries, major changes need to be made today. If the goal is to kill off the fishermen and resources, then keep doing what you're doing, because you're doing an amazing job."

The United States is proposing to overlay and extend the Papahānaumokuākea Marine National Monument

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Insights from the 198th Council Meeting

CONTINUED FROM PAGE 1

(MNM) and potentially the Pacific Remote Islands MNM with sanctuary regulations, compounding current fishing closures (see map).

"The tuna industry is the only industry we have, the government relies on the canneries," said Gene Pan, American Samoa AP member and Fono (territorial legislature) Representative. "You are stopping us from fishing but not the Chinese. Without the people, there is no Samoa."

"Our purse seine boats can't compete because it's not a level playing field," said American Samoa AP member and Cape Fisheries CEO Joe Hamby. "The Seafood Import Monitoring Program is not working. U.S. fishers and processors should be protected by a duty on fish imports—seafood security is important. Fishing or processing, it's a matter of having the political will to defend against negative impacts to domestic producers."

> **If the goal is to sustain fisheries, major changes need to be made today. If the goal is to kill off the fishermen and resources, then keep doing what you're doing, because you're doing an amazing job.**
>
> *Kaua'i fisherman Abraham Apilado, Jr.*

Eric Kingma, Hawaii Longline Association executive director, emphasized the challenges faced by the Hawai'i fishing industry due to unprecedented market conditions, including a large supply of fish driven by El Niño conditions and the impact of imported, subsidized tuna on local markets. Despite local fishermen receiving low prices for high-quality fish, retail prices remain significantly higher, posing unfairness to both consumers and the fishing industry.

Council Executive Director Kitty Simonds said, "If you were the President of the United States, which would you choose—the people of the U.S. or your legacy?"

Guam Department of Agriculture Director Chelsa Muña criticized the federal government's approach to addressing threats to corals listed as endangered under the Endangered Species Act primarily due to climate change and bleaching.

"Establishing critical habitat will not help corals become more resistant to bleaching," said Muña. "It is unnecessary because existing statutes already provide the same protections. Guam has been doing long-term monitoring and restoration since 2010, but we receive no recognition or exemptions for that work."

Breakout Sessions on New Inflation Reduction Act Initiatives

On the second day of the meeting, the Council convened joint breakout sessions with members from its AP, Plan Team, Scientific and Statistical Committee (SSC), Fishing Industry Advisory Committee and Non-Commercial Fishing Advisory Committee. The new meeting format enabled advisors to provide input on the Council's initiatives concerning climate change impacts on fisheries, communities and protected species. These proposed initiatives are funded by Congressional allocations through the Inflation Reduction Act (IRA).

Scenario Planning

Council advisors discussed scenario planning, or a structured approach to address climate change impacts and how to develop plans to make fisheries and their communities more resilient. Climate change will affect fisheries beyond rising sea temperatures redistributing fish stocks. It will also affect access, markets, labor and participation in fisheries. Ensuring civil infrastructure like roads and boat ramps are protected and maintained is important to keep fishing communities able to access our fisheries, as the lands and waters—*mauka* to *makai*—are reshaped by a changing climate.

"I got one word for you to describe the need to be ready for climate change: Lahaina," said Gil Kuali'i, Hawai'i AP member. "We watched Lahaina go from green to dry. We knew the Kona low winds were more and more, but we didn't act."

SSC member Craig Severance said, "Marshallese and those from the Federated States of Micronesia have already done their scenario planning by shifting family members to the continental U.S., Hawai'i and Guam, all knowing the risks in their future existence."

Protected Species

Two protected species workshops are part of the Council's proposal for IRA funds. The

advisors identified priority protected species issues to be addressed at the workshops. Shark depredation and management issues topped the list, with members characterizing this as a food security issue. Hawai'i advisors noted the depletion of local resources associated with an increasing number of green sea turtles, and false killer whale issues associated with longline and nearshore fisheries.

Equity and Environmental Justice Discussions

Grouped by archipelago, advisors identified objectives, priorities and activities the Council should take to address equity and environmental justice (EEJ) in its 2025-2028 program plan. The national recognition of EEJ issues follows two Executive Orders issued by the Biden Administration in 2021.

Hawai'i advisors expressed frustration that leadership in Washington D.C. does not take the uniqueness of an island state into account when it comes to implementing national fishery policy, and that too often science does not matter. These dissatisfactions have resulted in a loss of trust that anything will get done or change.

The group acknowledged that EEJ issues in Hawai'i are complex and some could be addressed by amending the Endangered Species Act and the Marine Mammal Protection Act to provide for cultural considerations like turtle take.

In the CNMI, advisors noted one challenge to equity is the language barrier. English is not the first language spoken by many residents who feel overwhelmed by "information overload" during public hearings to the community. The panel and committee members suggested using the appropriate regional languages to convey the correct critical information and to improve retention.

Members emphasized that federal processes at times do not consider local residents or even the local government. CNMI AP member David Cabrera said, "Representation from the community is a must at the onset and throughout the process of designating areas like national marine sanctuaries. This is key for equity."

The Council has actively worked since its inception in 1976 to ensure fair and equitable use of sustainable fisheries. These efforts include convening a workshop in 2022 to discuss organizational changes needed to advance EEJ in fisheries in the region using the organizational tools of change - Fund, Empower, Implement and Advocate.

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Hawai‘i Fishers Forum—Fish ID 101: Know Your Catch

The Western Pacific Regional Fishery Management Council hosted a public Fishers Forum March 18, 2024, as part of its 198th meeting held in Honolulu. It provides an opportunity for the Council to share information with the fishing community, and exchange information, issues and ideas to better support our fishery resources. The Forum's theme—"Fish ID 101: Know Your Catch" –underscores the challenge of distinguishing between similar fish species, such as smaller bigeye and yellowfin tuna, and some of the look-alike Hawai‘i deep-seven bottomfish. Accurate data collected from fishermen is important for stock assessments and effective management strategies.

About 80 people gathered at the Ala Moana Hotel to learn from nine exhibitors from various government agencies and organizations about fisheries, species identification and active areas of fishery science. The NOAA Life History Program displayed many species of bottomfish in open coolers with ice. Participant takeaways included free resources on fish species ID to use at home. Radio show personality Steezy from Pacific Media Group emceed the event, introducing the speakers and providing a great energy throughout the evening. Council Chair Will Sword welcomed the attendees, speaking about the importance of the theme and briefly touching on issues before the Council at its meeting that week.

Roy Morioka discussed the Council's plans to hold meetings with the small-boat fishing community throughout the state in May to discuss current issues and look for potential solutions for collecting data. Fish ID experts Dave Itano and Kurt Kawamoto gave tips and tricks to differentiate between tunas and several bottomfish species. Marlowe Sabater and John Syslo from the NOAA Pacific Islands Fisheries Science Center spoke about how to improve the estimated number of uku (gray jobfish) and shared information about the new deep-seven bottomfish fishery, which is still healthy.

To informally assess what Forum attendees learned from the presentations, the Council conducted a fun before-and-after quiz-style survey using Kahoot! Forty-seven people signed up for the pre-survey and 30 people for the post-survey. Fish species identification improved from the first to the second attempts; 43% to 97% accuracy between bigeye and yellowfin tuna, 36% to 83% between onaga and ehu, and 70% to 77% between ‘ōpakapaka and kalekale. See full results in the table.

When asked to share a few words to describe the Fishers Forum, feedback included:

March 2024 Fishers Forum Kahoot! Results

Pre-Survey – 47 people

Quiz Questions	Options	# answers	% correct
Which species are currently managed in Hawaii?	Kona crab		
	Deep 7 bottomfish		
	Uku		
	All of the above	25	53
What type of fish is this?	Bigeye tuna		
	Yellowfin tuna	20	43
	I don't know		
Which fishing gear catches uku?	Deep-sea handline		
	Spearfishing		
	Shore-based rod and reel		
	All of the above	26	55
What type of fish is this?	Onaga		
	Ehu	17	36
	I don't know		
What type of fish is this?	Opakapaka	33	70
	Kalekale		
	I don't know		

Post-Survey – 30 people

Poll Question	Options	# answers	% correct
For non-commercial data collection, which would you support?	Fishing license	11	10
	Fisher registry (like Hawaii Bottomfish Vessel Registry)	3	11
	Both	14	11
	Neither	1	4

Quiz Questions	Options	# answers	% correct
What type of fish is this?	Bigeye tuna	29	97
	Yellowfin tuna		
	I don't know		
What data are NOT used in the Deep 7	Abundance data from camera survey and research fishing		
	Biological data from the history studies		
	Catch data from commercial and non-commercial fisheries		
	Demographic data from the US Census	24	80
What type of fish is this?	Onaga		
	Ehu	25	83
	I don't know		
What type of fish is this?	Opakapaka		
	Kalekale	23	77
	I don't know		

Reeling in Insight: Hawai‘i Advisory Panel Queries Fishers to Improve Fishery Management

During the Council's Fishers Forum, the Hawai‘i Advisory Panel (AP) informally solicited feedback from attendees about fisheries management in the state. The AP will use the results to help identify priority fishery issues to be addressed during the group's 2023-2026 term. AP members are currently working to improve fish aggregation device designs, enhance data collection, increase fisher consultation on offshore activities, and foster better coordination between fishers and state and federal management agencies. The AP's survey posed four questions to Forum participants:

1. **What are your go-to ways to find the most up-to-date fishery information?**
2. **Do you catch and sell monchong?**
3. **Do you catch and sell hapu‘upu‘u?**
4. **If you sell your fish, how do you track/report your catch?**

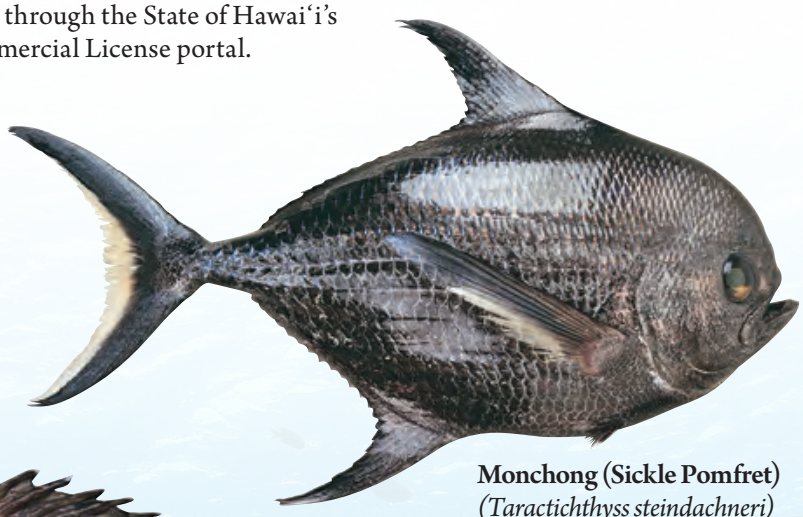
One of the most difficult obstacles for the AP has been finding the appropriate ways to get the word out about meetings and fisheries information. Results from the survey concluded the most popular sources for current fishery information are Instagram and the "Coconut Wireless" (word-of-mouth communication), with local news channels, Facebook and local newspapers close behind.

To better understand a couple of the species in the Hawai‘i small-boat fishery, the AP wanted to see what the fishing community's interaction with monchong and hapu‘upu‘u is like. The Hawai‘i longline fishery catches monchong, but little is known about the monchong caught by small-boat fishermen. Likewise, hapu‘upu‘u is a highly sought-after fish in the deep-seven bottomfish fishery, but little is known about the fishery. The Hawai‘i AP wants to understand both of these fisheries to assess the need for potential changes in the Council's management regime. Only a few of the survey respondents said they catch monchong and only slightly more said they catch hapu‘upu‘u, but those that reported they sold those fish were very low.

The AP's priority of enhancing data collection starts with knowing if fishers are reporting or tracking their catch in the first place. While the question in the survey pertained to those that sold fish, most of the respondents said they do not sell their fish. The few who responded that they sold fish said they report their catch through the State of Hawai‘i's Commercial License portal.

Additionally, a few others said they keep a personal logbook to track their catch over time. Data are important to feed stock assessments and to monitor the Council's annual catch limits, and continues to be a priority for the AP.

While a quarter of the Fishers Forum attendees participated in the survey, it is just a small portion of the overall fishing community. Responses can vary by age, island, ethnicity or even fishing method, highlighting the need for continued community engagement. As the Council's primary advocates for a bottom-up management approach under the Magnuson-Stevens Act, the Hawai‘i AP will be working throughout its term to help the Council understand fishery issues and provide solutions through community collaboration. Be on the lookout for future social media posts and keep tuned to the Coconut Wireless as the Hawai‘i AP comes and asks you "eh, how's fishing?"



Monchong (Sickle Pomfret)
(Taractichthyss steindachneri)

Hapu‘upu‘u (Sea Bass)
(Epinephelus quernus)

Tagging a monchong at Cross Seamount. Photo: Dave Itano.

University of Hawai‘i to Develop First Ever Fisheries Program

The University of Hawai‘i at Mānoa (UHM) is set to launch a new fisheries program within the next year, focusing on the unique ecological, social, cultural and economic aspects of fisheries in Hawai‘i and the Pacific. This program aims to address the region's need for a comprehensive fisheries education program offering bachelor's, master's and doctoral degrees.

Historically, the U.S. Pacific Islands cover a marine geographical footprint larger than any other region of the United States and have unique fisheries and communities, especially focused on tropical and tuna fisheries. However, the region has lacked a robust fisheries program at a major university.

In 1992, the Western Pacific Regional Fishery Management Council helped establish the UH Pelagic Fisheries Research Program, which ran from 1994 to 2012. The focus of the funding was research on tuna and tuna-like species in the Pacific Ocean to inform management and policy. The program supported 118 research projects related to biology, statistical modeling, economics, sociocultural issues, oceanography, protected species, trophodynamics and genetics. These funded projects helped sustain dozens of faculty and graduate students.

The Council also began scoping a graduate program in Coastal and Marine Resources at UHM in 2004, which was approved but never launched due to administrative changes. However, in 2022, the Council contacted the College of Natural Sciences and the School of Ocean and Earth Sciences and Technology to revive the fisheries program. Since 2005, the UHM has developed academic infrastructure across multiple departments and institutions to support a successful program.

Researcher releasing a striped marlin with a popup satellite tag. Photo: David Itano.

UHM is now developing a program "focused on fisheries of Hawai‘i and the Pacific," considering the region's distinct fisheries practices and governance needs. In 2023, UHM approved the recruitment of four new faculty through the Hawai‘i Sea Grant, the Department of Oceanography, the Center for Pacific Islands Studies, and the Department of Natural Resources and Environmental Management. Two new faculty members at the Hawai‘i Institute of Marine Biology will also participate in the program. Additional recruitments in the Colleges of Social and Natural Sciences, and Hawai‘inuiākea will follow later this year.

The University is actively engaging with the Council and other partners to gather information on community and organizational needs. The Council expects to be involved in strategic planning and curriculum development, with students anticipated to start in fall 2026.

CCC Concludes Process for Revising ESA-MSA Policy Directive

Western Pacific Council Members, Executive Director, Program Officer and Protected Species Coordinator along with Sam Rauch from NMFS, are pictured with Laumei, a commemorative turtle carved from Guam's ifit wood. The carving was presented to Rauch in appreciation of the collaborative efforts in improving the ESA-MSA Policy Directive.

The Council Coordination Committee (CCC) at its May 2024 meeting in San Juan, Puerto Rico, completed a 3-year process to review and update the Policy Directive on the Integration of Endangered Species Act (ESA) Section 7 with Magnuson-Stevens Act (MSA) processes. A CCC working group, co-led by the Western Pacific Council, worked closely with the National Marine Fisheries Service on the revisions to strengthen the relationship between NMFS and the councils on ESA Section 7 consultations for fisheries. The original 2015 Policy Directive recognized the unique role of the councils in the ESA consultation process and aimed to foster cooperation throughout the process for management actions. The revision addresses communication and coordination challenges the fishery management councils experienced in recent consultations and emphasizes the importance of Council-NMFS coordination early and often in managing fishery impacts to ESA-listed species.

Striped Marlin Stock Showing Signs of Improvement

At the 199th Western Pacific Regional Fishery Management Council meeting in June 2024, the Council will review a report on the status change of the Western and Central North Pacific striped marlin stock. The stock was considered overfished and experiencing overfishing since 2010. However, a 2023 assessment found the biomass now exceeds the overfished status under the Council's Pacific Pelagic Fishery Ecosystem Plan (FEP). The Council had previously limited U.S. striped marlin catch to 457 metric tons (mt), including a limit for the Hawai'i longline fishery of 443 mt. This action addressed the Council's obligation to consider the impact of its fisheries on the stock and take steps to end overfishing. However, the relative impact of U.S. fisheries, primarily the Hawai'i longline fishery, on the overfishing condition has been low compared to foreign countries (Figure 1).

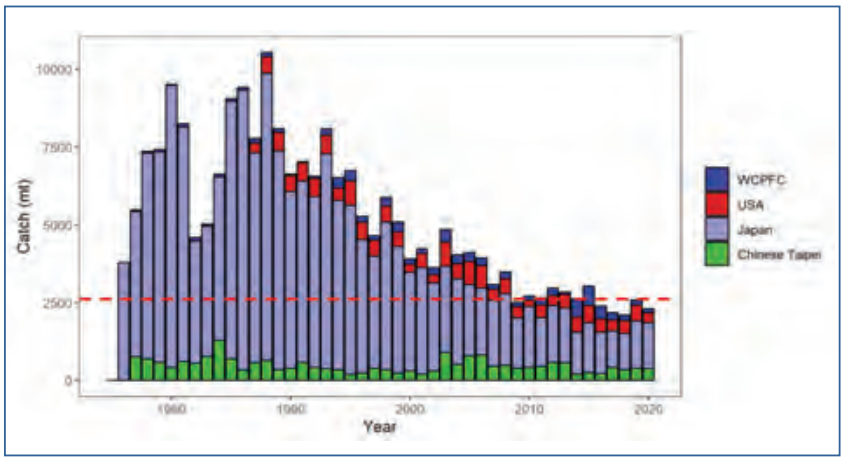


Figure 1. *Annual catch (mt) of Western and Central North Pacific striped marlin for Japan, Chinese Taipei, the United States, and all other countries (WCPFC) from 1977 to 2020. Image adapted from the ISC Billfish Working Group (2023).[1] The red dashed line shows the catch level associated with fishing at the maximum sustainable yield.*

The stock is no longer overfished under the FEP, which manages stocks based on maximum sustainable yield, or levels of fishing mortality and biomass that can be sustained long-term. The Council will discuss whether it needs to proceed with a catch limit and other alternatives to satisfy its obligations under the Magnuson-Stevens Act. However, the stock is still likely experiencing overfishing according to FEP reference points and is also subject to a rebuilding plan under the Western and Central Pacific Fisheries Commission (WCPFC). The plan aims to rebuild the stock by 2034 to levels exceeding 20% of its original biomass, a standard reference point for tunas. Recent catches of striped marlin have been close to the limit for what is considered sustainable.

The Council and its advisors participated in a U.S. stakeholder meeting engagement in April to gather feedback on a fair and equitable way to analyze international options for a stock-wide catch limit for all countries, if the WCPFC deems one necessary. Stakeholders expressed concern over lack of reporting standards for other countries, uncertainty in stock boundaries and lack of biological information. This will also be discussed at the June Council meeting.

Reference

[1]ISC Billfish Working Group. 2023. Stock Assessment Report for Striped Marlin (*Kajikia audax*) in the Western and Central North Pacific Ocean through 2020. 23rd meeting of the International Scientific Committee for Tuna and Tuna-Like Species in the North Pacific Ocean (ISC). Kanazawa, Japan. July 12-17, 2023.

International Conference on SIDS Addresses Their Special Challenges

The Fourth International Conference on Small Island Developing States convened May 27-30, 2024 in St. John's, Antigua and Barbuda with the aim of formulating a comprehensive plan to bolster resilience, address pressing challenges, and achieve UN Sustainable Development Goals. Notable attendees included world leaders, private sector representatives, civil society members, academics and youth advocates, converging to tackle critical issues facing SIDS. Themed "Charting the course toward resilient prosperity," the four-day event spotlighted innovations and devised solutions to SIDS-specific challenges exacerbated by the climate crisis, escalating debt and health emergencies.

American Samoa has persistently advocated for its recognition of privileges entitled to SIDS in the Western and Central Pacific Fisheries Commission. In the WCPFC, participating territories are given the same considerations as SIDS, which include exemptions from fishing restrictions. American Samoa should get this recognition due to the presence of U.S.-flagged tuna boats that home port out of Pago Pago. These vessels supply tuna the local cannery, which is the largest private employer in the territory.

The Conference closed with the unanimous adoption of "The Antigua and Barbuda Agenda for SIDS (ABAS) – a Renewed Declaration for Resilient Prosperity," outlining sustainable development aspirations for the next decade and soliciting international support.

Despite their significant contributions to renewable energy, sustainable tourism and conservation, SIDS remain uniquely vulnerable due to their small size, remote location and susceptibility to external shocks, necessitating urgent attention amid ongoing global crises.

Guam Governor Chairs 26th Micronesia Islands Forum

Congratulations to Guam Governor Lourdes Leon Guerrero on her selection as Chairwoman for the 26th Micronesia Islands Forum (MIF), held in Guam June 3-4, 2024. A distinguished honor indeed, recognizing her leadership and ability to cross oceans to bridge cultural, economic, social, regional and global issues facing our islands. The MIF is a regional intergovernmental organization promoting cooperation and collaboration among its members on common concerns.

In her opening remarks, the Governor said, "We all face similar challenges. Throughout Micronesia, we face shortages within our workforces, unaffordable healthcare, insufficient infrastructure, and more. But as we gather together, we will discuss these barriers and how to overcome them."

"During these next few days, we are called to celebrate, contemplate, and collaborate under this year's theme of 'Writing Our History, Determining Our Future.' Let it be us who reclaim our history for ourselves, our grandchildren, and our future generations. We are called to determine our destiny, and we start by owning our history through our stories, which are only truly understood through the lens and voices of our people."

Commonwealth of the Northern Mariana Islands (CNMI) Governor Arnold Palacios participated in the Forum for the first time as Governor and noted in his opening remarks that, "To discern the path forward, we can learn a great deal from our history, and the wisdom of our ancestors. In the words of the late Papa Mau,[1] 'To navigate we must be brave and we must remember.'"

Governor Palacios emphasized the strength in Micronesian communities working together and advocating for each other in this and other forums. He said, "I was happy to see the Compacts between the Micronesian nations and the United States government finally renewed and funded. Governor Lou Leon Guerrero and I both advocated strongly with our federal partners to support the Compact renewals as critical to economic development and security in our region. And we appreciate the support of our Micronesian family in elevating the positions of the CNMI and Guam in the Pacific Islands Forum."

In 2003, leaders from the Territory of Guam, CNMI, State of Yap and the Republic of Palau organized what was then called the First Western Micronesian Chief Executives' Summit. They prioritized regional tourism, establishment of a regional airline, healthcare, fuel costs, shipping expansion (important for Guam as a regional transshipment hub), waste management, renewable energy, telecommunications and education.

The initiatives remain pertinent, alongside emerging challenges. During the 23rd MIF in Saipan in April 2017, the Executive Director of the Western Pacific Regional Fishery Management Council, Kitty Simonds, highlighted the importance of fish stocks in Micronesia and the Pacific. She urged leaders to address climate change threats and IUU fishing. Consequently, leaders endorsed resolutions expressing concern over climate change impacts and committing to combat IUU fishing, seeking assistance from various partners. These resolutions remain relevant today, given the worsening challenges due to global warming and the exponential increase in Asian fishing fleets on the high seas.

[1]Pius Piailug, affectionately known as Papa Mau, grew up on Satawal Atoll in Yap State and became a master navigator and one of the most influential men in traditional canoe voyaging.

Exploring Guam's Fishing Heritage

Catching fish is a thousand-year-old tradition passed down through generations in Guam

The Governor (second from far right), Speaker (second from far left) and others tour the displays and interact with exhibitors on opening night April 5, 2024.

Fishing, families and culture take center stage at the *I Maneguihan* (Those that fish) Guam Museum exhibit that kicked off April 5, 2024, and runs through June 14. The launch event included talks by Governor Lourdes Leon Guerrero, Speaker Therese Terlaje and Western Pacific Fishery Management Council Vice Chair Manny Dueñas, preceded by the blowing of the *kulu* (conch shell) by Ron Laguaña and the Bendision by the Pipit Cultural Group.

The exhibit resulted from collaboration between the Council and the Guam Museum, supported by partners from the Guam Division of Aquatic and Wildlife Resources, NOAA Pacific Islands Fisheries Science Center, A. B. Won Pat International Airport, Guam Visitors Bureau and the University of Guam. Council contributions to the two-month event feature information and images about fishing families in the 2024 Guam Lunar Calendar, old and new fishing gear, screening of the "Open Ocean Fishing in the Marianas" video, and a fishing photo slide show.

Other exhibit highlights are seashell and fishing artifacts, NOAA's underwater camera with video of deep water fish around Guam, sea turtle displays, a replica of a sea turtle egg chamber, fish posters and images, a *galaide* (outrigger canoe) and fishing boat, and a history of the lunar calendar. Museum-goers can fill out a questionnaire designed to challenge visitors on fishing around Guam, or color a fish to be displayed on a *talaya* net.

Visitors are greeted by a replica of the world record marlin caught by Greg D. Perez in August 1969—the same one that has been on display at the Guam airport for decades. The marlin was brought to the museum by airport staff exclusively to be part of the exhibit and was welcomed by the Perez family.

In the weeks leading up to the opening, Council staff helped prepare exhibit materials and organized outreach to increase awareness of the event. Together with the museum's curator Michael Bevacqua, staff joined "The Point" radio talk show host Ray Gibson for an in-studio interview, and worked on the event's messaging for social media, print ads, flyers and banners. The massive efforts resulted in visits from nearly 3,000 K-12 students, walk-ins and adult groups.

Governor Lourdes Leon Guerrero's opening night speech:

In Chamorro:

"Fan ihut maågi pagu ya ta attan i exhibision put I Maneguihan. Este na tradision put i pineska ha sostieni hit. Lao ti put i mansostietieni ha. I put i sostienen este na kustrumbre. I kustumbren Chamorro nu i para ta fan peska gof tåddong gi kutturata."

Translated from Chamorro:

"Get close now so we can look at the exhibition about "Those that fish." This tradition of fishing sustains us. But it is not just about sustaining. It is about sustaining this custom.

The Chamorro custom for us to fish is very deep within our culture."

Spoken in English:

Thank you everybody for coming and I hope we enjoy this exhibition. Our ancestry of course as you know dates back 4,000 years. And if you reflect and imagine how our ancestors got on their galaide (canoes), and navigated all the way up to Guam not using computers or not using any kind of scientific instruments, but using their inner feeling and their touch of the currents, the wind, the stars, where the moon is placed, and how the temperatures of the waters are. These are all navigational kinds of indicators that our navigators used to come here. After they successfully came here, they established our culture here and continued on with the great customs of our island. Customs of fishing primarily so that we can have food sustainability.

But like I said, it goes beyond just food sustainability. Fishing is the fabric of our culture.

Through fishing we socialize. Through fishing we learn about each other. Through fishing we enjoy joy. And happiness. And celebrations.

And so, I really thank the organizers and the co-partnership of the museum and the fisheries and this exhibition, because it is just one way again to raise awareness to our people, to our children, about an important tradition of our culture.

I just want to thank everybody for that, and you know things like this that just bind us closer together. And we think more about the values of our Chamorro culture. Values of generosity.

Values of respect. Values of welcoming. Values of being so loving and caring and wanting to help each other and lift ourselves up. And through fishing we do that.

I hope you enjoy. And please know that our administration is very keen and focused on promoting fishing in Guam. So much so that with the persistence of Mr. Manny Dueñas, we have broken ground and have started the construction of our Fishermen's Coop, which is to me a big leap forward. Because now our fishermen can really have a place to go to.

Our fishermen can have their place to tell their stories. Our fishermen can have their place to bring their products they have gotten out there in the deep blue waters and in the wealth of our marine (resources). I look forward to working very closely with Manny and of course our speaker, who has been able to also help with a lot of the financing and the funding and it shows how when leaders come together, we can certainly promote and sustain to save our culture.

Si Yu'us Ma'ase and let's go with the exhibit.

Thank you.

Celebrating American Samoa Flag Day

The American Samoa Flag Day celebration is the most anticipated holiday in the territory and at the heart of these festivities is the Samoan culture or *fa'asamoa*. The entire territory participated in various activities to commemorate the day, including the iconic Flag Day march, organized singing groups and dances, and flea markets promoting local farmers, fishermen and businesses. Among these activities were maritime events such as the annual *fautasi* (Samoan boat) race and fishing tournaments.

This year, the Department of Marine and Wildlife Resources (DMWR) and the Pago Pago Gamefishing Association hosted the **21st Annual Steinlager I'a Lapo'a Fishing Tournament** April 16 to 19, 2024. Fishermen from New Zealand and Samoa traveled to participate in the tournament, joining the ranks of many local fishermen in search of their biggest catch. The tournament brought together 15 boats with 57 anglers.

Amidst the jubilant festivities and the fishing tournament, the staff at DMWR engaged students in fishing clinics April 15 and 18 aimed at fostering environmental stewardship and responsible fishing practices. Students from Mary St. Francis Middle School and Tafuna High School eagerly participated in informative sessions focused on marine life, fishing techniques and boating safety.

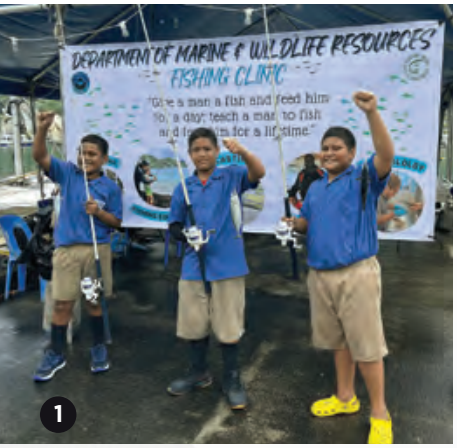
Partnering with DMWR, Council staff shared the Council's pivotal role in managing protected species like green sea turtles and hawksbill turtles, which are native to the waters of American Samoa. DMWR and Council staffs educated participants on the significance of adhering to the Fishermen's Code of Conduct, emphasizing guidelines for safe and sustainable fishing practices.

Through hands-on activities, the students were taught how to assemble and use a rod and reel, and tie knots. Then they put their new skills to use by casting their rods off the Malaloa Marina dock and experienced the thrill of hooking a fish. Some of the students reeled in mackerel tunas, sparking excitement among their peers. To end the fishing clinic, the students enjoyed an exhilarating boat ride aboard DMWR's enforcement vessel, where they learned more about safety-at-sea.

At the end of the week, anglers both seasoned and young displayed their exceptional skills during the Steinlager I'a Lapo'a Fishing Tournament. Tumua'i Snow and Kim Mcguire dominzxated the Ladies category, reeling in a 15.8-pound wahoo and an 11.2-pound dogtooth tuna. In the Juniors category, the young Motusa Ilaoa from Manu'a crushed her competition in the sailfish and wahoo categories, with catch weighing 22.4 pounds and 59.2 pounds, respectively.

The Men's category showcased a wide array of catches resulting in a highly competitive event. Notable catches on the second day by Alden Tagarino and Paepae Simi put them in the lead in their respective divisions. The third day introduced bonus prizes and saw a variety of winners in the yellowfin tuna and misc. divisions. On the fourth day, the highest number of landings for the week was recorded, thanks to numerous catch-and-release marlins and sailfish. The yellowfin, dogtooth and wahoo categories also saw impressive catches from Team Mumbo and Team Viking.

Team Fu'a II came out as the top team, accumulating 2,265 points, largely due to their successful catch and release of marlins and spearfish, including a record-high 347.6-pound marlin for this event. Following close behind, Team Viking/Uno Mas earned 2,130 points, scored mostly by catching and releasing 10 marlins. Team Brave Hart/Double Trouble secured third place with 1,415 points from their spearfish catches. Overall, 1,166.9 pounds of fish were landed.



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***1-2.** Students learn valuable life skills at the April 2024 DMWR fishing clinics in Pago Pago Harbor.* ***3.** Team Fua II proudly display the top tournament catch, a record-setting 347.6-pound marlin.* ***4.** Tumua'i Snow from Team Mai with her winning 15.8-pound wahoo.*

Launching the Super Alia:
A Milestone for American Samoa's Fishing Industry

The new vessel is named Tautai Mua*, which translates to first fisherman or first sailor.* ***Right:*** *American Samoa DOC Director Petti Matila christens the* Tautai Mua *by sprinkling the bow with coconut water. This practice is part of traditional ceremonies to bless and launch new boats, reflecting the cultural significance of coconut water and its association with purification and blessings in Samoan culture.*

The American Samoa Department of Commerce (DOC) hosted June 5, 2024, in Pago Pago Harbor the launching of the first Alia Telē (Super Alia), the first of four commercial fishing vessels to be added to the fleet of alia.

Responding to requests from alia fishermen, members of the Western Pacific Regional Fishery Management Council in 2014 proposed to develop a new, customized, larger fishing vessel to further enhance American Samoa's commercial fisheries, enabling longer trips and increasing safety at sea. This milestone represents not just a triumph for the local fishing industry, but a giant step forward in the continuing development of the local economy and fishing community.

The design plans were completed in 2018, and by 2019, a proposal was made to fund a prototype Super Alia with an accompanying training and education program. This initiative aimed to train locals in the territory, creating a new workforce across Tutuila, Manuʻa, Aunuʻu and Swains Islands. The proposal was later expanded to include multiple vessels. In 2020, the Economic Development Administration awarded the American Samoa DOC $4.3 million to implement the project.

Fishing is a cornerstone of *faʻasamoa* (Samoan way of life), sustaining families, fueling the local economy and connecting us to our Pacific Island heritage. The arrival of the Super Alia is a step forward in fishing capabilities and underscores American Samoa's progress. This vessel will provide the tools and knowledge to improve fishing practices, ensuring resources for future generations while highlighting the region's progress.

Council Chair Will Sword and Executive Director Kitty Simonds sent a letter to the DOC expressing their support. *"Mo outou uma sa feasoasoani i le faʻamoemoe, Pe ititi Pe tele, e momoli atu lava le agaga faʻamalo ma le faʻafetai."* [Translation: For all of you who helped in the event, whether small or big, I would like to send my congratulations and thanks.]

2024 Council Calendar

Check the Council website for in-person and remote public participation options for meetings hosted by the Council.

JUNE

10-14
15th Meeting of the Scientific Advisory Committee to the Inter-American Tropical Tuna Commission, San Diego, CA*

11-13
152nd Scientific and Statistical Committee (SSC) meeting

18
Fishing Industry Advisory Committee meeting

21
Fishery Data Collection & Research Standing Committee meeting

21
Executive & Budget Standing Committee meeting

24-26
199th Council meeting

AUGUST

26-28
8th National Scientific Coordination Subcommittee Workshop (SCS8), Boston, MA*

SEPTEMBER

9-12
International Council for the Exploration of the Sea Annual Science Conference 2024, Gateshead, UK*

11-13
153rd SSC meeting (tent)

15-19
154th Annual Meeting of the American Fisheries Society, Honolulu

23-27
200th Council meeting (tent)

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

Regional Fishery Management Councils Take Action on Climate

The National Marine Fisheries Service has published a compilation of actions the eight Regional Fishery Management Councils are taking to address climate

resiliency in federal fishery management decisions. The activities represent the different ecosystems, fisheries, and climate-related challenges each council is experiencing. The online summary will be updated annually:

www.fisheries.noaa.gov/national/climate/regional-fishery-management-councils-climate-actions

The Western Pacific Council section touches on regulatory amendment modifications and studies to mitigate seabird and sea turtle interactions with longline fishing gear, the inclusion of a climate and oceanic indicators module in the Annual Stock Assessment and Fishery Evaluation reports, and essential fish habitat model development for the gray jobfish (uku) using variables affected by climate change.

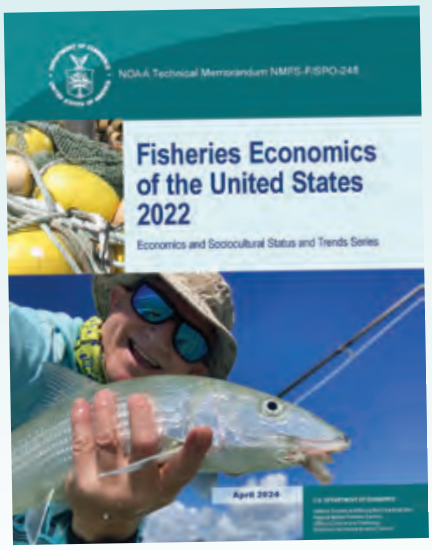
NMFS Releases Two Reports on US Fisheries

This spring the National Marine Fisheries Service published two of its main annual reports on domestic fisheries. The "2023 Report to Congress on the Status of U.S. Fisheries"[1] highlights decreasing numbers of overfishing and overfished stocks, with an all-time low for overfishing. Despite challenges such as a changing ocean climate, effective management measures recommended by the regional fishery management councils and other partners continue to sustain U.S. fisheries. In 2023, this effort resulted in 16 first-time stock status determinations and the successful rebuilding of one stock, bringing the total number of rebuilt stocks to 50 since 2000.

"Another significant achievement this year includes nine first-time stock assessments for American Samoa bottomfish. Previously assessed as an 11-stock complex, the American Samoa bottomfish stock complex was determined to be overfished and subject to overfishing in 2020. Stock assessments conducted in 2023 incorporated new and improved data, allowing scientists to assess these bottomfish as seven individual stocks and two stock complexes (containing two stocks each), none of which were overfished or subject to overfishing."

The "Fisheries Economics of the United States 2022"[2] report provides insights into the economic performance of commercial and non-commercial fisheries and related marine sectors at state, regional, and national levels. It covers a range of key indicators over a 10-year period, including commercial fisheries landings, revenue, non-commercial fishing effort, participation rates, and economic impacts such as employment and sales. Beginning last year, some sections previously included in the report have been moved to the web, like the Data and Visualization Tool. For Hawai'i, bigeye tuna was the most valuable fishery in 2021 ($74.6M) and 2022 ($73.7M), followed by yellowfin tuna ($27.5M, $28.3M) and swordfish ($5.9M, $10.6M).

"Western Pacific: In 2022, Hawai'i's commercial fishing and seafood industry supported 10,229 full- and part-time jobs and generated $823.7 million in sales, $249.6 million in income, and $366.5 million in value-added impacts in the Western Pacific Region. Importers



generated the largest sales impacts ($317.2 million), value-added impacts ($118.3 million), income impacts ($82.4 million), and employment impacts (4,548 jobs)."

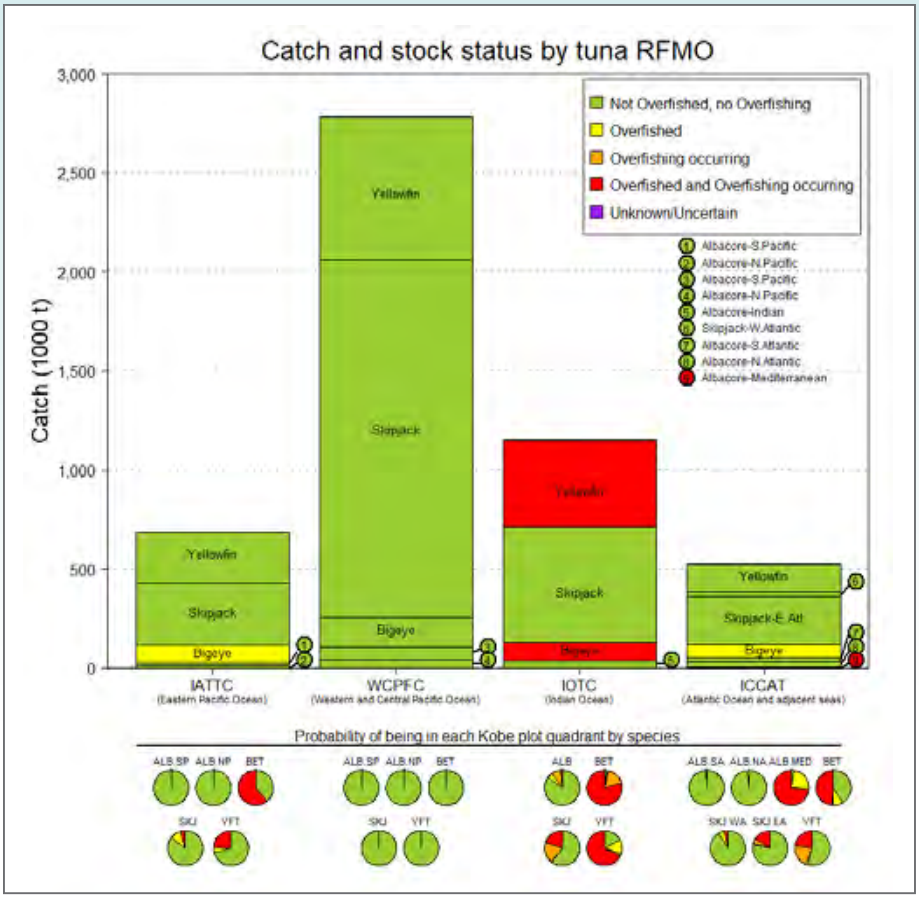
References:

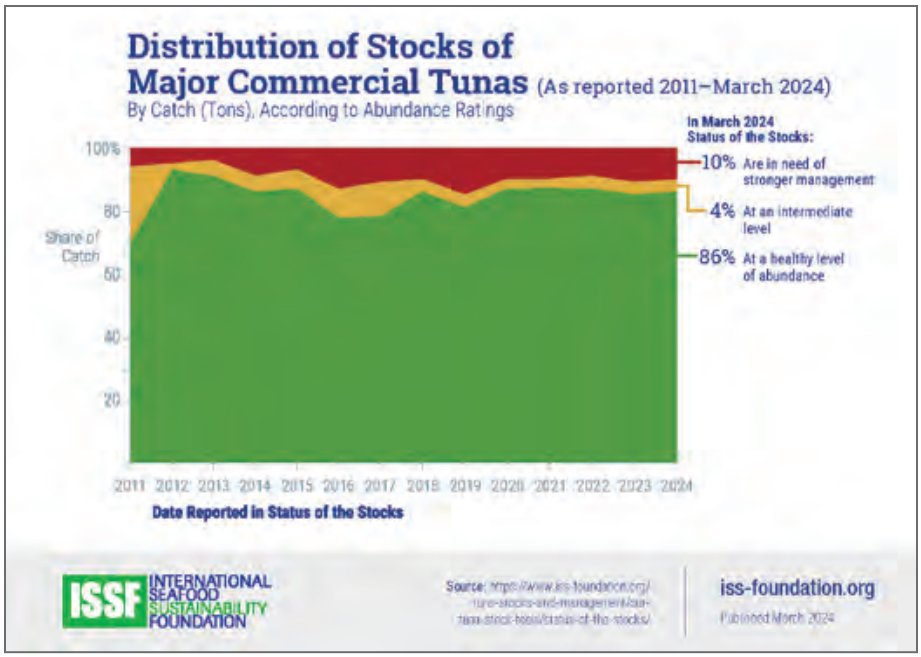
[1] *www.fisheries.noaa.gov/national/sustainable-fisheries/status-stocks-2023*

[2] *www.fisheries.noaa.gov/national/sustainable-fisheries/fisheries-economics-united-states*

ISSF Report Highlights Positive Trends in Tuna Fisheries

In March, the International Seafood Sustainability Foundation (ISSF) released its "Status of the Stocks"[1] report, which is updated several times annually. The report offers insights into the status of major tuna stocks, bycatch and the effectiveness of management measures by Regional Fisheries Management Organizations (RFMOs). It presents the most recent scientific assessments of 23 commercial tuna species worldwide, evaluates RFMO management measures and ranks the stocks based on abundance and exploitation. An interactive online tool is available to visual-





ize trends in tuna stock health, species composition of total tuna catch and catch trends by fishing method since 1950, across various species, ocean locations and stock areas.

The latest report reveals that 86% of the global commercial tuna catch comes from stocks at "healthy" abundance levels, marking a 1% improvement over 2023 report findings. Additionally, overfished stocks account for 10% of the total catch, down slightly from 11% in the prior report, while the percentage from stocks at an intermediate abundance level remains unchanged at 4%.

Starting from March 2024, information on environmental impact, particularly bycatch, is presented separately in the report titled "ISSF 2024-03: Tuna Fisheries' Impacts on Non-Tuna Species and Other Environmental Aspects: 2024 Summary."

In the Western and Central Pacific Ocean, the principle tuna stocks of bigeye, yellowfin, skipjack and albacore were neither overfished, nor experiencing overfishing. According to the 2022 annual report of the Pacific Community (SPC) Oceanic Fisheries Programme,[2] more than 60% of the global tuna supply came from the Western and Central Pacific, which includes Hawai'i and American Samoa fisheries.

While tuna stocks in waters around Hawai'i remain healthy, maintaining a level playing field for fisheries with high compliance and monitoring like the Hawai'i and American Samoa longline fisheries remains a priority. Specifically, keeping U.S. products competitive in the U.S. food supply and market is an objective of the National Seafood Strategy,[3] launched by NOAA under direction of the Biden Administration. A stated goal (of four) of the Strategy is to "Foster access to domestic and global markets for the U.S. seafood industry."

The Seafood Import Monitoring Program (SIMP), developed over the last several years, seeks to establish reporting and recordkeeping requirements for imports of 1,100+ unique species. The purpose of SIMP is to combat the entry of illegally caught, unreported and unregulated seafood, as well as misrepresented products, into U.S. commerce. This summer, the Council will host a workshop to help develop regional priorities for SIMP, together with the U.S. Trade Representative.

References:

[1] *www.iss-foundation.org/tuna-stocks-and-management/our-tuna-stock-tools/status-of-the-stocks*

[2] Hare et al. 2023. The western and central Pacific tuna fishery: 2022 overview and status of stocks.

[3] *www.fisheries.noaa.gov/s3/2023-08/2023-07-NOAAFisheries-Natl-Seafood-Strategy-final.pdf*

Council Family Updates

At the 198th Council meeting, the Council supported the following advisory body changes:

- **David O'Brien**, NOAA Pacific Islands Regional Office, and **Eva Schemmel**, NOAA Pacific Islands Fisheries Science Center (PIFSC), on the Archipelagic Plan Team.
- **Michelle Sculley**, PIFSC, on the Pelagic Plan Team.
- **John Gourley** on the Fishing Industry Advisory Committee.
- **Ariel Jacobs**, PIFSC, on the Education Committee.

Maria Angela Dela Cruz joined the Council staff in June as the Commonwealth of the Northern Mariana Islands (CNMI) island coordinator. She holds an associate degree in natural resource management from the Northern Marianas College and an undergraduate degree in marine science from the University of Hawai'i at Hilo. Dela Cruz was a recipient of the Council U.S. Pacific Territories Fishery Capacity-Building Scholarship. After graduating in 2020, she went on to complete her scholarship work commitment as the data manager at the CNMI Division of Fish and Wildlife.

Gov. Lou Leon Guerrero (left) presenting achievement award to Judith Amesbury

Photo: Office of the Governor

Archaeologist and former Scientific and Statistical Committtee member **Judith Amesbury** was recently honored with the prestigious Ancient Order of Chamorri award by Gov. Lou Leon Guerrero. The award was given for her 40 years of dedicated research on ancient CHamoru culture in the Western Pacific. Amesbury's extensive contributions, including her work on marine resource use and ancient pelagic fishing practices, have significantly enhanced our understanding of Guam's rich history and cultural heritage. Through her leadership at Micronesia Archaeological Research Services and her numerous publications and presentations, she has played a pivotal role in integrating CHamoru history into contemporary academia, leaving an indelible mark on the study of Guam's past.

Source: *www.guampdn.com/news/archaeologist-judith-amesbury-given-ancient-order-of-the-chamorri/article_257eda90-e74b-11ee-8fdd-d77994a3bfae.html*

IN MEMORIAM

Brian Hallman

Brian Shepard Hallman was born in Washington, D.C. April 4, 1947. He passed away March 18, 2024, in Charleston, SC. He grew up in Thailand and attended high school in Egypt. He graduated from the College of William and Mary in 1969, and received his master's degree at the Johns Hopkins School of Advanced International Studies.

Brian worked for 25 years for the U.S. State Department's Office of Marine Conservation. During his time at the State Department, he received an award for Outstanding Achievements in Global Affairs and was described as, "playing a pivotal role in developing international oceans policy and resolving numerous marine resource issues."

Brian was the Council's U.S. State Department Representative from 1988 to 1999. In February 1999, he led negotiations for the United States at the 4th Multi-lateral High Level Conference on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (MHLC). Shortly after, in September 2000 in Honolulu, years of negotiations led to 26 nations, territories and fishing entities voting to adopt an agreement that established a new Western and Central Pacific Fisheries Commission.

In 1999, Brian moved to San Diego, CA to continue his work in international oceans policy with the Inter-American Tropical Tuna Commission. In this role, Brian began fighting for the conservation and sustainable management of tuna and other fish. In 2011 until his retirement in 2019, he was the executive director of the American Tunaboat Association in San Diego.

Brian Thompson

Brian Urosa Thompson was born June 25, 1975 and passed away May 7, 2024. Raised both in Manuʻa, American Samoa and California, he truly embodied the spirit of both places, merging the diverse experiences of his upbringing into a life dedicated to service and advocacy.

Graduating from Tafuna High School in 1993 and attending the American Samoa Community College, Brian laid the foundation for a life committed to education and community development. He began his professional journey as an educator, enriching the lives of countless young minds. His passion for youth extended to the sports field, where he coached youth sports with the same energy and commitment he brought to everything in his life.

Brian's expertise in grants and financial management saw him excel in his role at the American Samoa Power Authority, where he last served as the main grant writer. His precision, dedication and financial acumen ensured that essential resources flowed into the local community, catalyzing growth and development.

A decade ago, Brian was selected to serve on the Council's American Samoa Advisory Panel. Throughout his tenure, Brian was a staunch supporter of American Samoa's fisheries, even when faced with contentious issues. Beyond the formal meetings, Brian spent countless evenings crafting the framework for various funding proposals, always striving to enhance and protect the local fisheries.

"Greetings people of the ocean. My only suggestion for today… is we find a common ground, federal and our local people. We are here because of our ocean. So this is why I say greetings to the people at the ocean. So you may work or live in our islands, our concern is the same, it's the ocean."

– Brian Thompson, speaking at the 198th Council Meeting in Honolulu, March 18, 2024

Jonathan Hurd

Jonathan Hurd was born Sept. 22, 1949, grew up in Long Island, NY and passed away March 29, 2024, in Kauaʻi. Recognized as one of the Hawaiʻi's most accomplished fishermen, he was a passionate advocate for preserving Hawaiʻi's traditional fishing practices. His dedication extended to providing seafood and marine services to the Kauaʻi community, understanding deeply the cultural, economic and communal significance of fishermen in Hawaiʻi.

As an active member and participant of the Council's Fishing Industry Advisory Committee, Jon offered valuable insights into Kauaʻi's fishery and marine industry issues. His legacy includes bottomfish fishing in the Northwestern Hawaiian Islands (NWHI) Mau Zone, and contributing to the design and establishment of the Mau Zone limited-entry program, ensuring sustainable fishing practices.

Despite challenges, Jonathan remained steadfast in his support for sustainable fishing, actively engaging in public processes and advocating for the continuation of bottomfish fishing in the NWHI. Even after the closure of the NWHI bottomfish fishery in 2010, he continued his advocacy efforts, playing a key role in the development and management of the Main Hawaiian Islands bottomfish fishery, setting a standard for sustainable fisheries management in Hawaiʻi. His contributions to the Council will be deeply missed.

Congressional Corner

With 2024 being an election year and the last year of the 118th Congress, legislation is sure to be moving fast and heavy towards the end of the year. While efforts have focused on the ongoing conflicts in the Ukraine and Palestine, Congress has also been looking at some seafood bills that are worth following.

Senator Dan Sullivan (R-AK) introduced S. 2011 that would prohibit the importation of seafood and seafood products from Russia. This bill reacts to a Russian prohibition on the importation of U.S. seafood products. Another bill, S. 2979, introduced by Senator Bill Cassidy (R-LA), increases the rate of duty on shrimp originating from India. While both seafood-related bills are reactive to other national interests, the idea of regulating imports of seafood is significant to fisheries in the Western Pacific. Imports of fish and seafood from foreign countries have hit both the longline and purse-seine industry hard, affecting both the fishers and consumers. At the 198th Council meeting in March 2024, Hawaii Longline Association Executive Director Eric Kingma testified that market conditions are unprecedented and that the U.S. market is seeing a lot of foreign subsidized, frozen, gassed product overtaking fresh, sustainable, local product.

In other congressional news, Rep. Aumua Amata Coleman Radewagen (R-AS) continues to emphasize the importance of American Samoa's fishing industry in the House Committee on Natural Resources. In a May 1, 2024, hearing on "Examining the President's FY 2025 Budget Request for the Department of the Interior," Rep. Radewagen stated "our fishing industry and our self-sufficiency is now under [existential] pressure from over-zealous and short-sighted green politics," referring to an initiative proposing a national marine sanctuary for the Pacific Remote Island Areas. She said the proposal "adds another layer of bureaucracy and adds no further protection." She continued "the territories do not want to be a charity case," but that "if the fishing industry fails in American Samoa, the long-term cost to the federal government will increase exponentially."

The House Natural Resources Committee's Subcommittee on Water, Wildlife and Fisheries held hearings in March on many bills. One bill, H.R. 1792 introduced by Rep. Radewagen, aimed at revising federal requirements for U.S. commercial fishing vessels operating in the South Pacific, underwent hearings, debates and ultimately passed in the House. Currently awaiting Senate action is the South Pacific Tuna Treaty Act of 2023 that details the mutual obligations of the United States and 16 Pacific Island countries when U.S. fishing vessels operate in their region.

The 118th Congress is far from over and likely to ramp up towards its conclusion in December. There is still a lot of time left in the session and extra motivation during this election year. Keep an eye out for new and ongoing bills by visiting *www.congress.gov*.

Cruise Line Sources Sustainable Hawaiian Swordfish for New Initiative

Holland America Line is making waves in sustainable dining, becoming the first global cruise line to receive both Marine Stewardship Council (MSC) and Aquaculture Stewardship Council (ASC) certifications. With a focus on serving high-quality, sustainably sourced seafood, the cruise line's commitment extends to including ASC- and MSC-certified dishes, such as Hawaiian Swordfish, across its fleet, offering guests a taste of responsibly farmed and wild-caught delicacies from around the world. Holland America's Global Fresh Fish Program engages a global network of 60 ports to source and serve 80 types of fresh fish—from port to plate in less than 48 hours—in all restaurants on board.

Source: *www.insidertravelreport.com/holland-america-becomes-first-global-cruise-line-to-receive-seafood-certifications*

Upcoming Events

The 152nd Scientific & Statistical Committee (SSC) meeting will be held June 11 to 13, 2024, at the Council office, 1164 Bishop St., Ste. 1400, Honolulu, HI. The meeting will be in a hybrid format, with in-person participation available for SSC members and the public, or remote participation via Webex: *https://tinyurl.com/152SSCMtg*.

Major agenda items include: 2023 Annual Stock Assessment and Fishery Evaluation (SAFE) Reports review and recommendations; Setting acceptable biological catch for 2024-2027 for the Main Hawaiian Islands (MHI) deep-seven bottomfish fishery (action item); Shallow-set longline turtle trip limit review report; and Electronic monitoring pre-implementation program plan review and timeline.

The 199th meeting of the Western Pacific Regional Fishery Management Council will be held June 24 to 26, 2024, at the Ala Moana Hotel, Hibiscus Ballroom, 410 Atkinson Dr., Honolulu, HI. The meeting will be in a hybrid format, with in-person participation available for Council members and the public, or remote participation via Webex: *https://tinyurl.com/199CouncilMtg*.

Major agenda items include:
Setting annual catch limits (ACLs) for 2024-2027 for the MHI deep-seven bottomfish fishery (initial action); Status of Pacific Remote Island Areas (PRIA) and Northwestern Hawaiian Islands sanctuary proposals; 2023 Annual SAFE Reports review; American Samoa Marine Conservation Plan 2024-2026 review (action item); Guam bottomfish rebuilding plan update; Commonwealth of the Northern Mariana Islands commercial bottomfish permit and reporting; False killer whale conservation and management review; and North Pacific striped marlin stock status and rebuilding plan review.

For more information on the virtual meeting connections, and complete agendas and meeting documents, go to *www.wpcouncil.org/meetings-calendars*.

FISHERS FORUM Hawai'i

The Fishers Forum on "Where Are the Fish Going?" will take place from 6 to 9 p.m. June 24, 2024, at the Ala Moana Hotel, Hibiscus Ballroom, 410 Atkinson Drive, Honolulu, HI.

Climate change is leading to warmer waters and shifting wind patterns, causing stronger and more common storms. But how does that affect your fishing and where the fish are? Come learn about how large- and small-scale changes in the Pacific can impact you at this FREE, family friendly event.

Summary of Action Items at the June 2024 Council Meeting

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

1. Options for Specifying MHI Deep-Seven Bottomfish ACLs for 2024-2027 (Initial Action)

At its 198th meeting, the Council received the 2024 MHI deep-seven bottomfish benchmark stock assessment and accepted it as best scientific information available on the status of the fishery, and directed staff to convene the P* (Risk of Overfishing) and SEEM (Social, Economic, Ecological and Management Uncertainty) Working Groups. In May 2024, the Council's P* and SEEM Working Groups and the SSC evaluated the scientific, social, ecological, economic, and management uncertainties and recommended a risk level to the Council.

Based on the results of the P* and SEEM Working Group meeting, at its 199th meeting the Council will consider taking initial action on specifying ACLs and accountability measures (AMs) for the MHI deep-seven bottomfish fishery for fishing years 2024-2025 to 2026-2027. The Council will consider the following options:

1) Option 1: No Action. Do not specify an ACL and AMs.

2) Option 2: Status quo, specify an ACL of 492,000 pounds (Syslo et al. 2021)

3) Option 3: Specify an ACL and annual catch target (ACT) based on P* and SEEM scores

4) Option 4: Specify an ACL and ACT below the P* and SEEM scores

5) AMs to consider:

a. In-season monitoring using the commercial marine licensing and reporting

b. Post-season overages single year adjustment

c. Specify the ACL equal to the annual biological catch based on the P* score and optionally specify an ACT based on the P* and SEEM scores

2. American Samoa Marine Conservation Plan Review (Action Item)

The MCP for American Samoa expires in July 2024. ***At its 199th meeting, the Council will review the MCP for agreement and approval.*** Once approved by the Council and the Secretary of Commerce, the MCP will be valid for three years. However, the plans can be adjusted at any time and resubmitted for approval.

The Magnuson-Stevens Act (MSA) authorizes the Secretary of State to negotiate and sign a Pacific Insular Area Fishery Agreement (PIAFA), provided that the Secretary of Commerce and the Council concur. A PIAFA would allow foreign fishing within the 200-mile U.S. exclusive economic zone (EEZ) around American Samoa, the CNMI, Guam or the PRIA with the concurrence of the appropriate governors. Before entering into a PIAFA, the appropriate governor must develop a three-year MCP providing details on the use of any funds collected by the Secretary under the PIAFA, with the concurrence of the Council.

In addition to PIAFA funds, fines and penalties resulting from violations by foreign vessels in the EEZ around the Pacific Insular Areas are to be deposited into the local government's treasury and used to implement the respective MCP. The Council is also authorized by the MSA to use funds from the Western Pacific Sustainable Fisheries Fund to implement MCP projects.

The MCP must be consistent with the Council's Fishery Ecosystem Plans. The MSA mandates that the MCP comprise conservation and management objectives, such as Pacific Insular Area observer programs, marine and fisheries research, and conservation, education, and enforcement activities related to marine and coastal management. Education and training in sustainable marine resources development, scientific research, and conservation strategies are also required. The MCP must also include Western Pacific community-based demonstration projects to promote the management, conservation, and economic enhancement of the Pacific Insular Areas.

Recipe: Portuguese Uku Pupu

Makes 4-6 servings

Courtesy Kapiolani Community College Culinary Arts Department

Ingredients

For the pupu:

2 lbs uku steaks, fillets or other pieces*

1 fresh chili pepper, small, seeded and diced

2 tsp Hawaiian salt

1-2 cloves garlic, minced

3/4 cup cider vinegar

1/4 cup water

olive oil

For the onion topping:

1 tbsp onion, minced, and a few very thinly sliced rounds of onion for garnish

1 tbsp parsley, minced

1/2 fresh chili pepper, small, seeded (optional)

1/2 tsp Hawaiian salt

1½ tbsp cider vinegar

Preparation

1. Place fish in flat, nonreactive container with cover.

2. In a bowl, stir together chili, salt, garlic, vinegar and water, pour over fish and allow to marinate, covered, for at least an hour, turning once.

3. Combine onion topping ingredients in a separate non-reactive bowl and marinate 15 minutes or more.

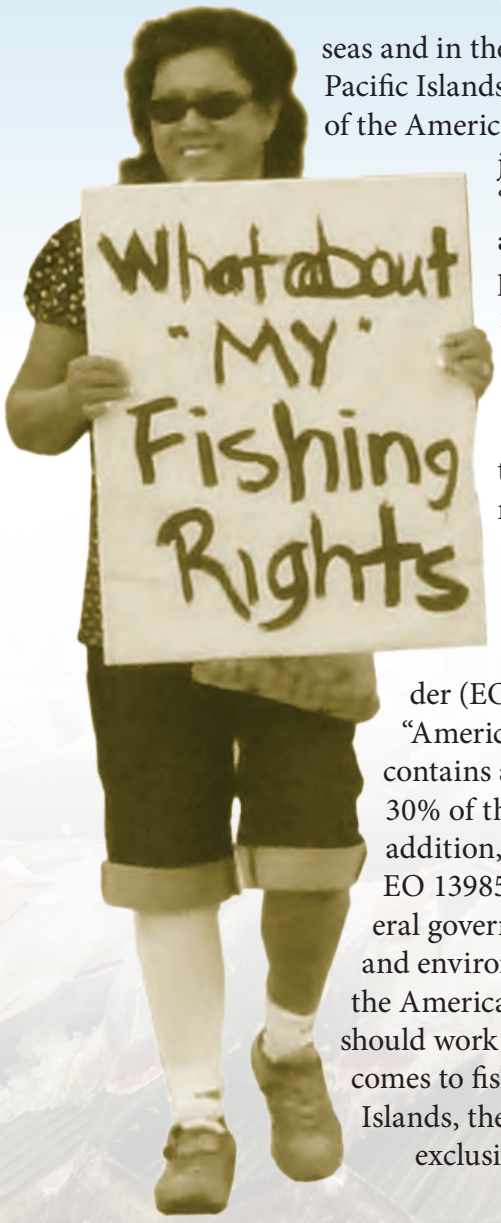
4. Preheat broiler and brush pan with olive oil. Broil fish 3 to 4 minutes, turn and repeat. Place fish in rimmed bowl or platter.

5. Pour sauce over hot fish. Serve with cold beer and crusty country-style bread for dipping up the juices.

Justice? Or Just Us?

Equity in Fisheries: Balancing Conservation and Livelihoods in the Pacific Islands

The Pledge of Allegiance ends with the phrase "with liberty and justice for all." U.S. fishermen, who, as children, would recite this every morning before starting school, have come to question this phrase. Today, "justice for all" seems to have forgotten the U.S. Pacific Island fishermen. Between the constant shrinking of the U.S. exclusive economic zone (EEZ) by the federal government decreasing the waters available for fishing, the ever-increasing foreign fishing presence on the seas and in the markets, and using the Pacific Islands to shoulder the burden of the American conservation ethos, justice has turned into "just us." As the pledge of allegiance binds us to the principles of unity and fairness, so too must the U.S. approach to fisheries by providing justice for equitable access, fair treatment of fishing communities and preservation of sustainable fishing.



In 2021, President Biden issued Executive Order (EO) 14008, also known as "America the Beautiful," which contains a mandate to conserve 30% of the ocean by 2030. In addition, the President issued EO 13985 that requires the federal government to provide equity and environmental justice (EEJ) to the American people. The two EOs should work hand-in-hand when it comes to fisheries, but in the Pacific Islands, they tend to be mutually exclusive. By creating monuments in the Western Pacific, the United States has conserved more than 26% of the U.S. EEZ, almost reaching its goal, but it has done that at the expense of U.S. fishermen in the islands. **Nearly 53% of the U.S. EEZ in the region is closed to commercial fishing due to monument designations, leaving fishermen to wonder if the drive to conserve outweighs the equity and justice for the people of the Pacific Islands.**

EEJ is not a new term or buzzword born out of this administration. The federal government has a long history of seeking fairness in the way people are treated and resources are distributed. In fisheries, the Magnuson-Stevens Fishery Conservation and Management Act (MSA), enacted in 1976, encoded this equity into the Act itself by providing for underserved indigenous communities in section 305. As part of this section, the Western Pacific Regional Fishery Management Council has developed projects and programs aimed at addressing disparities in fisheries policies, practices and opportunities. These efforts seek to recognize and rectify structural inequalities, while giving communities the necessary support and resources to ensure equitable outcomes. The Community Development Program allows underserved communities to have access to federal fisheries that would otherwise be unachievable without exceptions to federal regulations. The Community Demonstration Project Program has provided funding to seed fishery project ideas and engage communities in fishery activities. The Council has continued these and other efforts throughout its tenure, including offering opportunities for training, building capacity in fisheries science and management, and addressing protocols for meeting with indigenous communities. But, while the Council continues to work on advancing EEJ, the barriers to providing it keep mounting.

Efforts to promote sustainable fishing in the Western Pacific have faced challenges due to increasing regulatory hindrances. While measures like the Shark Finning Act and Billfish Conservation Act aim to protect

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ALLOWABLE FISHING FROM 50-200 nm OPTIO

STATUS QUO

COMMERCIAL FISHING PROHIBITED

NON - COMMERCIAL FISHING LARGELY UNREGULATED

COUNCIL PROPOSAL

PROHIBIT COMMERCIAL FISHING

ALLOW NON-COMMERCIAL AND NATIVE HAWAIIAN SUBSISTENCE FISHING FOR BOTTOMFISH AND PELAGIC SPECIES UNDER CATCH LIMITS AND MSA PERMIT AND REPORTING REQUIREMENTS

ALLOW NATIVE HAWAIIAN SUBSISTENCE PERMIT APPLICANTS TO REQUEST FOR LIMITED COST RECOVERY OF TRIP EXPENSES THROUGH SALE OF FISH

NOA PREFER ALTERN

SAME AS CIL EXCE COST REC FOR NA HAWA SUBSIST PERM HOLD

180° 00'W

200 nm

Monument Expansion Area

Hancock Seamount
28° 00' N

established to protect seamount and groundfish that had been overfished by foreign vessels

Hōlanikū
Kure Atoll

Kuaihelani
Midway Atoll

Pearl & Hermes Atoll

Manawai

50 nm

HO'OMALU ZONE

NORTHWEST HAWAIIAN ISLAN

Kapou
Lisianski Island

Pioneer Bank

Laysan Island

Kamole

Kamokuokamohoali'i

Maro Reef

Ralta Bank

Gardner Pinnacles

'Ōnūnui, 'Ōn

St.

Size of exclusive economic zone (EEZ), 3-200 nautical miles offshore, around Hawai'i in relation to U.S. mainland

Hawaiian Isla

Papahānaumokuākea Marine Natio
No commercial fishing • no non-co

NS

AA
RRED
ATIVE
COUN-
PT NO
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PROPOSED NWHI SANCTUARY REGULATORY PROCESS

NMSA Sanctuary Regulations

- **November 2021**
  - ONMS publishes Notice of Intent to designate a National Marine Sanctuary
  - Public scoping meetings held to prepare DEIS (Nov 2021 - Jan 2022)
- **March 2024**
  - ONMS publishes proposed sanctuary DEIS and management plan (60-day review)
  - Public comments due May 7, 2024
- **Fall 2024/ Winter 2025**
  - ONMS to review public comments and publish Final EIS and management plan
  - NOAA to make final decision on designation

MSA Fishing Regulations

- **April 2023**
  - Council Provides final recommendation for fishery regulations under MSA
- **Summer 2024**
  - Transmit final Hawai'i Archipelago Fishery Ecosystem Plan Amendment to NMFS
- **Fall 2024**
  - NMFS to publish Notice of Availability and Proposed Rule for public comment (60 days)
  - NMFS and Council to address public comments (30 days)
- **Fall 2024/ Winter 2025**
  - NMFS to publish response to public comments and Final Rule

Council - Western Pacific Fishery Management Council
DEIS - Draft Environmental Impact Statement
MSA - Magnuson-Stevens Fishery Conservation and Management Act
NMFS - National Marine Fisheries Service
NMSA - National Marine Sanctuaries Act
ONMS - Office of National Marine Sanctuaries

WESTERN PACIFIC REGIONAL FISHERY MANAGEMENT COUNCIL

wpcouncil.org

DS (NWHI)

165° 00'W

MAU ZONE

161° 20'W

ūiki

Rogatien Bank

Lalo

French Frigate Shoals

Mokumanamana

Necker Island

Twin Banks

Nihoa

MAIN HAWAIIAN ISLANDS (MHI)

Kaua'i

Ni'ihau

O'ahu

Moloka'i

Maui

Lāna'i

Kaho'olawe

Hawai'i

N

Nautical Miles

0 50 100 200

nds

onal Monument (0-50 nautical miles offshore)
mmercial fishing • **sustenance fishing is allowed.**

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marine species, they inadvertently impact U.S. fisheries in the region. Despite good intentions, these regulations have sometimes proven unnecessary and have limited local fishing activities. Additionally, U.S. fishermen face tough competition from less regulated high seas fisheries, which may have lower standards for human rights and seafood safety. As a result, imported seafood is becoming more prevalent in local markets, overshadowing fresh, domestic options. Moreover, the designation of Marine National Monuments in the Western Pacific has restricted commercial fishing, pushing U.S. fishermen to less favorable areas where they compete against subsidized foreign fleets. Current proposals to establish National Marine Sanctuaries could further limit fishing opportunities in the region.

U.S. fishermen simply seek the right to pursue their livelihoods by fishing in U.S. waters.

These challenges highlight the need for balanced approaches that support both conservation efforts and the livelihoods of local fishermen. Such approaches were established with the passage of the Fishery Conservation and Management Act of 1976 (now known as the MSA). Congress had the foresight to employ a concept that continues to be too rare in the federal government, where management for the people is conducted by the people. This bottoms-up approach through the regional fishery management councils was an experiment in democracy that succeeded. In the Western Pacific, this system has eliminated bottom-trawling and other gears that impact habitat, while still allowing ample room for growth in the fisheries. So much so, that part of the region has been cited as an example of a pristine ecosystem, and non-fishing groups have petitioned for additional protections. That protection, however, has come at the cost of U.S. fishing.

The decisions aimed at conserving areas and restricting access to resources in the Western Pacific have presented challenges for fisheries throughout the 21st century. While the MSA mandates that fishery management councils consider the best available scientific information and engage in a public process to develop fishing regulations, conservation initiatives like National Marine Sanctuaries and Marine National Monuments do not necessarily follow the same framework. While it's indisputable that safeguarding areas from the effects of climate change and direct impacts is essential, decisions regarding fishing impacts should ideally be grounded in science. However, U.S. fishermen have encountered a growing tendency to bar them from accessing the U.S. EEZ, with exclusions often based on sentiments and conjecture rather than solid scientific evidence. Sustainable fishing practices, when properly managed, can contribute positively to conservation efforts by providing valuable data on fish populations and habitats, as well as assisting in enforcement activities through active observation on-the-water. Conservation measures need not impede fishing activities, but can rather complement existing efforts.

Collaborative initiatives are underway in international fisheries across the Pacific, often with the United States taking a leading role by providing money and help to other nations. However, this works against U.S. fishermen facing penalties for catching the same species and competing against foreign fisheries that receive financial support. U.S. fishermen simply seek the right to pursue their livelihoods by fishing in U.S. waters. While other countries look to the United States for hand-outs, fishermen at home are looking for a hand-up. With an estimated 54.5 million fishermen in the United States, achieving equity for all could be attained without any additional costs.

As fishermen across the United States commit to responsible management of our fisheries, an opportunity emerges for the nation to demonstrate its commitment to its people. Instead of placing emphasis on safeguarding distant coral reefs from less immediate threats, presidents should prioritize leaving legacies that demonstrate support for their citizens and the nation. By doing so, the United States can remain indivisible and truly provide justice for all.

Published in the Spring 2024 issue of *Pacific Islands Fishery News* by the Western Pacific Regional Fishery Management Council.

Seeing Through the Haze:
Understanding Tuna, Mercury and Health

This is a guest article from Dr. J. John Kaneko, Seafood Safety Specialist, Honolulu, HI, www.Hawaii-Seafood.org, published in the Spring 2024 issue of Pacific Islands Fishery News *by the Western Pacific Regional Fishery Management Council.*

Each spring, the same alarmist story about the dangers of mercury in fish is repeated by the media. Repeat a story enough times, it becomes true. The intent is to engage the public in support of controlling mercury pollution, especially from coal fired power plants. Tuna is the usual scapegoat in this story because it is widely consumed and catches people's attention. The story goes that the mercury in tuna is from human activities that cause mercury pollution, primarily coal and gold mining, coal burning, industry and waste processing. This ignores the fact that the source of mercury in ocean fish is from industrial and natural pollution. The ocean has always been a natural sink for mercury that was and continues to be released from volcanic activity.

The "story" continues that people are exposed to mercury primarily through seafood consumption (true), that mercury is a neurotoxin (partly true) and that eating fish with mercury concentrations typically found in commercially available tuna is harmful, especially to developing fetuses and young children (does not appear to be entirely true).

But this year, something is very different.

On March 21, 2024, the BBC reported on a study[1] that found that mercury concentrations in tuna had not changed between 1971 and 2022, which should be good news. They concluded that although mercury in fish has not increased during this 50-year period, it may in the future. The authors advocate for greater effort to control mercury pollution. Controlling mercury pollution makes sense on its own. But to do it to lower mercury levels in tuna may not, especially if the goal is to approach zero mercury.

The study indicates that mercury cycling in the ocean environment and the source of mercury in tuna are not fully understood. In 1998, I collected the sample set of Hawai'i yellowfin tuna that was analyzed for mercury concentration to compare with the sample set collected in 1971. No change in mercury levels had occurred over that 27-year period,[2] while mercury pollution increased. The conclusion was that the mercury in Hawai'i yellowfin tuna came primarily from natural and not man-made pollution.

This old story is getting tired.

When the BBC described this study for public consumption, it repeated the mantra of the dangers of mercury in tuna. This ignores the fact that there has never been a reported outbreak

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of mercury poisoning from tuna consumption. Ever. The story being repeated today also ignores the substantial scientific and empirical evidence of the beneficial net effects for consumers from inclusion of seafood in the diet. These more recent studies have evolved from those that focused on mercury alone, and treated fish, including tuna, simplistically as a mercury delivery system. But tuna (and other seafood) contains beneficial nutrients, not only mercury. These more recent studies accept this and instead strive to determine the net effects of mercury (as harmful) and beneficial nutrients from eating ocean fish.

Ocean fish in the diet provides high-quality lean protein, seafood omega-3 fatty acids (DHA and EPA) and Vitamin B12, Vitamin B6, Vitamin D, iodine, selenium and other nutrients. It is widely accepted that DHA and EPA support heart and brain development and health among many other benefits. Vitamins play essential roles in metabolism and overall health. Iodine is important to metabolism in the formation of thyroxin hormones. Selenium is an essential mineral for the production of selenoenzymes which include anti-oxidant enzymes that protect against oxidative damage.

There is strengthened evidence that seafood is health food.

The National Academy of Science, Engineering and Medicine (NASEM) is completing a systematic consensus study this year (2024) of the Role of Seafood Consumption in Child Growth and Development.[3] This study considers both potentially harmful contaminants and beneficial nutrients contained in fish. The study team presented selected conclusions recently (webinar March 26, 2024) which concluded, "Taken as a whole, the evidence reviewed by the committee indicates that higher fish consumption is associated with lower risk of adverse health outcomes or no association with health outcomes. The evidence for increased risk of adverse health outcomes associated with seafood consumption was insufficient to draw a conclusion."

The recently published 2023 Special Issue of Neurotoxicology on Fish Consumption, Mercury Exposure, and Health, provides convincing evidence that the net effects of eating seafood are beneficial to health, regardless of mercury concentrations found in commercially available seafood. One of these studies[4] reviewed the results of research that cumulatively studied dietary mercury as harmful and omega-3 fatty acids as beneficial nutrients in more than 200,000 mother-child pairs. They found overwhelmingly beneficial net effects in child development associated with maternal seafood consumption during pregnancy. Children born to fish-eating mothers had improved neurodevelopment outcomes (2-5 IQ points higher) compared to children born to non-fish eaters. They conclude that the net effects of maternal fish consumption are beneficial to children, despite mercury in fish.

Why isn't mercury in tuna a health problem?

The concern about mercury in fish stems from the tragedy that occurred in Minamata, Japan in the late 1950s and early 1960s. Birth defects and other effects were attributed to extremely high levels of mercury from eating contaminated seafood. But the Minamata disaster was a case of gross industrial mercury pollution, not naturally occurring concentrations. This industrial disaster created the concern about mercury in fish that persists today, even though a Minamata scale incident has never occurred since.

Selenium has protective effects on mercury toxicity.

Mercury is known to be a neurotoxin, causing oxidative damage to the brain. But the mechanism of how mercury is neurotoxic is still being studied. Current research continues to demonstrate that selenium can counteract or protect against the harm caused by lethal concentrations of dietary mercury in animal studies. The current evidence points to the importance of the extraordinarily strong selenium to mercury binding strength in understanding mercury toxicity. Conceptually, one molecule of selenium binds with a molecule of mercury in the body to form an inert compound, mercury-selenide. But why is this important?

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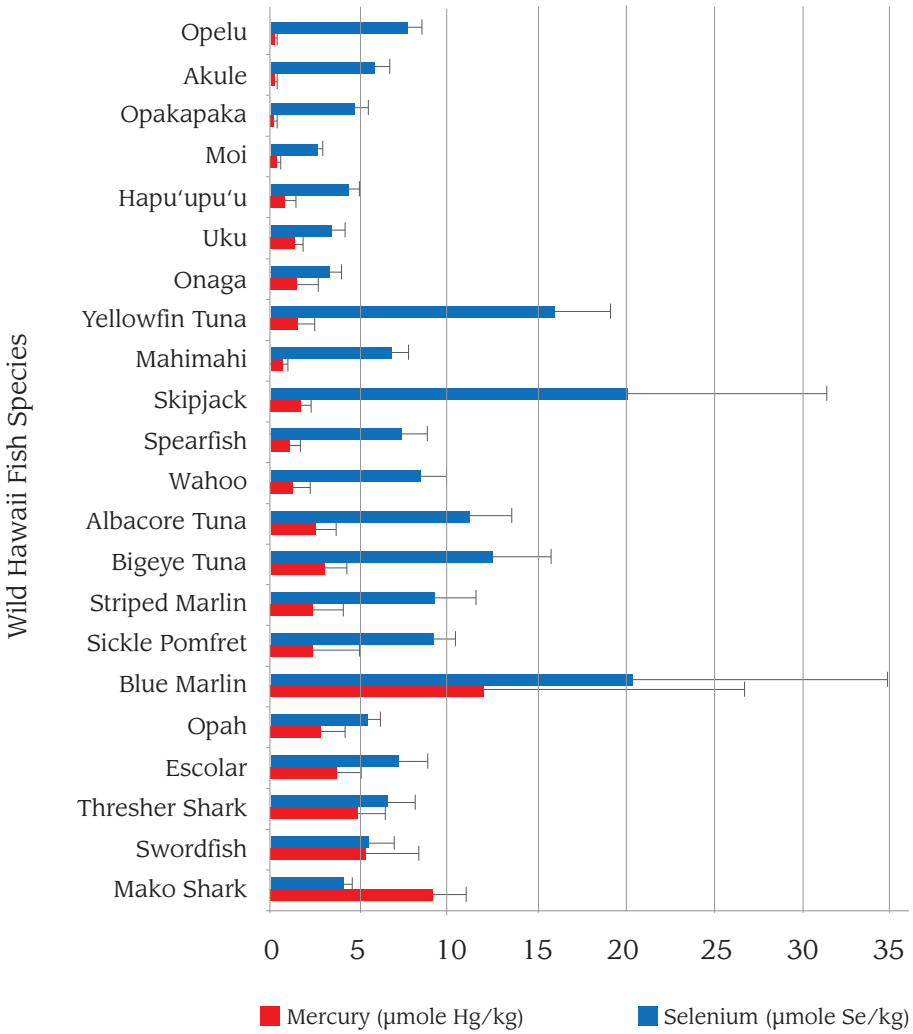
Hawaii Seafood
and Your Health

Selenium and mercury molar ratios in Hawaii Seafood species



Source:

Kaneko, JJ and NVC Ralston. 2007. Selenium and Mercury in Pelagic Fish in the Central North Pacific near Hawaii. Biol Trace Elem Res 119: 242-254

Kaneko, JJ. 2012. Selenium and Mercury in Selected Seafood Products in Hawaii. Hawaii Seafood Council, NOAA Award No. NA09NMF4520175. 17 p.

Ralston, NVC, JL Blackwell and LJ Raymond. 2007. Importance of Molar ratios in selenium-dependent protection against methylmercury toxicity. Biol Trace Elem Res 119: 255-268

Prepared by the Hawaii Seafood Council with support from NOAA Award NA10NMF452034

Fish is Health Food.

Ocean fish provide us with a delicious nutrient package of lean high-quality protein with vital nutrients including omega-3's (DHA & EPA), vitamins (niacin, B-6, B-12, D) and minerals (iodine, selenium).

What about mercury?

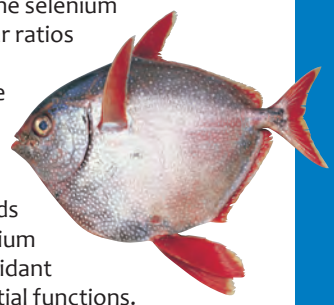
All fish contain trace amounts of mercury. Large and long-lived ocean fish species have more time to accumulate mercury. But why haven't there been any mercury poisoning outbreaks from eating open ocean fish like tuna?

Selenium is an essential nutrient.

Selenium has many health promoting functions. We need it for selenium-dependent anti-oxidant systems that protect our cells (especially brain cells) against oxidative damage. Excessive mercury in the diet is known to cause oxidative damage to the brain.

Selenium protects against mercury.

Selenium has an extraordinary attraction for mercury. When the two elements meet, they bind so strongly that neither is biologically available. This 1 to 1 molecular binding makes the selenium to mercury molar ratios in diets critical. Foods with more mercury than selenium may lead to mercury toxicity. But foods with more selenium maintain anti-oxidant and other essential functions.



What about Hawaii Seafood?

Hawaii's wild ocean fish species contain an excess of selenium over mercury and are more likely to prevent than contribute to mercury toxicity. Mako shark is the only species that contains more mercury than selenium.

HawaiiSeafood
Hawaii Seafood Council

www.hawaii-seafood.org

Seeing Through the Haze: Understanding Tuna, Mercury and Health

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We know of no essential dietary need for mercury, but selenium is an essential element in the diet. Profound selenium deficiency causes oxidative damage and other health issues. In diets where mercury exceeds the selenium intake, selenium is bound to mercury, maintenance of selenium-dependent anti-oxidant enzymes is impaired, leading to oxidative damage. However, when selenium exceeds mercury in the diet, the selenium-dependent enzymes are maintained, and the brain is protected from oxidation. So, it is the ratios of selenium to mercury that determine if a food is likely to promote or protect against mercury toxic effects. This leads to the conclusion that mercury toxicity is actually selenium deficiency.

There continues to be a concern about fish consumption during pregnancy. A recently published research paper[5] studied maternal fish consumption, mercury intake, selenium status and the implications for child health. The study included 100 mother-child pairs in Hawai'i grouped by weekly fish consumption into No (0 oz/wk), Low (0-12 oz/wk) and High fish consumption (>12 oz/wk) groups. The mercury concentrations of fetal tissue (umbilical cord blood and placenta) increased with maternal fish consumption. However, the selenium concentration also increased and greatly exceeded mercury concentrations. The results support the hypothesis that ocean fish in the maternal diet provides substantial amounts of selenium to protect against the loss in availability caused by binding with mercury.

Good news for fish eaters.

Where do we get selenium? It turns out that the 16 of the top 25 food sources of selenium in the American diet are ocean fish species. For consumers of Pacific tunas and associated species which are the usual mercury story "suspects" (see figure), it should be a comfort to know that all commercially available fish species we have studied, contained an excess of health promoting selenium over mercury. Eating these fish is more likely to protect against than contribute to mercury toxicity. The only Hawai'i fish species we found that had more mercury than selenium was the mako shark, a fish that is no longer landed or sold in Hawai'i.

To conclude, we should be eating more and not less seafood, regardless of mercury, as long as there are favorable selenium-mercury ratios.

- ***Encourage greater seafood consumption to enjoy the known health benefits.***
- ***Stop vilifying tuna with unsubstantiated claims of harm caused by mercury.***
- ***Stop causing harm by scaring the public away from the health benefits of eating ocean fish.***

References

[1] Medieu, A, D. Point, J.E. Sonke, H. Angot, V. Allain, N. Bodin, D.H. Adams, D.G. Streets, P.B. Buchanan, L.E. Heimburger-Boavida. H. Pathybridge, D.O. Gillikin, F. Menard, C.A. Choy, T. Itai, P. Bustamante, Z. Dhurmeea, B.E. Ferris, B. Bourles, J. Habasque, A. Verheyden, J. Munaron, L. Laffont, O. Gauthier and A. Larrain. 2024. "Mercury mystery: Poisonous element persists in tuna." *Environ. Sci. Technol. Lett.* 2024. 11(3) 250-258.

[2] Kraepiel, A.M., L. Keller, H.B. Chin, E.G. Malcolm and F.M.M. Morel. 2003. "Sources and Variations of Mercury in Tuna." *Environ. Sci. Techn.* 2003 (37) 5551-5558.

[3] NASEM (National Academies of Sciences, Engineering and Medicine). 2024. *The Role of Seafood Consumption in Child Growth and Development*. Washington DC: The National Academies Press. https://doi.org/10.17226/27623.

[4] Spiller, P, E van Wijngaarden, H. R. Adams, J.J. Strain, E.M. McSorely, M.S. Mulhern, M.C. Conway, A.J. Yates, C Carrington, P.M. Bolger, K.M. Morgan, C. M. Taylor, N.V.C. Ralston, M.C. Crawford, J.R. Hibbeln, J. T. Brenna and G.J. Myers. "Net effects explain the benefits to children from maternal fish consumption despite methylmercury in fish." *Neurotoxicology* 99(2023) 195-205.

[5] Ralston, N. V. C., L.J. Raymond, C/L. Gilman, R. Soon, L. A. Seale, M.J. Berry. 2024. "Maternal seafood consumption is associated with improved selenium status: Implications for child health." *Neurotoxicology* 101 (2024) 26-35.