

NORTHWESTERN HAWAIIAN ISLANDS CORAL REEF ECOSYSTEM RESERVE  
**RESERVE ADVISORY COUNCIL**

**Non-Government (Voting)**

Linda Paul (Chair)  
Conservation

Rick Gaffney (Vice Chair)  
Recreational Fishing

Pelika Andrade  
Native Hawaiian

Kalama'ehu Takahashi  
Native Hawaiian

Nakoa Goo  
Native Hawaiian Alternate

Solomon Pili Kaho'ohalahala  
Native Hawaiian Elder

Audrey Newman  
Conservation

Samuel 'Ohu Gon III  
Conservation

Robert Leinau  
Conservation Alternate

Doug Fetterly  
Conservation Alternate

Thorne Abbott  
Conservation Alternate

Don Schug  
Research

Haunani Kane  
Research

Mark Hixon  
Research

Neal Langerman  
Research Alternate

William Walsh  
Research Alternate

Richard Lee  
Ocean-Related Tourism

Paul Badgley  
Ocean-Related Tourism Alternate

Bonnie Kahapea-Tanner  
Education

Heather Howard  
Education Alternate

Judith Cucco  
Citizen-at-Large

Kammie Dominique-Tavares  
Citizen-at-Large Alternate

Vacant  
Commercial Fishing  
Commercial Fishing Alternate  
Native Hawaiian Elder Alternate  
State of Hawaii

**Government (Non-Voting)**

Eric Roberts  
Papahānaumokuākea MNL

Kim Hum  
HIHW National Marine Sanctuary

Ma'ia Chow  
NOAA Fisheries PIRO

Brandon Jim On  
NOAA Office of Law Enforcement

Maile Norman  
U.S. Coast Guard

Joshua DeMello  
WPRFMC

Jared Underwood  
U.S. Fish and Wildlife Service

Brian Neilson  
Hawaii Division of Aquatic Resources

Kealoha Pisciotta  
Office of Hawaiian Affairs

Vacant  
Marine Mammal Commission  
U.S. Department of Defense

January 18, 2023  
9:00 a.m. – 1:00 p.m  
Via Google Meet Teleconference  
Meeting Minutes

**ATTENDEES:**

**RAC Voting Members Present:** Don Schug (Research), Mark Hixon (Research), Rick Gaffney (Secretary and Recreational Fishing), Linda Paul (Vice Chair and Conservation), Samuel 'Ohu Gon III (Conservation), Haunani Kane (Research), Solomon Kaho'ohalahala (Native Hawaiian Elder Primary), Holden Kalama'ehu Takahashi (Native Hawaiian), and Richard Lee (Ocean-Related Tourism Acting Primary)

**RAC Voting Members Absent:** Audrey Newman (Conservation), Judith Cucco (Citizen-at-Large), Pelika Andrade (Native Hawaiian), and Bonnie Kahapea-Tanner (Education Primary)

**RAC Non-Voting Members Present:** Nakoa Goo (Native Hawaiian alternate), Roberts Leinau (Conservation alternate), Doug Fetterly (Conservation alternate), Thorne Abbott (Conservation alternate), Kammie Dominique-Tavares (Citizen-at-Large alternate), Neal Langerman (Research alternate), Rick Hoo (Recreational Fishing alternate), William Walsh (Research alternate), Brian Neilson (DLNR-DAR), Dan Polhemus (USFWS), Joshua DeMello (WPRFMC), Zachary Yamanda (WPRFMC), Amanda Boyd (FWS), Maile Norman (US Coast Guard), Kaipo Perez (NOAA PIRO), Cynthia Vanderlip (DLNR-DOFAW)

**RAC Non-Voting Members Absent:** Heather Howard (Education alternate), Brandon Jim On (NOAA OLE), Kimberly Kealoha Pisciotta (OHA), Jared Underwood (FWS Refuges), Paul Badgley (Ocean-Related Tourism alternate),

**ONMS Staff and Others Present:** Eric Roberts (ONMS-PMNM), Alyssa Miller (ONMS-PMNM), Kilo Ka'awa-Gonzales (ONMS-PMNM), William Aīla Jr (Previous RAC Chair), John Lynham (University of Hawai'i)

**Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve**  
**ADVISORY COUNCIL MEETING**

**Welcome (Chair Paul)**

The meeting opened with a welcome by Chair Linda Paul, and an opening protocol conducted by Kilo Ka’awa-Gonzales.

**Roll call, Introductions, Review and Approval of Agenda (Chair Paul)**

Roll call was taken by Catherine Takata.

Review and approval of the agenda was conducted by Chair Paul.

Representative Don Schug moved to accept the agenda, and Representative Doug Fetterly seconded the motion. The agenda was adopted unanimously.

**Review & approval of November 18, 2022 Meeting Minutes (Chair Paul)**

Review and approval of the meeting minutes were conducted by Chair Paul. Representative Schug moved to accept the minutes, and Representative Fetterly seconded the motion. The minutes for the November 18th meeting were adopted unanimously.

**Overview of and Secretary election process (Catherine Takata)**

PMNM staff gave a brief description of the Secretary officer position that was available for nomination. Staff gave a short tutorial on the virtual election process using the poll feature in Google Meet.

**Review & Summary of Previous Issues, Action Items and Status (Chair Paul)**

- DAR: 30x30 Initiative (Brian Neilson)
  - DAR is moving forward with Holomua 30x30 with Maui community members to create managed marine networks. DAR will trial this method on Maui to adjust for other islands. There were plans for three community meetings on Maui in December to reach different people.
  - The goal of those meetings is to receive updates on issues and to nominate community members to the navigation team. The team will represent different sectors of fishing for a wide spectrum of nearshore ocean users. Twenty individuals will develop a plan for marine managed networks with plans to start meetings in February 2023.
  - Members of the fishing community led their own meeting but stayed very transparent with DAR. They were not co-sponsored by DAR but the State was invited on Kaua’i, Maui, and Hawai’i Island.
    - The fishing community was excited to get people to participate. It was a bit provocative by intention.
    - There was mis-information campaigns and social media.
    - Legislators tried to engage in crisis management.
  - Updates to Holomua
    - New DAR Administration is leading the change for Holomua. DAR is dropping “30x30” as a goal and slogan to determine a more broad goal and include ideas from the community such as:
      - island based bag limits
      - marine managed areas

**Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve**  
**ADVISORY COUNCIL MEETING**

- Questions
  - Have they considered the progress other countries have taken? 30% sustainability has been a global goal so what are they doing? What is the governor thinking about this as a long term goal of sustainability? Is that message just not getting through? (Chair Paul)
    - Governor Green did come out as a supporter during his campaign. I'm not sure if he's taken a new position or not. Developing sustainability goals is a top priority. I'm not sure if he's made any decisions yet, although he did pledge to focus on climate which is hard to do without ocean management (Brian Neilson).
    - Would a letter help? (Chair Paul)
    - Legislators are not hearing from people, mostly the opposition. People are more motivated if they don't want to do something. Mark Hixon was at the hearing if he wants to jump in (Brian Neilson).
    - It was clear that at least one member of the Senate committee went overboard in berating DAR undeservedly. It is not an unbiased hearing because attendees were not allowed to speak unless they had been invited. I did not see it as a particularly constructive meeting (Mark Hixon).
    - It might be inappropriate from our position from the Northwest Hawaiian Islands to give advice on Holomua. I think it would be helpful to reach out to our legislators as individuals to make those points (Rick Gaffney).
- ONMS: NFWF Funding and Activities
  - There is a request for proposal out for this time - Coral Reef Conservation fund. The pre-proposal date is February 9th.  
<https://www.nfwf.org/programs/coral-reefs>
  - Eligible:
    - NFWF: Eligible applicants include non-profit organizations, state government agencies, local governments, municipal governments, Tribal governments and organizations, and educational institutions, including parties within and outside of the United States.
    - Ineligible applicants include U.S. Federal government agencies and for-profit entities.
- Questions
  - Who is eligible?
    - There are not many limitations, certainly researchers and educators (Eric Roberts).
- NMFS: Magnuson-Stevens Fishery Conservation and Management Act
  - There is no update to MSA since there is a new Congress, so it'll start all over. The House of Representatives is now majority Republican and everything starts anew this month (Josh DeMello).
  - No MSA updates from NOAA Fisheries (Kaipo Perez).

**Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve**  
ADVISORY COUNCIL MEETING

**Monument Co-Trustee/Management Agency Updates/Highlights**

- NOAA Office of National Marine Sanctuaries (Eric Roberts)
  - Mokupāpapa Discovery Center Welcomed 2,478 visitors to the facility and outreach activities and the Kenyan K. Beals Community Robotics Center welcomed 103 community members to connect with their weekly robotics activities.
  - Malia Evans, O‘ahu Education and Outreach Coordinator, traveled to Auckland, Aotearoa to train 50 [Young Pacific Leaders](#) (YPL) at a [TechCamp](#) hosted by the U.S. Department of State, the [U.S. Embassy New Zealand](#) and Cultural Vistas to highlight innovative ways of incorporating traditional ecological knowledge in technology and management strategies.
  - Papahānaumokuākea Marine Debris Project (PMDP) shared their 2022 field season success in removing over 200,000 pounds of marine debris from Papahānaumokuākea, as part of the [National Marine Sanctuaries Webinar Series](#) and the Mokupāpapa Third Thursday by the Bay Lecture Series.
  - The Nā Wa‘a Mauō Marine Stewardship Program, established through the 2022–2024 NOAA B-WET grant, hosted a field day for twenty-one Kea‘au High School students to introduce them to practices and methods that blend institutional and indigenous sciences.
  - PMNM staff member Malia Evans partnered with B-WET Grantee Boys and Girls Club (BGC) and the Girls Scouts of Hawai‘i to provide a memorable educational activity at the BGC ‘Ohana Night, an intergenerational event for K-12 club members and family to connect people to new content and develop a deeper interest in the issues affecting the kūpuna (elder) islands of Papahānaumokuākea.
  - PMNM scientists published the scientific description of a new species of red algae from Papahānaumokuākea. The new alga, *Calliblepharis yasutakei*, was named after widely respected marine educator and scientist Yumi Yasutake.
  - *Coral Reefs* published the paper, “Using commercial high-resolution satellite imagery to monitor a nuisance macroalga in the largest marine protected area in the USA” which confirmed that dark patches visible in readily available World View 2 (WV2) imagery coincided with areas of heavy infestation by *Chondria tumulosa*, the invasive alga recently described from Manawai (Pearl and Hermes Atoll, PMNM).
  - Papahānaumokuākea has received new emergency preparedness and disaster kits to enhance mission readiness at the IRC. These kits were awarded by the Disaster Preparedness Program under the 3rd Annual NOS Lagniappe Award.
  - PMNM Field Team members prepared and deployed an acoustic mooring package for the Sound Monitoring Project Sanctuary Soundscape Monitoring Project (SanctSound) in the waters off Makapu‘u, O‘ahu.
  - *Frontiers of Biogeography* published an article proposing “The Habitat Persistence Hypothesis” (HPH) to explain the biogeographical distributions of organisms inhabiting tropical coral reefs. The HPH implies that the shallow-reef distributions observed today are the result of processes happening on timescales of tens of thousands of years, rather than hundreds of thousands or millions of years.
  - *Algae* published the description of a new species of red algae, *Halopeltis nuahilihilia*, from Hawaiian Islands Humpback Whale National Marine Sanctuary (HIHWNMS) waters off Hawai‘i Island. The Hawaiian species epithet was

**Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve**  
**ADVISORY COUNCIL MEETING**

conferred by the PMNM Native Hawaiian Cultural Working Group. “Nu‘a” describes the thick growing nature of the alga. “Hilihili” refers to the action of braiding or plaiting. Together, these names honor the twisted-like appearance of this alga, which also earned it the nickname, “Mr. Twisty”, from scientists.

- PMNM Field Team members worked to reconstitute PMNM’s technical dive program, as well as their CCR gear, to make sure they are prepared to facilitate deep water data collection within PMNM this summer.
- Papahānuamokuākea and NOAA staff win the “People’s Choice Award” at an all-NOAA gingerbread house competition. The annual competition challenges teams to create the best 100% edible holiday sculpture within a 2-hour window.
- NOAA Fisheries PIRO (Kaipo Perez)
  - PIRO Updates:
    - Ms. Sarah Malloy is continuing to serve as the Acting Regional Administrator
    - Ms. Michelle Mansker is continuing to serve as the Deputy RA
  - Pacific Islands Science Center (PIFSC) Updates:
    - Mr. Michael Seki retired in December 2022
    - Ms. Tia Brown is the Acting PIFSC Director
    - Mr. Josh Jackson is the Acting Deputy
  - Protected Species Division
    - Hawaiian Monk Seal Research Program (HMSRP):
      - The Program is analyzing data from the 2022 field season and is preparing the annual population summary update, which should be available in spring 2023.
      - Staging and de-staging for the NWHI field camps continues, which is a year-round effort for the Program
      - The five (5) NWHI monk seal patients currently in care at The Marine Mammal Center’s Ke Kai Ola facility are doing well on their road to rehabilitation and future release back into the wild. As of January 2023, all patients are free-feeding on their own and steadily gaining weight.
      - Thanks to the support of the Co-Managers and permit coordinators, especially Kaipo Perez, HMSRP’s monk seal research and recovery activities in PMNM will return to being included in the 2023 Co-Manager’s Permit rather than a stand-alone permit, as it has operated for the last several years.
      - In 2023, and in coordination w/ MTBAP, the HMSRP plans to deploy the Lalo (French Frigate Shoals) field camp from approximately May-Sept via a charter vessel (contract in progress).
        - In 2023, the HMSRP will not deploy field camps at the other 4 field camp sites as is typically done each year. Instead, HMSRP will conduct its first Abbreviated Assessment, with a desired timeframe of late summer/early fall (dates TBD). This is an

**Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve**  
**ADVISORY COUNCIL MEETING**

approximately one month total effort that will deploy and recover short 1-2 week mini-camps at Kamole (Laysan), Kapou (Lisianski), and Manawai (Pearl and Hermes Reef) to conduct Hawaiian monk seal surveys.

- This pilot effort includes alternating full field camp seasons at all 5 sites every other year, rather than annually, with Abbreviated Assessments occurring in the intervening years, with the exception of Lalo (French Frigate Shoals), where field camps will continue annually. We expect that in 2024, HMSRP will conduct its “usual” seasonal (~May-Sept) field camps at all sites again. HMSRP is seeking greater partnership with other entities conducting research and conservation in PMNM to augment life-saving interventions for monk seals and contribute sightings data when its field teams are not on the ground.
- Marine Turtle Biology and Assessment Program (MTBAP):
  - MTBAP continues to digitize and quality-control data from the 2022 field season and is preparing an annual report which should be available in the coming months.
  - Staging and de-staging for the NWHI field camps continues, which is a year-round effort for MTBAP. Currently, the specific focus has been on purchasing needed supplies for the coming season.
  - In 2023, and in coordination w/ HMSRP, MTBAP plans to deploy the Lalo (French Frigate Shoals) field camp from approximately May-Sept via a charter vessel (contract in progress).
  - MTBAP, along with our collaborators from the University of Florida, are currently finalizing data analysis for an upcoming manuscript that will describe, for the first time, the differences between nesting demographics before and after Hurricane Walaka severely damaged nesting areas at Lalo.
- Cetacean Research Program (CRP):
  - CRP is currently planning for the Hawaiian Islands Cetacean and Ecosystem Assessment Survey (HICEAS) for the summer and fall of 2023. Parts of this survey will be conducted in PMNM (both original and expansion areas).
- Ecosystem Sciences Division
  - Archipelagic Research Program (ARP)
    - No updates at this time.
- USFWS Refuges (Amanda Boyd)
  - Midway Seabird Protection Project Updates (Mouse Eradication)
    - For those who may not know, the Midway Seabird Protection Project was delayed last year due to supply chains slowed by the pandemic. There was limited availability of the rodenticide needed for the project.
    - Good News! The eradication officially kicks off next week when the Laysan Duck team arrives at Midway and starts phase 1 of capturing ducks on Sand Island and moving them to Eastern Island.
  - Midway Atoll Short-Tailed Albatross Update

**Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve**  
**ADVISORY COUNCIL MEETING**

- We've had 6 short tailed albatross on Midway with a successful breeding pair with one new chick (this week!)
- The 2019 chick has returned this season which is great news for critically endangered birds.
- Nihoa Cenchrus Eradication
  - Cenchrus echinatus or Common Sandbur Eradication efforts continue to be a success at Nihoa. We have 2 trips planned this year, one in May and one in September.
  - We're planning on continuing to visit Nihoa twice a year for the next 5 years to control and hopefully eradicate the aggressive invasive species.
  - Nihoa was awarded a 1 million dollar award from the FWS invasive species program to control cenchrus for the next 5 years.
- Hiring and Staff Updates
  - FWS has been busy hiring recently:
    - Dan Link returned to the PMNM team
    - Anna Vallery was recently hired to join the Biology team. She will be working on some projects in PMNM. Anna spent this last season as the Kamole crew leader.
    - Meagan Selvig was recently hired to join the Biology team. She will also be working on projects within PMNM. Megan has spent multiple seasons working for the Monk Seal Program at NMFS.
    - We are currently interviewing candidates for an invasive species biotech.
  - Midway Atoll NWR Manager Pam Repp retired at the end of December. Her deputy Eldridge Naboa is acting as Refuge Manager at this time.
  - Eldridge Naboa recently accepted the Hakalau NWR Biologist position on the Big Island. He leaves Midway on Feb. 21st. I will be acting as refuge manager upon his departure and will continue to act until April 6th. We are hoping to advertise the Midway Manager and Deputy manager positions in the near future.
- Questions:
  - Moving petrel chicks to the main Hawaiian islands, can you speak about that (Don Schug)?
    - FWS has teamed up with Pacific Rim Conservation to translocate petrels. These birds will be losing their homes with climate change so moving them to O'ahu or Kaua'i is what we need to do to allow them to breed. It's been really successful (Amanda Boyd).
  - The RAC should request for Eric Vanderwerf from Pacific Rim Conservation to give a presentation (Chair Paul).
- USFWS Ecological Services (Dan Polhemus)
  - 2022 Year Climate in review:
    - 2022 ended up being slightly warmer than 2021.
    - It continues to be one of the top 8 warmest years on record.
  - Precipitation

**Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve**  
**ADVISORY COUNCIL MEETING**

- Hawaii is having a drier than average wet season as the warmer atmosphere holds more water. It really has been the year of drought.
- Although California has received moisture from the atmospheric river, they are still in a drought, especially since the state is coming out of one of their drier winters.
  - In the Colorado River basin, Lake Powell in Utah (second largest reservoir in the US) is now less than 24% full
- 2022 was both warm and dry here and on the mainland.
- We're in La Niña years with warmer water up in the Northwest Hawaiian Islands.
  - It's almost certain we have coral bleaching out in the Northwestern Hawaiian Islands but with a lack of expeditions and camps makes it hard to monitor. Now, we're almost "out of the woods" of bleaching events. At this point heating was moved south of the equator in the Southern Hemisphere summer. There is a high likelihood of bleaching in Papua New Guinea, New Caledonia, Fiji and Tonga, with American Samoa on the periphery of this event.
- Climate models are telling us we're going to be going out of La Niña and into ENSO-neutral.
  - However, the probability of transitioning into El Niño will rise, often when we leave La Niña. Then, there is a sudden warming regime of El Niño.
  - We are close to a point of having some degree of bleaching every year
- Questions:
  - In the Great Barrier Reef, they use aircraft to monitor the effects of climate change? Would that be possible (Mark Hixon)?
    - The Great Barrier Reef has the opportunity to be monitored closely because of its close proximity to land to fuel up more easily. It's hard to get out to our remote areas in the Northwestern Hawaiian Islands (Dan Polhemus).
    - What about drones (Chair Paul)?
    - Yes, the Department of Defense has drones that would be equipped with the right software and material that we could use (Dan Polhemus).
    - If there's small boat availability at Midway, you could monitor Kure and Pearl and Hermes Atoll without a NOAA vessel (Rick Gaffney).
    - We were able to partner with NASA with a predator-like drone to test new equipment but we're always looking out for more agencies to partner with (Eric Roberts).
- State of Hawai'i DLNR - DAR (Brian Neilson)
  - See update above.
- State of Hawai'i DLNR-DOFAW (Cynthia Vanderlip)
  - There are plans to translocate additional Laysan ducks to Kure Atoll to increase genetic variation of stock. We will be releasing an additional 20-25 ducks.
  - We have greatly improved the habitat for ducks and been increasing with a carrying capacity at about 150.



**Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve**  
ADVISORY COUNCIL MEETING

- The site needs more water sources. We currently have up to nine with not much more for plants/habitat for the ducks.
- Kure Conservancy received a grant from NFWF in which we hired a field camp leader to go out this February 2023.
- Office of Hawaiian Affairs (Kealoha Pisciotta)
  - No updates at this time.

**Supporting Agency Updates/Highlights**

- Enforcement
  - No updates at this time.
- Western Pacific Regional Fishery Management Council (Josh Demello & Mark Fitchett)
  - Josh Demello and Mark Fitchett (Pelagic Fisheries Ecosystem Scientist, WPRFMC) gave a brief presentation to discuss their critique of a recently published paper [\*Spillover benefits from the world's largest fully protected MPA\*](#), referring to reported benefits from expanding the Papahānaumokuākea Marine National Monument (PMNM) in 2016. They shared their conclusions with WPRFMC to be considered in the draft potential fishing regulations in the Northwestern Hawaiian Islands Monument Expansion Area (MEA).
  - WPRFMC met Dec 5-8th in Honolulu to discuss draft regulations
    - The RAC was briefed on WPRFMC's action items including recommendations amending the Hawaii and Pelagic Fishery Ecosystem Plan (FEP) to prohibit commercial fishing and allow for sustainable non-commercial fishing and Native Hawaiian subsistence fishing practices in the Monument Expansion Area (MEA), including bringing back resources to the main Hawaiian Islands ([WPRFMC Action Memorandum](#), page 2-5)
    - Questions:
      - How would the council envision the \$15,000 USD cost recovery plan being monitored (Don Schug)?
        - We worked with the National Marine Fisheries Service Economics team to amend that amount. There would be a two step process to 1) See what the Native Hawaiian subsistence fishing process would be and 2) See the proof or invoice to determine the amount (Josh Demello).
      - Has the Office of Law Enforcement commented on that (Don Schug)?
        - There were more concerns about things like using VMS to track fishing but no specific comment on the limit (Josh Demello).
      - It seems there is a lot of exchange of money which seems “commercial” to me. Can you convey the sustainable fishing aspect?
        - We don't deal with the way people think sustainability is defined. We are limited by the federal government by measuring stock productivity through maximum sustainable yield (MSY). Those are the industry and federal standards we abide by. For commercial versus noncommercial, getting money for fish can be commercial. NOAA general counsel has provided information that (cost recovery) it is not commercial fishing. They do not consider

**Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve**  
**ADVISORY COUNCIL MEETING**

themselves commercial for getting gas or other purposes (Josh Demello).

- Can you please give more details on how you came up with the \$15k cost recovery figure (Rick Gaffney)?
  - We talked about the cost and the historical cost of fishing, with inflation. That number [\$15k] seems high but without someone there today, it has to be estimated. We are going to be looking at this number again as the analysis continues to get this as precise as possible (Josh Demello).
  - Can I assume then, that you incorporated cost estimates like bottom fisherman that had permission to fish (Rick Gaffney)?
  - Yes. Since we had estimates from the late 1990's to 2004, they acted as a baseline for the figure amount.
- Google Meet chat:
  - Josh: "FYI - the Hawaii-based US longline fishery has not fished 0 - 50 nm from the NWHI since 1991. Federal records show there have been zero interactions with short-tailed albatross in that fishery."
  - Josh: "Link to SPC press release and access to Hampton et al 2023 paper on evaluating PIPA and other MPAs on tuna fisheries:  
<https://www.spc.int/updates/news/media-release/2023/01/are-marine-protected-areas-effective-for-tuna-conservation>"

## **Presentations**

### **Fishery Spillover Research from Papahānaumokuākea Marine National Monument** (John Lynham)

Dr. John Lynham gave a short presentation on his recent study with Sarah Medoff and Jen Raynor on spillovers from MPAs published in *Science*, [Spillover benefits from the world's largest fully protected MPA](#).

- The study used a method from the Canadian Journal of Fisheries and Aquatic Sciences to test whether a protected area is generating spillover benefits of that protected area.
- They established three levels of evidence for whether a spillover is happening: a bronze, silver, and gold standard.
  - Bronze Standard: After the protected area goes into place, the catch per unit effort (CPUE) goes up (low bar as changes in environmental conditions can change the CPUE).
  - Silver Standard: It is similar to trying to replicate a medical trial in the ocean. Like a vaccine, a large amount of people receive treatment or control through randomization. There's a widening over time of a clear difference of cumulative people who got the vaccine and the placebo vaccine.
    - Replicated as best they could, to create this for spillover benefits.
    - Setup a treatment and control area to test for any evidence (spillover or abundance of fish) in the Monument.
    - A dataset was used from the longline fishery with a variety of versions of data - over 120,000 individual fishing sets.

**Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve**  
**ADVISORY COUNCIL MEETING**

- Compared CPUE between “near” and “far” areas.
- As medical trials track the people over time to ensure randomization, Dr. Lynham checked the difference of CPUE was roughly the same through the Monument Expansion Area (MUA).
  - Differences in average annual CPUE in the near and far area - you’d like the difference to be zero in each area (zero abundance of fish)
  - Increase in near and far area after the Monument expansion
- Difficulty defining the near and far areas/boundaries of the monument as it is hard to define since this is the first study of its kind in the largest non fishing area in the world.
- Robustness check - abundance of phytoplankton and big eye tuna as use for a proxy for the same environmental conditions during expansion
- Gold Standard: Constraints by re-allocation of fishing boats that may influence the spillover
  - Fishing close to boundary can increase CPUE
  - Proves that there was an increase of CPUE at the individual boat level

**Kupuna Council Working Group Updates (Rick Gaffney)**

- Staff gave a brief presentation on Advisory Council working groups including their purpose, membership criteria, and establishment.
- The working group had their first meeting on January 11, 2023 to determine purpose and objectives:
  - Purpose: A council of kupuna and knowledgeable members of the advisory and management family of the Northwestern Hawaiian Islands who can provide guidance and historical knowledge during the Papahānaumokuākea national marine sanctuary designation process.
  - Objectives: Provide the full Reserve Advisory Council and Office of National Marine Sanctuaries (ONMS) with guidance for the sanctuary process and implementation.
- The working group determined external membership criteria and nominated Rick Gaffney as Chair and Sol Kolomona Kahooalahala as Vice Chair.
- The working group was created without objection from the council or staff.

**National Marine Sanctuary Designation Process Updates (Eric Roberts)**

Eric Roberts (Acting Superintendent) gave an update on the sanctuary designation process for the proposed national marine sanctuary.

- The scoping process was completed in Winter 2021 where the Council was able to submit public comments.
- Currently, we are in the draft phase as we await the draft management plan, draft regulations, and draft environmental impact statement (EIS).
- Following the public release of these documents, the RAC will participate in the public comment period to add comments or recommendations to the federal registry regarding the regulation package.
- Questions:

**Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve**  
**ADVISORY COUNCIL MEETING**

- So we cannot comment on the EIS or other documents before the public release of the documents (Don Schug)?
  - The RAC cannot see the documents before the publishing since this body is made up of the public (Eric Roberts).
  - The RAC did formally submit a request for Middle Bank and how it should be analyzed in the EIS. We hope you keep those in mind. We can reiterate those recommendations, if necessary (Don Schug).
  - Those letters and recommendations are on record since they have reached the highest level of NOAA. It will be further considered (Eric Roberts).
  - People took time to submit those public comments during the meeting so I hope those are included in the EIS (Don Schug).

**RAC Discussions (Chair Paul)**

- Cultural Fishing Practices: subsistence vs. sustenance (William Ailā)
  - William Ailā (Previous RAC Chair) shared a few short words on the differences between subsistence and sustenance fishing practices to inform the Council members of the recent Western Pacific Regional Management Council draft regulations.
- Comments:
  - Multiple Council members appreciated the definitions and guidance from William and reminisced about their history and travels to the Monument.
  - Don Schug confirmed it was valuable and highlighted the Native Hawaiian Cultural Working Group's letter and draft recommendations that explained Native Hawaiian fishing practices in the Monument.

**Public Comment (Chair Paul)**

There was one pre-registered public comment that was submitted to be read aloud.

- Ray Hilburn (University of Washington)
  - My comment concerns Dr. Lynham's work estimating spill over from the expanded marine monument and how there can be a significant impact when there was very little fishing inside the monument before expansion and his response to the recent paper in *Frontiers* by Hampton et al showing that the Phoenix Islands MPA had no significant impact on tunas despite the fact that there was far more fishing in that reserve prior to establishment than in the Hawaii reserve.
- Chair Paul called for public comments on the call and no additional comments were made.

**Wrap Up, Decisions (Chair Paul)**

- Secretary Election (member poll)
  - Chair Paul called on PMNM staff to start the election for Advisory Council Secretary. Staff received one nomination for the open position. Council members voted virtually through the Google Meet polling feature.
    - Don Schug received a simple majority and was elected Secretary.

**Decision Making, Wrap (Chair Paul)**

**Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve**  
**ADVISORY COUNCIL MEETING**

The Council discussed the next meeting date and format. There was overwhelming interest for a hybrid (in-person with remote component) meeting so members could collaborate together. The Council agreed to have a hybrid meeting on Wednesday, April 19, 2023 in Honolulu (location and time to be determined).