



NOAA
FISHERIES

Pacific Islands Regional Office

Federal Programs Office 2019 Annual Report



A Message from the Regional Administrator

We are pleased to announce that in fiscal year 2019 (FY19), the Federal Programs Office of the NOAA Fisheries Pacific Islands Regional Office (PIRO) funded 57 projects totaling \$7,529,830 in grants, cooperative agreements, and awards to constituents in support of the NOAA Fisheries mission. We issued these awards through competitive and noncompetitive financial assistance programs. Recipients of the federal awards included 29 U.S. and international agencies and organizations from Hawai'i, the Commonwealth of the Northern Mariana Islands (CNMI), Guam, American Samoa, and the greater Pacific.



Michael D. Tosatto

PIRO manages programs that support both domestic and international conservation and management of living marine resources within the Pacific Islands Region (PIR), which is comprised of American Samoa, Guam, Hawai'i, the CNMI, and other U.S. Pacific Islands. Our vision is to achieve healthy marine ecosystems that provide: stability for fishery resources; recovery of threatened and endangered species; and enhanced opportunities for commercial, recreational, and cultural activities in the marine environment.

PIRO is responsible for assisting the Western Pacific Fishery Management Council (WPFMC) in developing fishery management plans and amendments. In addition to PIRO and the WPFMC, the NOAA Pacific Islands Fisheries Science Center (PIFSC) and the NOAA Office of Law Enforcement (OLE) also collaboratively support the conservation and management of marine fisheries, protected species, and marine habitat. Working together, these offices are committed to employing regional expertise to provide improved customer service and stewardship of living marine resources within this expansive geographic region.

Our efforts will continue to focus on capacity building, grant writing, and proposal-development training for Hawai'i and the territories, and working with communities to develop innovative projects that help NOAA Fisheries provide stewardship of living marine resources through science-based conservation and management in our region.

A handwritten signature in black ink, appearing to read "M. D. Tosatto". The signature is fluid and cursive, with a large initial "M" and a stylized "D" and "T".

Front cover: Male Kona crab captured on a tangle-net. Photo: Poseidon Fisheries Research

Front cover inset: Female Kona crab tagged around the right chela ready for release. Photo: Poseidon Fisheries Research

Back cover: University of Hawai'i student learning how to use quadrangles to monitor coral reefs. Photo: Jeff Kuwabara



Students from Kohala Unupa'a Watchers and Caretakers sail their student built wa'a along the Kohala Coast. Photo: Mike Frailey

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Federal Programs Office

The Federal Programs Office is located at PIRO in Honolulu, Hawai'i. With technical assistance from PIRO and PIFSC staff, Federal Program Officers administer grants and cooperative agreements throughout the award period, from the initial solicitation through post-award management. They also work closely with the NOAA Grants Management Division, technical monitors, and grant recipients throughout the award period to facilitate the successful completion of each grant's project objectives.

The Federal Programs Office supports the NOAA Fisheries mission through competitive and noncompetitive grants and cooperative agreements. PIRO funded the following grant programs during FY19:



PIRO Federal Program Officers: Mela Flores, Scott Bloom, and Penny Larin.

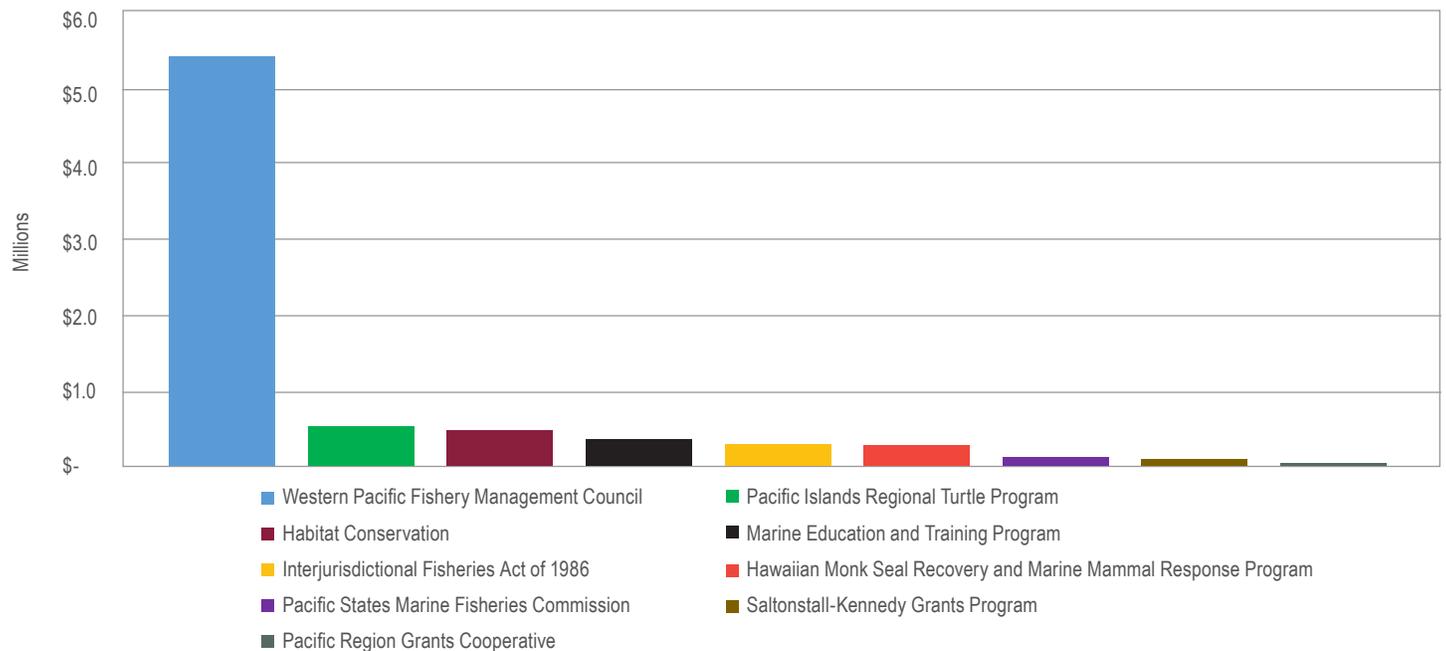
- Western Pacific Fishery Management Council
- Pacific States Marine Fisheries Commission
- Saltonstall-Kennedy Grants Program
- Marine Education and Training Program
- Pacific Islands Region Marine Turtle Program

- Hawaiian Monk Seal Recovery and Marine Mammal Response Program
- Interjurisdictional Fisheries Act of 1986
- Habitat Conservation Program
- Pacific Region Grants Cooperative

Highlights of PIRO's Federal Programs Office Activities

- Expanded partnerships and collaborative efforts with public and private partners in the PIR to further NOAA's mission through federal financial assistance
- Awarded \$7,529,830 in grants and cooperative agreements

Summary of Fiscal Year 2019 Funding



Western Pacific Fishery Management Council

The WPFMC prepares, monitors, and revises fishery-management plans for domestic and foreign fishing within the 200-mile U.S. Exclusive Economic Zone (EEZ) in the western and central Pacific Ocean. PIRO is in charge of implementing the management measures created by WPFMC and NOAA OLE, and the U.S. Coast Guard 14th District and local enforcement agencies enforce the measures.

In FY19, PIRO funded the fifth year of a 5-year cooperative agreement to support the WPFMC base administration and operations. The WPFMC received \$4,223,740 for the following activities under this 5-year cooperative agreement:

1. Council Base Administration and Operations (\$3,133,566)
2. Annual Catch Limits Implementation (\$197,528)
3. Territorial Science Initiative (\$163,875)
4. Council Peer Review (\$142,075)
5. Territorial Data Management Workshop (\$90,000)
6. Magnuson-Stevens Act Implementation (\$89,234)
7. National Environmental Policy Act (NEPA) (\$88,998)
8. High School Fisheries Workshops (\$62,500)
9. Scientific and Statistical Committee (\$55,764)
10. Council Education Committee Internships (\$50,000)
11. Council Education Committee Scholarships (\$50,000)
12. Support to the Western and Central Pacific Fisheries Commission's Purse Seine Species Composition Study (\$50,000)
13. Electronic Reporting—Training and Outreach in the Hawai'i Longline Fishery (\$25,200)
14. Meeting Support for the Western and Central Pacific Fisheries Commission (\$25,000)

PIRO funded two financial assistance awards to support WPFMC's protected species conservation and management program. The awards, totaling \$704,590, encompass the following activities:

1. Ecosystem-Based Fisheries Management Project for Protected Species Impacts Assessments for Hawai'i and American Samoa Longline Fisheries (\$200,000)
2. Protected Species Conservation and Management Coordination (\$200,000)
3. Research on Shark Interactions in Fisheries Within the Mariana Archipelago: Species Composition, Interaction Risks, and Human Dimensions (\$150,000)
4. Sea Bird Mitigation: Tori Lines Study (\$99,090)
5. Improving Post-Hooking Survivorship Estimates of Leatherback Turtles: Designing a Cost-Effective Tag Head for Boat Side Deployment in the Hawai'i-Based Longline Fisheries (\$55,500)



Annual high school summer fisheries course. Photo: WPFMC

PIRO funded one financial assistance award via the Western Pacific Sustainable Fisheries Fund as identified in the MSRA §204. The WPFMC received \$502,000 to support the implementation of the four activities described below.

1. **CNMI Fisheries Development of Underutilized Resources (\$250,500):** The goal of the project is to increase fishery participants to meet expanding local and visitor demand and to reinforce the importance of managing their business operations and compliance with local and federal regulatory requirements. This effort will expand support for advanced fishing and product handling training, alternative marketing strategies (fresh and value added), and hands-on demonstrations.
2. **American Samoa Longline Fresh Fish Pilot Project (\$165,500):** This project proposes to support a pilot initiative that will demonstrate the feasibility of the fishery to deliver fresh fish to the local markets. It will also determine the cost effectiveness and feasibility of exporting the products to overseas markets. A coordinated approach to deliver large-scale fresh fish from later sets and hauls will allow the fishery to sell to both the cannery and other markets while potentially expanding overall economic growth in American Samoa.
3. **American Samoa Bottomfish Fisheries Demonstration and Training Project (\$65,500):** This project proposes to demonstrate the viability of the fishery through established catch and marketing efforts using technology available to the fishery today.



WPFMC scholarship recipient Carey Demapan conducting community outreach on sea turtles on Saipan. Photo: WPFMC

4. **American Samoa Fishery Outreach (\$20,500):** This project proposes to support the above American Samoa efforts through outreach. The project will provide the public with printed materials on the bottomfish and longline fisheries, which will also be presented at education and outreach events. It will also use teacher workshops, Fishers Forums, fishing tournaments, and other events as platforms to provide outreach and education on American Samoa's local fisheries to the general public.

Pacific States Marine Fisheries Commission

In FY18, the Pacific States Marine Fisheries Commission (PSMFC) was awarded a NOAA multi-regional composite cooperative agreement to manage, enhance, restore, and maintain the shared fisheries, protected species, and fisheries habitat of the participating jurisdictions. The cooperative agreement supports the conservation and restoration of marine fishery resources and their habitat, as well as the maintenance, enhancement, and improvement of public uses and benefits from these resources, including seafood production, recreation, and commerce. In FY19 PIRO funded \$100,000 to support activities administered by the PSMFC.

Meeting support for the Northern Committee to the Western and Central Pacific Fisheries Commission (\$100,000)

The project supports the 15th Regular Session of the Northern Committee (NC) to the Western and Central Pacific Fisheries Commission (WCPFC) as well as the 4th WCPFC-NC and Inter-American Tropical Tuna Commission (IATTC) Joint Working Group Meeting on the management of Pacific bluefin tuna and the 2nd Catch Documentation Scheme workshop for bluefin tuna.

Saltonstall-Kennedy Grant Program

The Saltonstall-Kennedy (S-K) Grant Program is a national competitive program administered by NOAA Fisheries. The program provides financial assistance (grants and/or cooperative agreements) for research and development projects that benefit the U.S. fishing industry. The program's statutory authority is the S-K Act, as amended (15 U.S.C. 713c-3). The S-K Act established a fund for the Secretary of Commerce to provide funding support for projects addressing aspects of U.S. fisheries, including, but not limited to, harvesting, processing, marketing, and associated infrastructures. In 2019, PIRO awarded \$91,189 in federal funds via the S-K Grant Program to a single award.

Poseidon Fisheries Research LLC — Mark-Recapture as a Tool to Assess Kona Crab (*Ranina ranina*) Post-Release Mortality and Local Population Estimates for the Main Hawaiian Islands (\$91,189)

This study seeks to verify the post-release mortality of Kona crabs by tagging injured crabs and recapturing them in situ. Kona crabs are highly sought-after and the fishery has a 4-inch minimum size catch limit and a ban on taking female crabs. These limits result in 80% of the total catch needing to be discarded — up to 60% of these released crabs die from injuries sustained during disentanglement, according to laboratory experiments, which may not represent the true effects of injuries in nature. For this project, researchers will compare the recapture rate of these injured crabs with the recapture rate of uninjured crabs. The work will address data gaps and produce a local mortality estimate to be used in future stock assessments. Additionally, researchers will calculate local population densities using a short-term mark-recapture model that assumes a closed system



Measuring the carapace length of a female Kona crab.
Photo: John Wiley, Poseidon Fisheries Research

with negligible recruitment, mortalities, immigrations, and emigrations. They will then produce a population estimate for the State of Hawai'i by extrapolating the density estimates and applying them to appropriate sandy bottom habitats based on benthic habitat data from the Pacific Islands Benthic Habitat Mapping Center.



Researchers release fingerling 'ama'ama (Hawaiian striped mullet) into a fish pond at He'eia Fishpond on O'ahu.
Photo: NOAA Fisheries

Project Update

The Oceanic Institute (OI) of Hawai'i Pacific University seeks to “develop and transfer economically responsible technologies to increase aquatic food production while promoting the sustainable use of ocean resources.” Supported by a Saltonstall-Kennedy National Program grant, OI is engaging in a project with Conservation International, He'eia Fishpond on O'ahu, Keawanui Fishpond on Moloka'i, and Haleolono Fishpond on Hawai'i Island to help traditional Hawaiian fishponds increase production and become economically sustainable. The institute has transferred hundreds of fingerling 'ama'ama (Hawaiian striped mullet) reared in its hatchery to the three fishponds. Managers at the fishponds are raising their mullets independently and will then compare notes, providing essential data about how different factors—such as fishpond location, size, and inputs like fish feed and water—affect the growth rate and health of fish. In time, the project could ultimately help optimize the production of the fishponds throughout Hawai'i.

Read more about the project in this PIRO feature story:
<https://go.usa.gov/xyDnx>

Marine Education and Training Program

In 2007, the Magnuson-Stevens Reauthorization Act was amended to include §305 (j), which provides guidance on the development of a marine education and training program. Public Law 109-479 states: “the Secretary shall, in cooperation with the Western Pacific Fishery Management Council, establish programs that will improve communication, education, and training on marine resource issues throughout the region and increase scientific education for marine-related professions among coastal community residents, including indigenous Pacific Islanders, Native Hawaiians, and other underrepresented groups in the region.” The Pacific Islands Region Marine Education and Training Program was established to meet Congressional intent. In 2019, PIRO funded 10 marine education and training projects in the amount of \$329,722.

University of Hawai‘i — UH Mānoa Marine Option Program (MOP) Support (\$140,000)

To provide experiential opportunities for students with ocean-related interests, MOP offers marine-education programs and activities for undergraduates across more than 40 disciplines. MOP continues to provide career counseling, help students identify and implement hands-on internships and research projects to meet their MOP certificate requirements, liaise with project mentors, and monitor student progress. MOP also provides scientific diving opportunities, which help to teach aspects of hands-on underwater-surveying practices and principles courses. Funding support comes from PIRO and the Office for Coastal Management.

Hawai‘i Academy of Science — Hawai‘i State Science and Engineering Fair (\$60,000)

Every student in the State of Hawai‘i has the opportunity to participate in a science fair activity, helping to build interest in marine and natural sciences. The science fair provides a platform for students to use the scientific method to investigate questions and solve problems in the real world. High school students interact with leading scientists in Hawai‘i to conduct in-depth and comprehensive science investigations. Exposure to science activities could provide a catalyst to increase the number of

students in Hawai‘i pursuing advanced degrees in areas of study related to STEM (Science, Technology, Engineering, and Math). The Hawai‘i State Science and Engineering Fair connects students, scientists, and teachers by leveraging partners and donors and offering scholarships and awards to winners.



Marine Option Program student learning SCUBA and marine science techniques. Photo: Jeff Kuwabara

Project Update

The University of Hawai‘i’s Marine Option Program (MOP) has been a leader in marine science education for nearly 50 years. Supported by the Marine Education and Training Grant program, MOP provides students with a wealth of career-advancing opportunities, including field courses that turn students into experienced scientific divers qualified to work on professional underwater research surveys and projects; internships and research experiences with various marine science agencies, including NOAA and the Hawai‘i Division of Aquatic Resources; and extensive professional connections. Alumni have gone on to hold top positions in state and federal agencies in the Pacific, including multiple offices within NOAA.

Learn more the Marine Option Program in this PIRO feature story: <https://go.usa.gov/xmSXd>

University of Guam — Enhancing Marine Science Capacity in the Western Pacific Through Science Internships at the University of Guam (\$25,000)

The University of Guam will select students with qualified projects from the Guam Island-Wide Science Fair for a science internship at the university. Project selection is based upon the student's abstract, oral presentation, and overall display. The student internship extends for 5 weeks from mid-June into July under the supervision of a qualified scientist engaged in marine research. The internship schedule begins with an orientation week followed by project initiation and data collection. The final week focuses on analyzing data and presenting summer research projects to the community in a mini science symposium

Hawai'i Department of Land and Natural Resources, Kaho'olawe Island Reserve Commission — Marine Science Education and Training from a Hawaiian Perspective on Kaho'olawe: A Pilot Program for Maui Youth (\$15,000)

KIRC enhances visibility and awareness of marine resource conservation and management of the island of Kaho'olawe, as well as employment opportunities in these fields. This pilot project works with Maui High School to support 16 students and two teachers in receiving education and training in marine science and Native Hawaiian knowledge, while fostering a culture of resource conservation and management. KIRC partners with local high schools and Native Hawaiian experts in the community to develop and deliver a specialized curriculum that focuses on integrating Native Hawaiian knowledge and traditional practices into science-based approaches to marine resource conservation and management. Program participants gain insight into potential education and employment opportunities available in these areas.

Kohe Mālamalama o Kanaloa — I Ola Kanaloa - Survey of Limu (Seaweeds) Around Kaho'olawe and Development of a Longitudinal Monitoring Method to Engage Volunteers in Kilo-Observation and Sustainable Subsistence Harvest (\$15,000)

Protect Kaho'olawe 'Ohana ('Ohana), in collaboration with The Limu Hui, Kaho'olawe Island Reserve Commission (KIRC), UH students, and Hawai'i

Division of Aquatic Resources, work collectively to plan and conduct shore-based intertidal surveys on Kaho'olawe. Project staff will use the research findings to identify and utilize bio-cultural indicators, allowing for consistent interactions to perpetuate cultural traditions associated with the use of limu, and to monitor and sustain the abundance of resources in the intertidal environment. I Ola Kanaloa engages with the 'Ohana and KIRC volunteers in longitudinal marine observation methods that train them to be observant and conscientious users of marine resources on their home islands.

Lokahi Fishing, LLC — Marketing and Outreach for a Lokahi Fishing Smartphone Application That Connects Fishermen to Fishermen and Fishermen to Fish (\$15,000)

Lokahi Fishing, LLC developed a cell phone-based fishing application to unify the fishing community and build bridges with fishery scientists and managers. The app increases communication between fishermen, improves record keeping, and informs the community on important and timely fishing issues through the use of mobile technology. This project anchors the beta-test of the app by supporting development and production of marketing materials, presentations, and promotional products; app enhancement; and inter-island travel to expand the distribution and use of the app. The Lokahi app has eight features, including daily catch reports, video insider tips, wind-weather-tide and moon live data feeds, and safety at sea information. The app also features Mayday Red Alert and Dead in the Water Yellow Alert Push notifications when help is needed.

Mālama Maunalua — Preparing the Next Generation of Environmental Stewards (\$15,000)

Mālama Maunalua provides education and training opportunities for students looking to enter marine-related professions. The organization uses a robust intern-driven scientific research model to create a connection and responsibility to sustain the conservation of marine resources in Hawai'i. The internship program serves four to six undergraduate-to graduate-level interns per year working with teachers toward suitable projects catered to their interests or learning needs. The plan ensures interns are receiving feedback, support, and additional opportunities to participate in marine conservation on

O‘ahu through partner organizations. Focus is placed on at least two high-priority, expert-driven issues on the ecological health in the Bay. Technologies such as Geographic Information Systems (GIS) and drones and social or natural science tools (surveys and workshops, for example) help increase learning opportunities.

North Kohola Community Resource Center — Kohala Unupa‘a: Watchers and Caretakers (\$15,000)

Kohala Unupa‘a: Watchers and Caretakers fosters a productive and healthy fishery for future generations in weekly classes, workshops, and brochures. These courses and products share local and traditional knowledge and help to increase student observation and monitoring while they collect data at the shoreline. Students receive education to support fishery productivity and sustainability by developing and expanding established connections with experts and managers in the field. The project promotes community education and outreach related to culturally relevant sustainable fishing and safe boating practices. Kohala youth engage with kupuna (elders), cultural practitioners, university students, marine professionals, and community members in science-based and culturally relevant marine resource management practices.

Pacific Island Fisheries Group (PIFG) — Tag-It-Production of “How-to” Educational Public Service Announcements and Tagging Challenge Support (\$15,000)

This project supports PIFG’s cooperative finfish tagging program, which includes conventional and Pop-up Satellite Archival Tag (PSAT) tagging of offshore and nearshore species. PIFG has a successful history of supporting fishery research through a community-based capture, tag, and release program. Funds provide resources to develop “How-To” video products and targeted outreach to increase tagging project awareness and train taggers on proper handling procedures (to increase fish survival after tagging), tagging techniques, and submittal of tag release and recovery information. The PIFG volunteer tagging program continues to grow with various tagging projects that include nearshore (reef), pelagic, and bottomfish species.

Mālama Loko Ea Foundation — Kia‘i Loko Training Program (\$14,722)

The Kia‘i Loko Training project incorporates Hawaiian cultural learning and real-world experiences with restoring and managing Loko Ea fishponds. The



Mālama Maunaloa’s 2019 summer interns conduct field surveys to assess benthic cover. Photo: Alex Awo

components of history, traditional knowledge, and leadership are interconnected. The history component focuses on inspiring and understanding through mo'olelo—oral stories, protocol, and orientation. The traditional knowledge component delves into conservation, habitat restoration, and food production by teaching about healthy watersheds and traditional Hawaiian aquaculture. The alaka'i (leadership) component brings safety, administration, and kuleana — responsibility to place with field training to monitor water quality data and examining data for trends and contamination points. Propagation of native plants and activities support the restoration and management of a healthy ecosystem at Loko Ea.



Volunteers help with invasive grass removal from 400-year-old fishpond banks. Photo: Malama Loko Ea Foundation

Pacific Islands Region Marine Turtle Program

The Pacific Islands Region Marine Turtle Program supports specific programmatic activities for the conservation, protection, and management of listed sea turtle species in the PIR. These species may occur within the PIR or have documented linkages to the PIR, such as turtles that originate from areas outside of U.S. jurisdiction but migrate through or forage within the PIR, or interact with PIR fisheries managed by NOAA Fisheries. In 2019, PIRO issued nine federal assistance awards totaling \$527,270.

The Honu Project — Strengthening Monitoring Efforts for Hawksbill Sea Turtles on Hawai'i Island with the Hawai'i Island Hawksbill Turtle Recovery Project (\$90,434)

Hawksbill turtles (*Eretmochelys imbricata*) that reside in the Hawaiian archipelago are potentially the rarest population of sea turtles in the world. To protect and monitor hawksbill turtles, the Hawai'i Island Hawksbill Turtle Recovery Project was created in 1989 and has continued with these efforts since. The project aims to monitor beaches for hawksbill nesting activity, protect nests, and ensure hatchlings safely reach the ocean. The Honu Project collects data on the Hawai'i nesting hawksbill population to control non-native species on nesting beaches. The project promotes public stewardship of coastal and marine ecosystems through educational outreach. It also implements relevant and innovate management techniques to assist in the recovery of hawksbills as identified in the 2018 *Action Plan for Research and Management of Hawksbill Sea Turtles in Hawai'i*.

The Nature Conservancy (TNC) — Conserving Leatherback Turtle Nesting Beaches in Solomon Islands (\$84,546)

Under this project, TNC supports Solomon Islands communities in their efforts to protect and monitor two leatherback turtle nesting beaches during the 2019 and 2020 peak nesting seasons. TNC also brings together multiple stakeholders to develop and endorse a management plan for one of the largest leatherback nesting beaches in Solomon Islands. TNC is compiling



Hawai'i Island Hawksbill Turtle program staff relocate endangered hawksbill turtle nests to protect them from high surf, beach erosion, and predation from feral cats, rats and mongoose. Photo: Honu Project

an electronic database on all available leatherback turtle nesting data that has been collected in Isabel Province from 2007–2019 and will make this database publicly available. These efforts help conserve the critically endangered West Pacific leatherback turtle subpopulation and provide valuable insights into its population trends.



University of the South Pacific researcher measures, tags and obtains genetic samples of a green turtle as part of a study to increase our understanding of endangered Central South Pacific green turtles. Photo: University of the South Pacific

The University of the South Pacific — A Multi-Disciplinary Approach to Monitor Green Turtles from the Central South Pacific Distinct Population Segment (DPS) Aggregating at Three Foraging Grounds in Fiji, Central South Pacific (\$81,913)

This project brings an improved understanding of habitat use and impact of cyclones and El Niño Southern Oscillation on green turtles from Central South Pacific DPS aggregating at the three foraging grounds in Fiji. The project intends to monitor the

turtles in the main study area for a total of 7 years (the IUCN recommends 10 years to assess a population or DPS Red List status). Results will provide an increased sharing of information on foraging ecology and habitat use of green turtles from the Central South Pacific DPS.

Office of the Governor, Commonwealth of the Northern Mariana Islands — Stewardship of Northern Mariana Islands Sea Turtles Through Research, Monitoring, and Conservation (\$70,000)

Considering the threat of climate change and extreme poaching pressure in CNMI, there is concern about extirpation of CNMI nesting sea turtles. This project will help protect, recover, and promote valuable sea turtle resources of CNMI through science-based conservation and management strategies and maintain a valuable dataset that enables detection of populations and successful practices. Climate change and poaching, combined with increased recreational use of beaches, increased fishing pressures on coral reef and seagrass habitats, human population growth, coastal development, and lack of conservation education and public awareness, continue to threaten green and hawksbill sea turtle populations on Saipan. Continued research, monitoring, and education efforts are required to combat these issues.

World Wildlife Fund, Inc. — Banda Sea Leatherback Sea Turtle Nesting Dynamics (\$60,000)

The IUCN and NOAA have identified the Pacific leatherback sea turtle (*Dermochelys coriacea*) as a species most at-risk for extinction in 2013 and 2016, respectively. The Indonesian archipelago provides critical habitat for the surviving population, but their numbers have dramatically declined. They are threatened by the direct harvest of eggs, the direct take of juveniles and adults (on foraging grounds and nesting beaches), and fisheries interactions (from bycatch), as well as by coastal development, pollution, and climate change. This project will monitor newly identified nesting beaches on Buru Island to gain a greater understanding of the habitats' importance in the survival of this leatherback population. The project will also use satellite tagging to identify potential new nesting beaches throughout the Maluku region. Additionally, genetic sampling and satellite tagging will help examine the connectivity of this population and its potential links to populations found in U.S. waters.

Large Marine Vertebrates Research Institute Philippines, Inc. (LAMAVE) — Assessing the Status and Ecology of Endangered Marine Turtles in the Philippines and its Role in PIR Turtle Conservation (\$49,420)

This project develops a centralized database with historical and present data about marine turtle presence and distribution in the Philippines by identifying threats to the species. Conservation priority area highlights bring understanding and connectivity of Philippines turtles with the U.S. PIR and other neighboring countries. Data collection and scalability of the population monitoring system initiates efforts to collect genetic samples to understand connectivity to other populations. Both photo-ID and paired laser photogrammetry assist in understanding growth rates, residency times, individual movement, history parameters, and health conditions. A satellite telemetry, time-depth recorder tagging, and flipper tagging enable track movement, connectivity, and habitat use while monitoring nesting and fishery interactions.

Hawai'i Marine Mammal Alliance dba Hawai'i Marine Animal Response — Marine Turtle Management and Outreach (\$48,280)

Hawai'i Marine Mammal Alliance dba Hawai'i Marine Animal Response (HMAR) provides a volunteer-based stranding response program on the Island of O'ahu for dead, injured, or otherwise compromised sea turtles. A comprehensive volunteer network maintains and implements improved turtle and human interactions through educational outreach. HMAR receives, processes, and manages reports from the public and others concerning sea turtle strandings, provides fully-trained and vetted volunteers to respond to these strandings, and conducts these activities in close collaboration with the NOAA PIFSC Marine Turtle Biology and Assessment Program and the NOAA PIRO Marine Turtle Management and Conservation Program.

The Ocean Foundation — Consolidating Vital Hawksbill Turtle Monitoring at Halawa, Moloka'i; One of the Most Important Hawksbill Nesting Sites in Hawai'i (\$24,677)

Hawksbill turtles inhabiting the Hawaiian Islands constitute one of the most endangered sea turtle populations on the planet, with an average of only 14 nesting females and 45 nests documented. In 2018, volunteers began monitoring sea turtle activity at



LAMAVE researcher uses non-invasive (non-capture) techniques to measure turtles and obtain growth rates of green turtles at Apo Island, Philippines as part of a study to increase our understanding of endangered Central West Pacific green turtles. Photo: LAMAVE

Halawa Beach Park on eastern Moloka'i, leading to the documentation of 42 confirmed hawksbill nests. The recently formed Halawa Hawksbill Monitoring Program is conducting research activities during the 2019 nesting season by improving conservation and monitoring efforts, while also initiating new, high-priority research activities. Activities generate demographic information on this data-deficient population and help conservation managers understand the relative importance of this newly discovered nesting beach.

Mālama Na Honu — Mālama Na Honu Educational Outreach and Volunteer Support (\$18,000)

By the late 1970s, the honu (Hawaiian green sea turtle) population was almost decimated, but their numbers have increased significantly since State and Federal protections were enacted in the 1970s. The result is that many more honu are now coming ashore to bask in the main Hawaiian Islands, increasing interactions between honu and people. These interactions, in turn, have caused some inadvertent harassment of the honu. Mālama Na Honu volunteers provide sea turtle education for visitors to the famous Laniākea Beach on O'ahu's north shore and monitor and record daily sea turtle behaviors for the NOAA Fisheries Marine Turtle Research Program. Mālama Na Honu volunteers share public education that reduces sea turtle-human interactions and promotes respectful wildlife viewing.

Hawaiian Monk Seal Recovery and Marine Mammal Response Program

The Hawaiian Monk Seal Recovery and Marine Mammal Response Program supports specific programmatic activities related to promoting the recovery of endangered Hawaiian monk seals and supporting responses to marine mammal strandings in the main Hawaiian Islands and U.S. Territories. This program supports community-based and community-integrated projects with an educational component designed to elevate public awareness and build capacity from the community for Hawaiian monk seal recovery and marine mammal response. In 2019, PIRO issued six federal assistance awards in the amount of \$267,686.

Hawai'i Marine Mammal Alliance dba Hawai'i Marine Animal Response — Hawaiian Monk Seal Conservation & Recovery - Priority 1 – O'ahu (\$113,722)

NOAA and HMAR have a common goal — the preservation, recovery, and stewardship of the Hawaiian monk seal. HMAR has developed significant capacity, infrastructure, and experience in three key areas: outreach and education; dispatch and reporting; and field response, escalations, and interventions. HMAR uses these capabilities to perform activities, measured using Key Operational Indicators, that have a direct and positive impact on Hawaiian monk seal preservation and recovery. Thousands of times each year, the outreach, education, hotline, dispatch, field response, escalation, and intervention support activities have positively impacted monk seal health, management, recovery, and public support. HMAR works with NOAA and Hawai'i DLNR.

The Marine Mammal Center (TMMC) — Monk Seal Response and Community Engagement (\$69,126)

This grant supports TMMC's hospital facility, Ke Kai Ola, in Kona on Hawai'i Island for Hawaiian monk seal recovery through a science-based rehabilitation program and well-managed response network with coordinated community partnerships. The project conducts community outreach and monitoring efforts to inspire visitors and residents to protect and monitor this species. The center strengthens and standardizes a volunteer team with specialized response-dispatch

training. This training also helps expand data collection that helps TMMC identify shifts in monk seal behavior. TMMC staff provide key partners' staff and volunteers with training and materials for haul-out events. The center places an increased focus on areas with low levels of engagement and sightings, updating signage to encourage sighting reports and appropriate behavior around monk seals.



*Hawaiian monk seal mom and pup resting in a tide pool.
Photo: HMAR*

Did You Know?

Reporting seal sightings not only helps NOAA Fisheries biologists and managers respond to sick or injured Hawaiian monk seals, but also provides valuable information about population trends, seal survival, habitat use, and reproduction. NOAA's Marine Mammal and Sea Turtle Hotline (888-256-9840) receives thousands of sightings calls every year — about 9,000 in 2018! Sighting calls are often fielded by volunteers at organizations like Hawai'i Marine Animal Response, who collect information from callers and dispatch volunteers to provide outreach to beachgoers about Hawaiian monk seal ecology and conservation. These calls are therefore not just an important contribution to data sets that help us better understand seal ecology and population status, but are also an important avenue for engaging the public and working toward recovery of this endangered species.

Hawai'i Marine Mammal Alliance dba Hawai'i Marine Animal Response — Hawaiian Monk Seal Conservation & Recovery - Priority 1 – Moloka'i (\$46,545)

A key Hawaiian monk seal species recovery challenge in the main Hawaiian Islands is fatal human-caused trauma. In recent years, Moloka'i has unfortunately maintained a high ratio of human-caused seal deaths to the island's small human population. This project adds staff from the Moloka'i community and increases activity and support for monk seal stewardship as one part of broader community-based sustainable coastal ecosystem management practices that benefit the residents of Moloka'i while also honoring their cultural identity and traditions. HMAR works cooperatively with Hawai'i DLNR, The Marine Mammal Center, and other partners to achieve the goals of the Hawaiian Monk Seal Recovery Plan (2007) and the Main Hawaiian Islands Monk Seal Management Plan (2015).

Mālama Pūpūkea-Waimea — Monk Seal Outreach and Education at Pūpūkea Marine Life Conservation District (MLCD), O'ahu (\$13,873)

Each year, over one million people visit the monk seals in their critical habitat, the Pūpūkea MLCD. Mālama Pūpūkea-Waimea conducts activities at this habitat and areas nearby to increase effective outreach and education in support of the Main Hawaiian Islands Monk Seal Management Plan. Some of these activities are: Ka Papa Kai, a “seaside class” for elementary

school students; Pono Fishing, a program that teaches sustainable traditional Hawaiian fishing practices to middle- and high-school youth; Makai Watch, training and deployment of volunteers in activities that benefit monk seals; regular outreach to inform residents and visitors alike about monk seal conservation; and maintenance of native plants at the Pūpūkea MLCD to reduce erosion and negative impacts on monk seal habitat.

Dana Jones dba Hawaiian Monk Seal Preservation 'Ohana (HMSPO) — Hawaiian Monk Seal Recovery through Education and Preservation (REAP) (\$13,420)

HMSPO expands the current programs that support the goals, objectives, and activities that address management strategies outlined in the Main Hawaiian Islands Monk Seal Management Plan for the Island of O'ahu. Through education and outreach, community engagement, and capacity building, HMSPO's REAP project activities support health, partnership, community engagement, and education strategies to: upgrade and expand in-classroom education programs, increase volunteer workforce, expand outreach to communities and at pupping events, develop partnerships for conservation, educate through sharing, and integrate historical and cultural awareness.



Volunteers engage tourists and local residents about conservation efforts of the Hawaiian monk seal. Photo: HMAR

Nā Kama Kai (NKK) — Awareness Clinics to Teach and Disseminate Information about the Status, Natural History, and Conservation of the Critically Endangered Hawaiian Monk Seal (\$11,000)

NKK provides ocean and environmental education and outreach services for keiki (youth), giving them the opportunity to access the marine environment with modern and traditional cultural equipment. Funding allows NKK to expand a current program to develop and incorporate a monk seal conservation and stewardship component. This program focuses on the importance of conservation via outreach and education. By inspiring our keiki to love the ocean and the animals that depend on it for survival, an “army” of future monk seal protectors develops. This is the basic foundation of any conservation or stewardship program. Annually, NKK conducts free ocean clinics on 12 occasions with approximately 75–100 keiki attending each clinic (about 4,000 each year), and 24,000 keiki have attended clinics since NKK was founded.



An HMAR volunteer utilizing project based learning to teach Hawaiian monk seal conservation at Moanaloa Elementary School in June of 2019. Photo: HMAR

Interjurisdictional Fisheries Act of 1986

The Interjurisdictional Fisheries Act of 1986 assists states in managing interjurisdictional fisheries resources. Apportionment to states is based on the average value and volume of raw fish that domestic commercial fishermen land. The data obtained is the principle source of information and analysis for the fisheries activities and management options that are used to address federal requirements for fisheries management plans under the jurisdiction of NOAA Fisheries. In 2019, PIRO allocated \$275,812 to four projects.

State of Hawai‘i Department of Land and Natural Resources: Division of Aquatic Resources (DAR) — Fisheries Act Award Application-State of Hawai‘i (\$102,378)

DLNR-DAR is modernizing the State of Hawai‘i’s commercial marine licensing and fisheries reporting systems (CMLS). The agency has nearly 3,800 fishers required to obtain commercial marine licenses in order to offer marine life for commercial purposes in the State and 3,000 commercial fishers submitting

monthly fishing reports. Per State Hawai‘i Revised Statute (§189-10), DLNR-DAR also collects transaction purchase reports from 255 active primary commercial marine dealers. Both federal and state fisheries agencies use this integrated “best available” data to assess the status of marine resources and to establish fishery regulations in State and U.S. EEZ waters. It is essential, therefore, that timely and accurate fisheries data are available for fisheries agencies to make informed management decisions. The web portal fisheries reporting online application will have continued maintenance and support while a modified CMLS online application will issue and renew licenses to both commercial marine and marine dealer licenses.

American Samoa Government: Department of Marine and Wildlife Resources — American Samoa Interjurisdictional Fisheries Stock Assessment and Monitoring Program (\$141,402)

The Department of Marine and Wildlife Resources of the American Samoa Government assesses and monitors the status of interjurisdictional fish species

caught within American Samoa's EEZ. The data obtained is the main source of information used to address local and federal requirements for a Fishery Ecosystem Report under the jurisdiction of the Department of Marine and Wildlife Resources and NOAA Fisheries through the WPFMC. Through the cooperative efforts between federal and local agencies, fisheries information provides a timely developed, implemented, and evaluated Fisheries Ecosystem Report for the territory of American Samoa and the WPFMC.

Government of Guam - Department of Administration — Data Collection and Entry in the Management of Guam's Interjurisdictional Fishery Resources (\$16,016)

Guam presently serves as a major trans-shipment and port-of-call for large scale fishing fleets operating in the Western Pacific. Two primary types of fishing vessels — purse seiners and longliners — make up Guam's large-scale fisheries. Continued support allows Guam to coordinate data collection and entry activities under the Pacific Fisheries Data Program with reference to transshipped species offloaded by foreign longliners at Guam's commercial port. Data collected helps address the information requirements needed

by both state and federal governments. Managers can then develop and implement conducive policies for the maintenance and expansion of Guam's fishing industry. They can then devise sound management and conservation plans for Guam's interjurisdictional fishery within its Territorial waters and EEZ.

Commonwealth of the Northern Mariana Islands: **Division of Fish and Wildlife** — Data Collection and Entry in the Management of CNMI's Interjurisdictional Fishery Resources (\$16,016)

During fishing tournaments, the CNMI Division of Fish and Wildlife collects, processes, and shares important fisheries monitoring data. This principal source of information provides CNMI with an analysis of fisheries activities and management options of pelagic landings during tournaments. Data further equips federal and local fisheries management programs in CNMI and assists in addressing federal requirements for Fisheries Management Plans (FMPs) under the jurisdiction of NOAA Fisheries through WPFMC. A record of fisheries data guides in the development, implementation, evaluation, and amendment of Fishery Management Plans in the Western Pacific Region.



Deep slope snappers from CNMI getting ready for sale at a fish market. Photo: Micronesia Ecological Services

Habitat Conservation Program

Throughout the Pacific Islands Region, habitat protection efforts include programs to conserve, protect, and restore marine habitat and coastal ecosystems. Increasing partnerships with other federal and local authorities allows NOAA to maintain sustainable coastal ecosystems and implement strategies that minimize the introduction and impacts of alien species and marine pollution. The most biologically diverse yet threatened marine ecosystems is coral reefs. In 1996, the amended Magnuson-Stevens Fishery Conservation and Management Act (MSA; 16 U.S.C. 1855(b)) established a new requirement to identify and describe Essential Fish Habitat to identify and protect against local stressors (overfishing, pollution, and habitat destruction) and global stressors (climate change, coral bleaching, and ocean acidification). The goals of Essential Fish Habitat help to maintain productive fishery species life cycles from spawn to maturity and rebuild depleted fish stocks in the United States. In 2019, PIRO supported two grants in the amount of \$455,014.

University of Hawai'i — Assessing New Technologies for Coral Reef Monitoring and Restoration (\$306,001)

New developments in environmental DNA, photogrammetry, and coral microfragmentation assays offer innovative possibilities for monitoring coral reef health and evaluating the success of restoration efforts. This research addresses the NOAA mandate for maintaining and improving the viability of marine and coastal ecosystems with the long-term goals of

climate adaptation and mitigation, healthy oceans, and resilient coastal communities in the tropical and subtropical zones under U.S. jurisdiction. All three goals are contingent upon healthy reefs. This project hopes to provide tools that identify reef stressors before they are apparent by conventional transects and observation. An early detection system for coral reef degradation will greatly enhance the options for remediation and maximize success of restoration activities.

University of Hawai'i — Developing Multiple Stressor Thresholds for Reef-building Coral Species in the Pacific Islands Region in Support of Essential Fish Habitat Management (\$149,013)

This grant will identify potential environmental and anthropogenic factors that may influence the long-term resilience of coral reef ecosystems and assess both its resistance and resilience in specific populations, locations, and habitats of episodic events. Through systematic gray literature and meta-analysis, a framework is developed to manage thresholds for sedimentation and other co-stressors on nearshore coral-reef and associated ecosystems. Understanding and quantifying the impacts of anthropogenic stressors of reef building corals, including synergistic effects and critical threshold values in the Pacific ecosystems, will enhance management of coral reefs and the fisheries habitat that they provide.

Pacific Region Grants Cooperative

The NOAA Pacific Region Grants Cooperative (PRGC) is a group of grant administration staff representing the various NOAA line offices within the PIR. The PRGC formed to leverage both experience and resources to further NOAA's mission and goals. The creation of this group has formalized a venue for sharing best management practices and precious resources to successfully administer NOAA grants. In FY19, PRGC funded one award to support the region in the amount of \$52,807.

Sea Change Consulting, LLC — Federal Assistance Proposal Development Workshops (\$52,807)

As a resource and tool for applicants, Sea Change Consulting, will facilitate a series of proposal development workshops throughout Hawai'i and the Pacific. These workshops allow applicants to enhance their project goals and objectives and improve their project narrative.



Giant clam (Tridacna maxima) located at Kwajalein Atoll, a U.S. Army site in the Republic of the Marshall Islands. Photo: NOAA Fisheries

Did You Know?

The nearshore and midwater coral reef habitats throughout the Pacific Islands region are extraordinarily diverse. PIRO works to ensure these habitats remain healthy and thriving for the other managed species that live, feed, and reproduce within them.

Even with this work, corals are facing severe, global threats that will only worsen with time. However, research suggests that alleviating local stressors (such as sedimentation from dredging) can improve resiliency for many coral species.

2019 Unfunded Federal Programs

The following programs were not funded in FY19 due to budgetary constraints:

Western Pacific Demonstration Projects: Public Law 104-297 (16 U.S.C. 1855) authorizes grants for Western Pacific Demonstration Projects that foster and promote the involvement of communities in the western Pacific.

Native Fishery Observer Program: The NOAA Fisheries Observer program is responsible for providing long-line observers, who obtain data on incidental sea turtle takings and collect fishing effort data. The observers document interactions of all protected species, tally fish that are kept and discarded, and process selected specimens for life history. The Native Fishery Observer Program targets Native Hawaiian, American Samoan, and other Pacific Islander residents for employment as fishery observers in the Hawai'i and American Samoa fisheries.

Hawai'i Seafood Program: The Hawai'i Seafood Program is an effort to help strengthen the economic viability of Hawai'i's fishing and seafood industry through activities that promote Hawai'i fisheries as high-quality and safe domestic seafood produced by a responsible and well-managed fishery.



U.S. Secretary of Commerce
Wilbur L. Ross, Jr.

Acting Under Secretary of Commerce
for Oceans and Atmosphere
Dr. Neil Jacobs

Assistant Administrator for Fisheries
Chris Oliver

October 2019

www.fisheries.noaa.gov

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National Marine
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1845 Wasp Blvd., Building 176
Honolulu, HI 96818

