



WESTERN PACIFIC SUSTAINABLE FISHERIES FUND MARINE CONSERVATION PLAN



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Prepared by the Staff of the Western Pacific Regional Fishery Management Council

Picture: Map of the Hawaiian Islands and the Pacific Remote Island Areas
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Introduction

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) authorizes the negotiation of Pacific Insular Area Fishing Agreements (PIAFA) to allow foreign fishing within the U.S. Exclusive Economic Zone (EEZ) around the U.S. Pacific Remote Island Areas (PRIAs), which are comprised of Baker Island, Howland Island, Jarvis Island, Johnston Atoll, Kingman Reef, Midway Island, Wake Island and Palmyra Atoll. Before entering into any PIAFA for the PRIA, the Western Pacific Regional Fishery Management Council (Council) must develop a three year marine conservation plan (MCP) providing details on uses for any funds collected by the Secretary of Commerce (Secretary) from foreign fishing vessels. MCPs must also be developed for the Territories of Guam and American Samoa, and the Commonwealth of the Northern Mariana Islands by the Governors of the respective jurisdictions.

Payments made to the Secretary for foreign fishing access to the PRIAs shall be deposited into the Western Pacific Sustainable Fisheries Fund (SFF). In addition, amounts received by the U.S. government from fines and penalties from illegal foreign fishing violations in the PRIA, as well as contributions received in support of conservation and management objectives of the Council's MCP are also deposited in the SFF. Monies from the WP SSF shall be made available to the Council to implement this and any other approved MCPs.

PRIA Marine Conservation Objectives and Projects

The Sustainable Fisheries Fund Marine Conservation Plan (SFFMCP) includes conservation and management objectives which are consistent with MSA 204(e)(4) and with the Fishery Ecosystem Plan (FEP) for the PRIA. The purpose of this MCP is to identify projects that could be implemented to help achieve fishery conservation and management objectives for the PRIA. Through Executive Order in 2009, President George W. Bush established the Pacific Remote Islands Marine National Monument (Monument). The Monument generally encompasses 0-50 nautical miles (nm) around each of the PRIA. Within the boundaries of the Monument, all commercial fishing is prohibited as well as in addition to the extraction or harm of Monument resources unless specifically authorized. The establishment of the Monument established stringent conservation measures for the PRIA from 0-50 nm, and further, the US Fish and Wildlife Service and NOAA receive annual funding to implement and manage the Monument. Projects listed under this MCP are primarily focused on pelagic resources and activities outside of the Monument, but within the U.S. exclusive economic zone around PRIA from 50-200 nm. Under each conservation and management objectives, major task areas are identified within which specific planned activities are listed and ranked in priority order of implementation.

Hawaii Marine Conservation Objectives and Projects

This MCP also contains an appendix that identifies activities under conservation and management objectives consistent with the Hawaii Archipelago FEP. Section 204(e)(7)(C) of the Magnuson-Stevens Act authorizes the Council to use the Sustainable Fisheries fund to meet conservation and management objectives in the State of Hawaii (See Appendix 1).

Prioritization and Ranking of SFFMC Projects and Programs

The SFFMCP identifies projects, activities, and programs that are currently not funded under the Council's Administrative budget, but that if conducted, would aid in meeting the Council's conservation and management objectives for fisheries in the PRIA.

The SFFMCP is organized in a format consistent with the Council's guiding principles and five-year Program Plan. Under each of the objectives, the Council has identified major task areas that categorize the work contained in this plan.

Given the ever-changing nature of the region's fisheries, adaptive management regimes and shifting priorities in fishery ecosystem management, the Council has established the following process to be utilized as funds under SFF become available.

- NMFS notifies Council that funds are available in SFF.
- Council convenes meeting of Executive Committee within 30 days of notification.
- Executive Committee reviews priority ranking within Objective and Tasks taking into consideration the following criteria:
 - Amount of Funds Available in SFF;
 - Current Council program issues and potential for non-SFF funding or support; and
 - Availability of resources to successfully carry out project(s) identified in SFFMCP.
- Council's Executive Committee recommends, in priority order, the projects to be funded and provides that report to NMFS within seven days after the Committee meeting.
- Council staff then works with NMFS PIRO to finalize a cooperative grant application for approval.

Objective 1: Support quality research and obtain the most complete scientific information available to assess and manage fisheries within an ecosystem approach

1. Support cooperative research on US purse seine vessels fishing on Fish Aggregation Devices (FADs) in the PRIA. Purse seine fishing for tuna on FADs in the equatorial Pacific Ocean results in the incidental harvest of juvenile bigeye tuna. The 2010 stock assessment for bigeye tuna in the Western and Central Pacific Ocean concludes that the Maximum Sustainable Yield of bigeye would be increased if mortality of immature bigeye was reduced. In addition, catch per unit effort is not well defined for tuna purse seine fisheries, whereby this lack of information results in changes in purse seine CPUE not being incorporated into tuna stock assessments. This situation is exacerbated by the use of FADs with purse seine fisheries, as fishing effort associated on FADs is not well understood. Without additional information, an assessment of purse seine effort is difficult to incorporate in stock assessments. The US purse seine fleet in the WCPO fishes in the PRIA occasionally, representing less than 5% of their total annual effort. However, in El Nino years, more purse seine fishing effort is conducted in the PRIA as the equatorial warm pools shifts eastward. Evaluative criteria: The following topics will be explored in a research program.

- a. Quantification and characterization of catch per set. Currently, bigeye tuna stock assessments use only catch per unit of effort (CPUE) data from longline vessels but only incorporate BET purse seine catches with no measures of CPUE.
- b. Quantification and characterization bycatch per set. The quality of bycatch data from FFA observers is highly variable, meaning that raising these data to fleetwide totals through a statistical analysis of the data is not possible.
- c. Quantification and characterization of the number/rate and impacts of “lost” FADs. Elicit and test fishermen knowledge regarding potential methods to reduce or mitigate adverse impacts.
- d. FAD replenishment rates. To determine how quickly after being fished fish biomass re-accumulates under a FAD.
- e. Utilization of time-depth recorders (TDRs) to characterize the actual fishing depth of purse seines.
- f. Evaluation of onboard species composition and length frequency sampling versus port sampling.

2. Support pelagic species tagging studies in the PRIA to provide better understanding on the movement of pelagic species. Evaluative criteria: support activities that include the following:
- a. To obtain data that will contribute to, and reduce uncertainty in, WCPO tuna stock assessments.
 - b. To obtain information on movement and mixing of tuna in the equatorial WCPO, between this region and adjacent regions of the Pacific, and the impact that fish aggregating devices (FADs) have on movement over large and small areas throughout the region.
 - c. To obtain information on species-specific vertical habitat utilization by tunas in the tropical WCPO, and the impacts of FADs on vertical behavior.
 - d. To obtain information on local exploitation rates and productivity of tuna in various parts

of the WCPO.

3. Support the collection and analysis of life history characteristics through biosampling of management unit species. Currently, there is a paucity of this information for many species and such information is critically important for stock assessments. The PRIA provide an opportunity to sample unfished populations of reef fish, bottomfish, and nearshore pelagic species such as mahimahi and wahoo (ono) to generate age structure, growth parameters, longevity, and natural mortality rates. Evaluative criteria: support biosampling activities for management unit species and whereby the data collected is incorporated into life history studies and ultimately stock assessments.

Objective 2: Conduct education and outreach to foster good stewardship principles and broad and direct public participation in the Council's decision making process

1. Support education and outreach activities related to sustainable fisheries management of pelagic fisheries in the PRIA. Activities may include: developing and conducting training programs and information sessions to provide teachers with fisheries information; maintaining a speakers bureau and a lecture series that focuses on the ocean environment and fisheries; providing information and community-based workshops to the public regarding environmental issues and laws; developing and distributing brochures, flyers, newsletters, etc. by mail, email and/or via the web; air video and audio programs via television, radio, Internet and CDs/DVDs; partnering with public aquariums and science and cultural centers on exhibits, educational resources and visitor/docent resources; and collaborating with local and regional agencies, organizations, and the University of Hawaii and other institutions on relevant public outreach and education.

Objective 3: Promote regional cooperation to manage domestic and international fisheries

1. The three equatorial PRIA (Howland/Baker, Kingman Reef/Palmyra, Jarvis) are located in the central equatorial Pacific which have high concentrations of bigeye tuna (especially juveniles) and is also located strategically close to the nations that are developing or developed regional fisheries arrangements (e.g. Te Vaka Moana). For this reason, it is imperative that the Council participate in international fishery policy development and implementation in all Pacific Regional Fishery Management Organizations (substantive and emerging) and regional organizations and fora. Evaluative criteria: staff reports to Council on international and regional issues; export of environmentally responsible fishing to neighboring countries in the Pacific and beyond based on successful implementation in Council-managed fisheries.

Objective 4: Encourage development of technologies and methods to achieve the most effective level of monitoring, control and surveillance and to ensure safety at sea

1. Support trial or pilot programs to test new technologies for information gathering in coordination with Federal, State and Industry representatives. Evaluative criteria: identify and carry-out projects that may enhance or improve existing monitoring; implementation of such technologies in fisheries management and enforcement.
2. Support observer programs or other monitoring efforts that are adequate to monitor the harvest, bycatch and compliance of foreign fishing vessels that fish under PIAFAs in the PRIA. However, no foreign fishing under PIAFAs in the PRIA is being contemplated nor negotiated at this time. Evaluative criteria: establishment of observer program and coverage levels for any PIAFA
3. Participate in Pacific-wide VMS consultations, especially with FFA and other Regional Fishery Management Organizations (RFMOs). VMS technology continues to develop and RFMOs such as the WCPFC are have required member countries to equip their vessels with VMS. Funding will be used for staff travel and participation in meetings and conferences regarding VMS implementation and technology. Evaluative criteria: participation in regional or international MCS conferences, meetings or workshops.

Objective 5: Western Pacific community demonstration projects and Western Pacific Community Development Program

1. Support activities that would promote participation and access to fisheries for eligible Western Pacific communities consistent with MSA Section 305(i)(2) and Section 305 note. Evaluative criteria: participation of a community under the CDP or CDPP programs in PRIA fisheries.

Appendix 1- Hawaii projects

Section 204(e)(7)(C) of the Magnuson-Stevens Act authorizes the Council to use the Sustainable Fisheries fund to meet conservation and management objectives in the State of Hawaii. The following list of activities is consistent with the conservation and management objectives of the Hawaii Archipelago Fishery Ecosystem Plan.

Objective 1: Support quality research and obtain the most complete scientific information available to assess and manage fisheries within an ecosystem approach

1. Support cooperative research projects and joint project agreements with institutions, agencies, researchers and the fishing community to collect scientific fishery information, monitor fishery resources, assess research and monitoring programs, and support fisheries research within Hawaii and the western Pacific. Evaluative criteria: Identify and implement projects and joint project agreements to support research activities such as, but not limited to, tagging, biosampling, experimental fishing, socio-economic surveys, ecosystem modeling, etc. Deleted: and
Deleted: cooperative research
2. Characterize the market and non-market channels of locally produced fishery resources. This study would include the movement of fish through local markets and communities, and the broader national and international seafood markets. Another important aspect of this study would be to characterize the imports of seafood into local markets. Evaluative criteria: Access to information that leads to better informed social impact statements for fisheries ecosystem plans.
3. Characterize human communities in Hawaii and their demographics that are dependent on fishery resources. Community dependence on fisheries varies within Hawaii . Understanding such dependence is important in developing fishery management measures, especially in the context of marine spatial planning. Evaluative criteria: Development of community profiles.

Objective 2: Promote an ecosystem approach in fisheries management, including reducing bycatch in fisheries and minimizing impacts on marine habitat and impacts on protected species

1. Review effectiveness and enforceability of existing federal and applicable state marine resource regulations to support consistent and comprehensive ecosystem approach to fisheries management. Evaluative criteria: conduct working groups, meetings, conferences, and workshops related to this task and complete comprehensive review and identification of effective and ineffective management measures.
2. Support rehabilitation of Hawaiian ahupua'a in collaboration with community groups and other partners to restore ecosystem functions of degraded ahupua'a. Evaluative criteria: observed results related to improved water quality, fish abundance, and species diversity.
3. Support working groups, meetings, conferences and workshops relating to implementation of ecosystem approaches to management that may include topics on scientific information and research/assessment needs, social, cultural and economic considerations, inter-jurisdictional issues, ecosystem indicators and other areas of importance. Support for these for a include: travel, meeting venue, analysis, document

preparation and distribution, facilitation, report generation, and meeting advertisement. Evaluative criteria: conduct working groups, meetings, conferences, and workshops related to ecosystem-based management and the production of associated meeting reports.

4. Produce historical, social and physical baselines for ecosystem cycles and rhythms in Hawaii. Support activities to: (1) compile information documenting place-based conservation methods (by island), including cultural, spiritual, political and ceremonial protocols; (2) facilitate development of community adaptive management experiments to translate cultural practice into western concepts; (3) develop place-based database and information community use and management. Evaluative criteria: enhanced understanding of ecosystem indicators and cycles based on community knowledge and traditional use; development of place-based database for use in Council FEPs and community-based management.
5. Develop appropriate responses to acute and chronic ecosystem disturbances. Support is needed to identify and monitor critical indicators of ecosystem health over time. There are many methods to monitor changes in the ecological function and value of species and their associated biota. Changes in species biodiversity, species abundance or species presence/absence can be used to assess the overall health of an ecosystem. Building on existing ecosystem monitoring programs, key indicator species (those sensitive to minute changes) will be identified and monitored over time, providing a baseline, or “measuring stick,” from which to assess environmental stresses to archipelagic insular ecosystems. Evaluative criteria: identification of marine resource indicators and application of those indicators in appropriate management responses.
6. Support the establishment of community based monitoring of ecosystem indicators. This project would utilize community interest in monitoring resources on which they depend. Evaluative criteria: Develop methods and procedures to compile ecosystem indicator information and build community capacity.
7. Investigate and document human impacts in marine ecosystems, including the impacts of land-based activities (e.g. runoff, sewage outfalls, dredging), the implications of restrictions to shoreline access due to development, military use, regulatory changes or other causes, and the impacts of increasing populations on marine ecosystems. Evaluative criteria: increased knowledge of the relationships between various anthropogenic activities and marine ecosystems managed by the Council and the use of that information for Council decision-making and documentation in PRIA, Hawaii and other Council FEPs.
8. Support invasive species removal activities that help restore ecosystem health and function as well as increase native populations of management unit species that are dependent upon those ecosystems. Evaluative criteria: collaborate with community groups and other partners to identify and conduct invasive species removal projects.
9. Support marine debris (including derelict fishing gear prevention), mitigation, and removal projects. Evaluative criteria: Supporting programs that develop best practices for

prevention; support projects that mitigate effects of marine debris, and projects to remove marine debris.

10. Support activities related to the conservation, management, and recovery of protected and vulnerable species. Activities may include support for: recovery of Pacific sea turtles that interact with fishing vessels participating in Council-managed fisheries; delisting the Hawaiian green sea turtle from the ESA; and minimizing to the extent practicable interactions between cetaceans and fishing vessels in Council-managed fisheries. Evaluative criteria: participate or coordinate meetings and workshops, compile and analyze data on stock status, distribution on populations, including distinct population segments as well as support the development of environmentally responsible fishing methods.

Objective 3: Conduct education and outreach to foster good stewardship principles and broad and direct public participation in the Council's decision making process

1. Support activities to increase community awareness about the Council process and Council-managed fisheries. Activities may include: developing and conducting training programs and information sessions to provide teachers with fisheries information; conducting a high school summer course on marine fisheries and resources; maintaining a speakers bureau and a lecture series that focuses on the ocean environment and fisheries; providing information and community-based workshops to the public regarding environmental issues and laws; developing and distributing brochures, flyers, newsletters, etc. by mail, email and/or via the web; air video and audio programs via television, radio, Internet and CDs/DVDs; partnering with public aquariums and science and cultural centers on exhibits, educational resources and visitor/docent resources; and coordinating with local and regional organizations on relevant public outreach and education. Activities may also include planning and coordination with the Marine Education and Training program and with the other Regional Fishery Management Councils and NOAA Fisheries and Education. Evaluative criteria: positive outcomes of focus groups/interviews with fishermen and educators conducted by a professional research firm; use of curricula and educational resources produced by the Council in the classroom; and increased use of Council's outreach and education web pages.
2. Support activities: to participate in national, regional, and international events, workshops, conferences, and meetings to showcase or provide information on Council-managed fisheries. Evaluative criteria: participation in event/meeting participation.
3. Support activities to: produce videos and audio programs on the importance of fisheries, the Council-process and public involvement, and community-based management; create an annual report informing the public on Council-managed fisheries and recent management measures; create a history of the Council informing the public of the progress of fisheries management in the Western Pacific Region; continuously upgrade and update the Council's website; develop radio and T.V. spots and print ads and articles to inform the public on upcoming meetings or issues; create brochures, flyers, displays, and exhibits to inform the public; produce periodic newsletters and monographs; develop school curricula and educational resources on issues related to sustainable fisheries; upgrade and update the Council's mailing database, including ability to distribute

newsletters by email and solicit subscribers via the Council's website; and enhance the Council's photo and video archive and ability to provide photos and B-roll to the media via the Internet. Evaluative criteria:; production and increased use of curricula and educational resources in the classroom; increased use of Council's outreach and education and media web pages; increased positive media relations and positive media coverage; and increased appearance of Council and/or sustainable seafood messages in public venues and other media as a result of Council activities.

Objective 4: Recognize the importance of island cultures and traditional fishing practices in managing fishery resources and foster opportunities for participation

1. Support the development of community networks to facilitate communication and participation of indigenous communities in fisheries policy development and practical fisheries management. Evaluative criteria: increased level of community participation in fishery policy development and fisheries management.
2. Support, the Western Pacific Community Development Program, Western Pacific Community Demonstration Program, Western Pacific Marine Education and Training Program or other community funding programs that promote the management, conservation, and economic enhancement of communities in the region as well as to foster traditional and indigenous fishing practices and rights. Evaluative criteria: increased number of indigenous communities participating or seeking to participate in programs established through MSA.
3. Support and coordinate community meetings to assess needs and priorities within indigenous fishing communities. Evaluative criteria: increased level of community participation and engagement in providing information on needs and priorities.
4. Conduct study on economic and social impacts of regulations on Native Hawaiian communities. Evaluative criteria: use of information in evaluating potential regulatory impacts on indigenous communities.
5. Support the establishment of the Aha Moku natural resource management system in Hawaii. Evaluative criteria: Support public meetings, workshops, and other fora in relation to the organization and implementation of the Aha Moku system. Encourage the consideration of recommendations derived from Aha Moku system by state and federal resource management agencies.
6. Support a workshop series on teaching traditional indigenous fishing techniques and practices to young people, along with development of curriculum for all grade levels. Activities may include planning and coordination with the Marine Education and Training program Evaluative criteria: hold workshops and produce curriculum.
7. Support the development and use traditional lunar calendars for community based management of marine resources. Evaluative criteria: Production, distribution, utilization of lunar calendars by communities.
8. Support projects that help to document traditional fishing practices and generational ecosystem knowledge used by Native Hawaiian communities. Evaluative criteria:

development archive or database of traditional practices.

Objective 5: Promote responsible domestic fisheries development to provided long term economic growth and stability and local food production

1. Support the deployment of Community Fish Aggregation Devices (CFADs), which have can provide community benefits such as accessible and maintained commercial, recreational, and subsistence fishing opportunities, community fish sharing, youth education of fishing knowledge and practices, and cooperative research. Furthermore, some communities have lost access to their nearshore areas due to regulatory measures or other factors, and CFADs located offshore of these area may help increase opportunities for sustainable fishing that may provide both social and economic benefits. CFADs funded under this program would be registered with the U.S. Coast Guard as legal aids to navigation and authorized by other applicable agencies as appropriate. Evaluative criteria: successful deployment of CFADs, cooperative research activities, data collection, and increased fishing opportunities denoted by increased fish production.
2. Support activities that assist communities in developing their fisheries, including supporting construction of cold storage and fish processing facilities, the procurement of ice making machines, and transportation. Evaluative criteria: facilities construction, equipment procurement, and working fishery operations.
3. Support improvements to boat harbors, boat ramps, and vessel access points that allow for more efficient and safer access for fishing vessels. Evaluative criteria: completion of projects that improve access or make existing areas safer for launching and retrieving fishing vessels.
4. Support the establishment of fuel storage facilities for remote communities that currently pay significant fuel costs for fishing vessels. Evaluative criteria: establishment of fuel storage facilities that are equipped to store fuel for fishing vessels at much lower costs than what fishermen currently pay in rural fishing communities.
9. Support the development of community fish marketing plans that includes topics on market identification, transportation, fish products, product branding and eco-labeling, and other marketing issues. Evaluative criteria: development and production of marketing plans.
10. Identify, develop, and fund fisheries training programs and workshops in seamanship, fishing technology, fish handling and quality, vessel or gear maintenance, etc. Activities may include planning and coordination with the Marine Education and Training program. Evaluative criteria: develop and carry-out programs and workshops.
11. Collaborate with the University of Hawaii (UH) on technical assistance projects such as education and training for fisheries development. Evaluative criteria: coordinate with appropriate personnel from to identify and carry-out assistance for projects.
12. Support sustainable aquaculture development including traditional Hawaiian fishponds through partnerships with institutions, organizations, agencies, industry, and communities for best practices and environmentally responsible operations. Evaluative criteria:

Development of sustainable aquaculture plans, management measures, and operations.

Objective 6: Promote regional cooperation to manage domestic and international fisheries

1. Participate in and monitor international fishery policy development and implementation in all Pacific Regional Fishery Management Organizations (substantive and emerging), and other associated bodies such as (but not limited to) South Pacific Tuna Treaty; FAO-COFI, CITES; ISC, US-Japan Consultative Committee on Fisheries; International Council for Exploration of the Sea; Inter-American Convention for Turtles; Indian-Ocean MOU for Turtles; SPREP; SPC Heads of Fisheries Meeting); International Fishers Forum. Evaluative criteria: staff reports to Council on latest international and regional issues; export of environmentally responsible fishing to neighboring countries in the Pacific and beyond based on successful implementation in Council-managed fisheries.

Objective 7: Encourage development of technologies and methods to achieve the most effective level of monitoring, control and surveillance and to ensure safety at sea

1. Support trial or pilot programs to test new technologies for information gathering in coordination with Federal, State and Industry representatives. Evaluative criteria: identify and carry-out projects that may enhance or improve existing monitoring; implementation of such technologies in fisheries management and enforcement.
2. Support interagency cooperation through holding of regular meetings to enhance and coordinate enforcement efforts in Hawaii. Evaluative criteria; biannual meetings with local and federal enforcement agencies.