

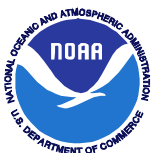
# PACIFIC ISLANDS FISHERIES SCIENCE CENTER



## PIFSC Implementation Plan (2016)

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August 2016



Administrative Report H-16-05

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Pacific Islands Fisheries Science Center Administrative Reports are issued to promptly disseminate scientific and technical information to marine resource managers, scientists, and the general public. Their contents cover a range of topics, including biological and economic research, stock assessment, trends in fisheries, and other subjects. Administrative Reports typically have not been reviewed outside the Center. As such, they are considered informal publications. The material presented in Administrative Reports may later be published in the formal scientific literature after more rigorous verification, editing, and peer review.

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## EXECUTIVE SUMMARY

This Implementation Plan (Plan) describes the process by the Pacific Islands Fisheries Science Center (PIFSC) to plan and prioritize research activities, allocate resources, and conduct reviews of scientific work products. This Plan is a complement to the PIFSC Science Plan<sup>1</sup>, which was developed in 2013, and provides the overall framework and strategic vision for science planning. Unlike the Science Plan, this Plan is focused on the individual processes that make up the annual cycle of plan, prioritize, allocate, and review.

The Implementation Plan describes:

- PIFSC mission and organization
- The annual guidance documents and strategic plans that direct the PIFSC science mission
- The funding and budget allocation process of PIFSC activities
- The science prioritization process
- A timeline of important planning and budget actions
- The milestone process used to track progress
- The documentation of non-milestone scientific accomplishments
- The review and analysis of the implementation process and improvement steps

This Plan can be considered a living document and will be updated periodically, or as necessary, to reflect changes to the organizational setting of PIFSC and the process itself. Consequently, there is no expiration date to this Plan. Given that this is the first iteration of this process, in future years, the Plan will include the products of the strategic review step. This Plan reflects recent changes to PIFSC leadership, reorganization of the PIFSC divisions, and relocation to the new NOAA IRC facility.

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<sup>1</sup> PIFSC Science Plan (2013). Pacific Islands Fish. Sci. Cent., Natl. Mar. Fish. Serv., NOAA, Honolulu, HI 96822-2396. Pacific Islands Fish. Sci. Cent. Admin. Rep. H-13-01, 22 p.



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## PURPOSE OF THIS PLAN AND THE ORGANIZATIONAL SETTING

The purpose of this Plan is to describe the process PIFSC uses to plan and prioritize research activities, allocate resources, and conduct reviews of scientific work products (Fig. 1). The audience of this plan is PIFSC staff, NMFS leadership, and our research and management partners.



Figure 1.-- Implementation Cycle.

This Plan presents the primary sources of information for planning and execution of the PIFSC science mission. This document describes the historic and new organizational structure of PIFSC effective May 3, 2015 (NOAA Circular 15-08, dated March 30, 2015). The plans and guidance from the United States Department of Commerce (DOC), The National Oceanic and Atmospheric Administration (NOAA), and National Marine Fisheries Service (NMFS) are also briefly summarized. The plan provides an overview of the planning and prioritization efforts undertaken at PIFSC in the recent years. The budget allocation process is discussed along with milestones and other tracking metrics for PIFSC accomplishments. Several new steps are proposed to improve implementation planning in the future, including an improved planning timeline and the addition of an annual strategic review.

### Organizational Context

The DOC is the Cabinet department of the United States Government concerned with promoting economic growth. The mission of the department is to create the conditions for economic growth and opportunity<sup>2</sup>. NOAA is a scientific agency within the DOC whose mission is science,

service, and stewardship. The mission focuses on understanding and predicting changes in climate, weather, oceans, and coasts, sharing that knowledge and information with others, and conserving and managing coastal and marine ecosystems and resources<sup>3</sup>. NMFS is the agency (informally known as NOAA Fisheries) that is responsible for the stewardship of the nation's ocean resources and their habitat. NMFS provides vital services for the nation: productive and sustainable fisheries, safe sources of seafood, the recovery and conservation of protected resources, and healthy ecosystems—all backed by sound science and an ecosystem-based approach to management<sup>4</sup>.

### **Authorizing Statutes**

Several statutes, agreements, and executive orders provide PIFSC with the jurisdiction and direction to conduct our science mission.

The three primary statutes are:

- Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006 (MSA)
- Endangered Species Act (ESA) of 1973
- Marine Mammal Protection Act (MMPA) of 1972

Other statutes, agreements, and executive orders include:

- Coral Reef Conservation Act (CRCA) of 2000
- International treaties, primarily regional fishery management organizations related to the management of tuna fisheries
- Executive Orders (such as those that created the marine national monuments in the Pacific)

### **PIFSC Structure and Scope**

#### **Pacific Islands Fisheries Science Center Divisions**

PIFSC conducts, directs, and funds scientific research and monitoring programs that support the domestic and international conservation and management of living marine resources across the Pacific Islands Region. The PIFSC Mission, as described in the Science Plan, is the following:

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<sup>2</sup> <http://www.commerce.gov/page/about-commerce>.

<sup>3</sup> <http://www.noaa.gov/about-noaa.html>.

<sup>4</sup> [http://www.nmfs.noaa.gov/aboutus/our\\_mission.html](http://www.nmfs.noaa.gov/aboutus/our_mission.html).

*Our mission is to provide timely, high-quality applied scientific information to support the conservation and management of fisheries, protected species, and marine habitats in the central and western Pacific Ocean.*

Key research focus areas include: coral reef ecosystems, fishery and protected species population assessments, marine mammal and sea turtle ecology, life history studies of fish, monitoring of fisheries activity, economics, human dimensions of resource management, development of bycatch reduction technologies, health and disease in protected species, fishery interactions with protected species, ecosystem monitoring and integrated assessment, and impacts of climate change on the environment and ecosystems.

In 2015, the PIFSC Directors Office announced plans to reorganize the Center divisions and programs to better represent the direction of PIFSC and NOAA priorities. The major changes to the existing structure include the following:

- The Scientific Information System (SIS) group that was formerly in the Directors Office was incorporated into different Divisions including Operations, Management, and Information (OMI) Division, Science Operations Division (SOD) and Fisheries Research and Monitoring Division (FRMD) depending on their functional role.
- The Coral Reef Ecosystem Division, Ecosystems and Oceanography Division, and the Socioeconomic and Planning Group (formerly in the Directors Office) were combined to form the Ecosystem Sciences Division (ESD).
- Science Operations Group was designated as a Division similar in structure to OMI, and is no longer in the Directors Office.

As of 2015, PIFSC employs 97 federal full-time equivalent (FTE) employees. The following sections describe the scope of the newly reorganized divisions:

### ***Directors Office***

The Directors Office is responsible for overall scientific leadership and research direction, program management, and operational policy.

### ***Operations, Management, and Information Division***

The Operations, Management, and Information Division provides support for strategic and annual operations planning; budget allocation and execution; human resources management; administrative processes, data and information management information technology, e-mail and

telecommunications systems; environmental compliance, safety and facilities management. Other functions include travel services, acquisition and grants, agreements, and all other administrative services in support of Center scientists.

### ***Ecosystem Sciences Division***

The Ecosystem Sciences Division (ESD) conducts multidisciplinary research, monitoring, and analysis of integrated environmental and living resource systems in coastal and offshore waters of the Pacific Ocean. Field research activities cover from near-shore island-associated ecosystems such as coral reefs, to open ocean ecosystems on the high seas. Research focus includes: oceanography, coral reef ecosystem assessment and monitoring, benthic habitat mapping, and marine debris research and removal. Analysis of the current structure and dynamics of marine environments, as well as examination of potential projections of future conditions such as those resulting from climate change impacts are assessed with use of numerical ecosystem models. Because humans are a key part of the ecosystem, the ESD includes research of the social and economic aspects of fishery and resource management decisions. The ESD also provides scientific and capacity building support to international organizations.

### ***Protected Species Division***

The Protected Species Division conducts scientific investigations which serve a basis for management decisions and actions to enhance the conservation and recovery of endangered Hawaiian monk seals, endangered and threatened sea turtles, whales, and dolphins. The Division is made up of three programs: the Hawaiian Monk Seal Research Program, the Turtle Research Program, and the Cetacean Research Program. Research objectives for all three programs address species-specific topics designed to assess and monitor population trends, characterize biology and natural history, understand foraging ecology and movement patterns at sea, identify and investigate impediments to population growth, and build research capacities with other stakeholders. The Division also conducts community outreach and education activities to share information with stakeholders and promote the stewardship of protected species.

### ***Fisheries Research and Monitoring Division***

The Fisheries Research and Monitoring Division provide fisheries research and monitoring science to support fisheries management in the Pacific Islands Region. The Division's fisheries research activities include: investigations into target fish species' life history; production of assessments of population size and characteristics for target and non-target species; and research into methods to reduce bycatch of non-target species, including modifications to fishing gear and use of deterrent devices. The Division also monitors fishing activity in Federal fisheries via logbook and compiles reports of these data, as well as works with State of Hawaii and Pacific

Territorial agencies to enhance their fisheries monitoring efforts. The Division provides information about and findings from its fisheries research and monitoring activities to a variety of stakeholders, including the Western Pacific Regional Fishery Management Council (Council), Regional Fishery Management Organizations (RFMOs; conventions that govern catch of highly migratory species throughout the central and western Pacific), and participates in collaborations and fishing gear technology transfer with foreign nations and with non-governmental organizations.

### ***Science Operations Division***

The Science Operations Division provides the technical and logistical support necessary to carry out the PIFSC science mission in the field and the lab. SOD is composed of three complementary units: Field Operations, Survey & Sampling Technologies, and Technical Services. The Field Operations unit is responsible for providing hands-on operational and scientific support for field research while on ships and small boats, and provides safety and training oversight for dive and small boat operations. The Survey & Sampling Technologies unit provides engineering design support for development of new sampling technologies, video analyses expertise, and facilities at-sea research on large research platforms. The Technical Services unit is responsible for communicating science needs and plans in the Marine National Monuments of the Pacific. This includes working closely with our research and management partners located in Hawaii, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands. Additionally, the unit facilitates compliance of research activities with applicable environmental statutes and regulations, including NEPA and permits; facilitates document preparation for publication; and maintains the research library facilities and scientific laboratories.

### **Geographic Scope and Field Offices**

Approximately bounded by the Hawaiian Archipelago in the northeast, American Samoa and U. S. Pacific Remote Island Areas in the south, and the Mariana Archipelago in the west, the Pacific Islands Region encompasses the largest geographical area within NOAA Fisheries' jurisdiction. The U.S. Exclusive Economic Zone (EEZ) within this region includes over 1.7 million square nautical miles of ocean, roughly equal to the total EEZ of the continental United States and Alaska. PIFSC also shares responsibility for research on living marine resources in the high-seas areas of the central and western Pacific.

## **Partner Agencies and Groups**

### **Scientific Partners**

#### *Cooperative Institute*

The Joint Institute for Marine and Atmospheric Research (JIMAR) is a NOAA Cooperative Institute at the University of Hawaii (UH) at Manoa. JIMAR has facilitated collaborative research between NOAA research scientists, university scientists, and university students since its inception in 1977. Through the grants process established under the cooperative agreement, JIMAR supports approximately 100 employees at the IRC at any time.

#### *Universities*

PIFSC scientists have numerous partnerships and research collaborations with professors at University of Hawaii, Hawaii Pacific University, University of Guam, and other universities and scientific institutions around the world. The Quantitative Ecology and Socioeconomics Training (QUEST) program was recently initiated by NMFS to enhance education and training for the next generation of stock assessment scientists, ecosystem scientists, and economists. PIFSC provides some support via the NOAA Quest Program to faculty and students at the Hawaii Institute of Marine Biology. Many other students work at PIFSC while engaged in graduate research on PIFSC-related projects. Several PIFSC scientists serve as affiliate or adjunct faculty, and participate on graduate student committees. PIFSC is also actively engaged in internship opportunities for university students including NOAA's Hollings Scholarship and PIFSC Young Scientist Opportunity.

#### *Agencies and International Partners*

Because PIFSC conducts research activities across multiple state and territorial boundaries, including within marine protected areas, partnerships with local governments and resource agencies is crucial. PIFSC scientists routinely collaborate on research projects with scientists and managers in the State of Hawaii, American Samoa, Guam, and the Commonwealth of the Northern Mariana Islands. PIFSC scientists coordinate with other NMFS Science Centers on matters of mutual interest (e.g., SWFSC research on Pacific Ocean cetaceans) and with other NOAA offices (e.g., Office of National Marine Sanctuaries, Pacific Marine Environmental Laboratory). PIFSC scientists also contribute to other NOAA programs such as NOAA Sentinel Sites, NOAA Habitat Blueprint, and Monuments Program to monitor and assess changes to marine ecosystems. PIFSC scientists also work with international partners to conduct joint assessments through international scientific committees related to regional fishery management

organizations (e.g., International Scientific Committee for Tuna and Tuna-like Species, Scientific Committee of the Western and Central Pacific Fisheries Commission) and other international projects (e.g., Coral Triangle Initiative).

### **Management Partners**

PIFSC provides scientific data and analyses that are used by resource managers around the world. The two primary local management partners are the Western Pacific Regional Fishery Management Council (WPRFMC) and the NOAA Fisheries Pacific Islands Regional Office (PIRO). The WPRFMC's role is to prepare, monitor, and amend management plans for the offshore fisheries based in the Western Pacific Region. PIRO coordinates and oversees the processing of proposed and final regulations to implement fishery management plans that are approved by the Secretary of Commerce. PIRO also manages protected species consultations, the marine national monuments, the observer program, and other regulatory needs. PIFSC also collaborates with other resource management agencies in the region, including: local governments in American Samoa, Guam, Hawaii, and the Commonwealth of the Northern Mariana Islands; and other federal agencies such as the U.S. Fish and Wildlife Service (USFWS) and NOAA's National Ocean Service (NOS).

## **PLANNING DOCUMENTS AND ANNUAL GUIDANCE MEMORANDUMS**

### **Planning Schedule and Timelines**

The following table (Table 1) presents the idealized timing of the implementation planning actions. The precise timing of these actions will depend upon the appropriation and allocation of federal funds from Congress. In an attempt to streamline the implementation process some activities take place during different times than in previous years, and milestones and budget data calls have been combined. Timelines are adjusted earlier for some of these activities than in previous years to allow for lead times for the deadlines. A new review step was added to the process to evaluate performance from previous years and to facilitate annual reporting (e.g., business report, key accomplishments).

Table 1.--Implementation Planning Timeline

<b>Fiscal Year Quarter</b>	<b>PIFSC Date</b>	<b>Action</b>	<b>Implementation Step</b>
1	Oct	Plan for Annual Strategic Review	Review
	Nov	Annual Strategic Review for Previous FY	
	Nov	PIFSC Quarterly Plan by Fund	Plan
	Dec	Enter Initial MARS Spend Plan	
	Dec	Review PIFSC Science and Implementation Plans	
2	Jan	Updated MARS Spend Plan Entry	Plan
3	Apr	Plan for Prioritization Workshop	
	Apr	Draft PIFSC AGM	
	May	Prioritization Workshop	Prioritize
	Jun	Prepare “Requirements Documents, Q1 and Q2 Must Pays, Projected Travel, and Milestones” Data Call	
	Jun	Due “Requirements Documents, Q1 and Q2 Must Pays, Projected Travel, and Milestones” Data Call	
4	Jul	Review “Requirements Documents, Q1 and Q2 Must Pays, Projected Travel, and Milestones” Data Call	Prioritize
	Jul	Finalize PIFSC AGM (after NMFS AGM)	
	Jul	Enter MARS Labor Projections	
	Allocate	Jul	Update Formulation Workup Sheet with Labor Projections
		Aug	Formulation Meetings (after Allocation Tables Released)
		Sep	Budget Formulation Feedback Meetings with Directors



## DOC, NOAA, and NMFS Strategic Plans

The PIFSC science mission is guided by department, agency, and line office planning and guidance documents.

### Department of Commerce Strategic Plan

The DOC strategic plan covering the years 2014-2018<sup>5</sup> summarizes key strategies and initiatives that will drive progress in the Department's five priority areas:

- *Trade and Investment.* Expanding the U.S. economy through increased exports and foreign direct investment that leads to more and better American jobs.
- *Innovation.* Fostering a more innovative U.S. economy—one that is better at inventing, improving, and commercializing products and technologies that lead to higher productivity and competitiveness.
- *Data.* Improve government, business, and community decisions and knowledge by transforming Department data capabilities and supporting a data-enabled economy.
- *Environment.* Ensuring communities and businesses have the necessary information, products, and services to prepare for and prosper in a changing environment.
- *Operational Excellence.* Delivering better services, solutions, and outcomes that benefit the American people.

### NOAA Next Generation Strategic Plan

NOAA's Next Generation Strategic Plan<sup>6</sup>, dated December 2010, identifies goals and high-level outcomes, strategies, and performance objectives and measures to achieve NOAA's vision of resilient ecosystems, communities and economies.

#### *NOAA's Mission: Science, Service, and Stewardship*

- *To understand and predict changes in climate, weather, oceans, and coasts*
- *To share that knowledge and information with others*
- *To conserve and manage coastal and marine ecosystems and resources*

#### *NOAA's Vision of the Future: Resilient Ecosystems, Communities, and Economies* *Healthy ecosystems, communities, and economies that are resilient in the face of change*

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<sup>5</sup> <https://www.commerce.gov/news/blog/2014/03/department-commerce-releases-fy-2014-2018-strategic-plan>

<sup>6</sup> <http://oceanexplorer.noaa.gov/about/what-we-do/program-review/next-gen-str-plan.pdf>

## ***NOAA's Long-term Goals:***

### Climate Adaptation and Mitigation

*An informed society anticipating and responding to climate and its impacts*

### Weather-Ready Nation

*Society is prepared for and responds to weather-related events*

### Healthy Oceans

*Marine fisheries, habitats, and biodiversity are sustained within healthy and productive ecosystems*

### Resilient Coastal Communities and Economies

*Coastal and Great Lakes communities are environmentally and economically sustainable*

## **NMFS Strategic Plan**

NMFS Strategic Plan (2005-2010)<sup>7</sup> describes the programs executed wholly or in part by NMFS as they relate and contribute to NOAA mission goals, outcomes, and strategies. The key aspects of the NMFS Strategic Plan are described in the Vision and Mission:

- Vision: American people enjoying the riches and benefits of healthy and diverse marine ecosystems
- Mission: Stewardship of living marine resources through science-based conservation and management, and the protection and restoration of healthy ecosystems

## **Science Plans**

### **PIFSC Science Plan**

The PIFSC Science Plan was developed through a collaborative process of PIFSC staff and leadership. This collaborative process included working with staff to identify all of the research activities that are currently conducted or should be included into the PIFSC research and monitoring portfolio. The objective was not limited to just mirroring our existing budget and program structure. Individual division meetings were held in FY12 to assess the strengths and

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<sup>7</sup> <http://www.nmfs.noaa.gov/mb/strategic/NMFSstrategicplan200510.pdf>

weaknesses of the PIFSC research activities. The division lists were compiled into a master list of 132 unique research activities. The priority topics were discussed during a meeting with PIFSC leadership and a finalized list of 16 priority topics emerged. These 16 topics were then used to frame the 3 research and monitoring themes featured in the PIFSC Science Plan:

- **Theme 1: Monitor and Assess:** Monitor and assess the diversity, abundance, and distribution of fish and coral reef species, marine mammal and sea turtle populations, and the associated human communities that interact with these resources in the central and western Pacific.
- **Theme 2: Environment and Ecosystems:** Describe and understand environmental and ecosystem linkages, oceanography, habitat, climate change, and social effects on marine ecosystems. Develop ecosystem tools in supporting the conservation and management of marine resources.
- **Theme 3: Maximizing Effectiveness:** Maximize the efficiency, effectiveness, transparency, and public accessibility of our research by strengthening partnerships and providing useful scientific information products, services, and advice to resource managers, policy makers, stakeholders, and the public.

The Science Plan was finalized as an Administrative Report in early FY13 and features a description of these three themes and associated topics, with a few examples of activities under each.

### **Other Species- or Place-specific Plans and Guidance**

Other research plans, some of which are species-specific or place-based, assist PIFSC with identifying research priorities. These plans are often a collaboration with partner agencies. While these are not necessarily a requirement, they do help to shape prioritization of our science mission. These include:

- WPRFMC 5-year research priorities
- Recovery plans for threatened and endangered species
- NOAA Fisheries Prioritizing Fish Stock Assessments<sup>8</sup>
- Marine National Monuments of the Pacific, three Science Plans for the Mariana Trench, Pacific Remote Islands, and Rose Atoll
- NOAA's Coral Reef Ecosystem Research Plan
- NOAA's Deep-Sea Coral and Sponge Research and Management Strategic Plan
- NOAA's Habitat Blueprint

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<sup>8</sup> [https://www.st.nmfs.noaa.gov/Assets/stock/documents/PrioritizingFishStockAssessments\\_FinalWeb.pdf](https://www.st.nmfs.noaa.gov/Assets/stock/documents/PrioritizingFishStockAssessments_FinalWeb.pdf)

- NOAA's Integrated Ecosystem Assessment (IEA) Program

### **Annual Guidance Memorandums (AGM)**

A range of annual guidance memoranda documents are produced by the DOC, NOAA, NMFS, and PIFSC each year that describe the priority research topics.

#### **NOAA AGM for FY16<sup>9</sup>**

***NOAA Priority: Provide information and services to make communities more resilient.***

- *Line Office-led Priorities:*
  - Advance earth system and ecosystem models and ecological forecasting (lead: OAR).
  - Implement the Next Gen stock assessments for species within NOAA's jurisdiction through advancements in monitoring and data collection (lead: NMFS).
  - Make measureable progress on recovering protected species (lead: NMFS).
  - Increase operational services that promote coastal resiliency (lead: NOS).

***NOAA Priority: Evolve the Weather Service.***

- *Line Office-led Priorities:*
  - Create a National Weather Service that provides nationally consistent products and enables and encourages innovation (lead: NWS).
  - Achieve a Weather Ready Nation by holding ourselves accountable for the accuracy of our forecasts, as well as how people react to that information (lead: NWS).

***NOAA Priority: Invest in observational infrastructure***

- *Line Office-led Priorities:*
  - Launch Joint Polar Satellite System (JPSS) and Geostationary Operational Environmental Satellite-R Series (GOES-R) on time and on schedule (lead: NESDIS).
  - Develop a space-based observing enterprise that is flexible, responsive to evolving technologies, and economically sustainable (lead: NESDIS).
  - Increase utilization and readiness of the NOAA Fleet to 100% within 3 years (lead: OMAO).
  - Recapitalize the NOAA fleet (lead: OMAO).

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<sup>9</sup> [http://www.glerl.noaa.gov/review2016/guiding\\_docs/NOAAFY16\\_AGM.pdf](http://www.glerl.noaa.gov/review2016/guiding_docs/NOAAFY16_AGM.pdf)

***NOAA Priority: Achieve organizational excellence.***

- *Line Office-led Priorities:*
- Under the direction of the Chief Scientist, strengthen alignment of research and development activities to effectively and efficiently support NOAA's operational missions, including accelerating the research advances to applications (lead: OAR).

**NMFS Fisheries Priorities and Annual Guidance for 2016**

For FY16 NOAA Fisheries focus remains on the two core mandates:

- Ensure the productivity and sustainability of fisheries and fishing communities through science-based decision-making and compliance with regulations.
- Recover and conserve protected resources through the use of sound natural and social sciences.

Guiding principles:

- Advance innovative solutions to emerging challenges (science and stewardship): NOAA Fisheries will lead innovation and serve as a catalyst to spur innovation.
- Cultivate our partnerships: NOAA Fisheries will engage the expertise and capabilities of our partners from the international, federal, tribal, and state communities and from academia and nongovernmental organizations.
- Improve internal and external communications and raise awareness of the NOAA Fisheries mission: We will strive toward a “no surprises” approach to communicating with our stakeholders and, where practicable, build consensus on expectations and on identifying critical factors to measure success.
- Improve our decisions and knowledge by transforming data capabilities and access in order to support our mission. NOAA Fisheries will provide robust data and science utilizing the best available infrastructure and by anticipating customer's needs.

***NMFS Priority 1: Maximize Productivity and Sustainability of Fisheries and Fishing Communities***

- Advancing science to manage fisheries sustainably
- Focusing habitat efforts for sustaining, improving, and rebuilding fisheries

### ***NMFS Priority 2: Recover and Conserve Protected Species***

- Advancing science to support the recovery and conservation of protected species
- Focusing habitat efforts for recovery and conservation of protected species

### ***NMFS Priority 3: Improve Organizational Excellence***

- Invest in our people
- Improve risk management and internal controls
- Ensure the cost-effectiveness of information technology, facilities, and observing systems
- Enhance efforts in strategic planning and review

### **PIFSC AGM for FY16**

The PIFSC FY16 AGM was developed following the completion of the NOAA and NMFS AGMs. It identified the following five top priorities for Center activities:

- Implement refinements to the Center's fishery stock assessment and fishery data systems in response to the Center's FY2014 and FY2013 external program reviews<sup>10</sup>, as well as review the FY2015 assessments
  - Continue development of fishery-independent surveys and advanced sampling technologies, including operationalizing the new MOUSS stereo-video camera system
  - Evaluate incorporation of fishery-independent surveys and environmental data into fishery stock assessments
  - Continue implementation of the Territorial Science Initiative to improve data collection and biological sampling that support stock assessments of fishery resources in American Samoa, Guam, and the Northern Mariana Islands
  - Using the prioritization processes for stock assessments in the region, complete the assessments identified as high priorities
- Implement refinements to the Center's protected species research programs in response to the Center's FY2015 external program review

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<sup>10</sup> [http://www.pifsc.noaa.gov/media/news/peer\\_review\\_of\\_data\\_management\\_2013.php](http://www.pifsc.noaa.gov/media/news/peer_review_of_data_management_2013.php);  
[http://www.pifsc.noaa.gov/do/peer\\_reviews/program\\_review\\_of\\_fisheries\\_stock\\_assessments\\_2014.php](http://www.pifsc.noaa.gov/do/peer_reviews/program_review_of_fisheries_stock_assessments_2014.php)

- Conduct surveys and assess the status and dynamics of cetaceans, Hawaiian monk seals, sea turtles, and corals across the Pacific Islands Region
- Conduct scientific studies to address protected species management questions and improve planning processes to better link research activities to management needs
- Improve the integration of both environmental data and ecosystem models into fishery and protected species research programs
  - Conduct a program review for ecosystem science at PIFSC
  - Use the socioeconomic program's quantitative capabilities to assist in modeling approaches for conservation strategies and coastal resilience
  - Evaluate the Ecopath with Ecosim and Atlantis modeling approaches currently used in the Kona IEA and the greater Hawaiian Islands for application in other parts of the Pacific Islands Region
  - Complete the Pacific Islands Region Regional Action Plan (RAP) to assist with the implementation of the NOAA Fisheries Climate Science Strategy (NCSS)
- Expand partnerships to further develop scientific capacity in the region
  - Support the NOAA Fisheries partnership with OAR for the CAPSTONE Deep Sea Coral and Sponge research onboard the NOAA Ship *Okeanos Explorer* in the central and western Pacific Ocean
  - Provide opportunities to scientific partners for shared use of PIFSC laboratory and sea water capabilities at the IRC
  - Expand Center involvement in the new UH Marine Biology graduate program and the NOAA Fisheries QUEST program
  - Continue PIFSC leadership of mentoring local students and the PYSO college-level internship program
  - Collaborate with local resource agencies in the region on ecosystem research and monitoring projects
- Continue to improve the organizational excellence of PIFSC
  - Support the NOAA plan for Public Access to Research Results (PARR) and ensure the Center's data inventory meets accessibility and readability standards
  - Respond to the feedback received from the FY15 Federal Employee Viewpoint Survey

## APPROPRIATIONS, SCIENCE PRIORITIZATION, AND THE BUDGET ALLOCATION PROCESS

### Description of PIFSC “core” Funding Lines

The major base Program, Project, and Activity (PPA) funding lines directed at PIFSC and their descriptions are presented in Table 2 below. NOAA is in the process of streamlining the PPA lines (i.e., rolling multiple lines into a single line) to provide more flexibility in prioritizing and targeting funds.

Table 2.--NMFS PPA Funding Lines

Marine Mammals, Sea Turtles & Other Species/Endangered Species Act (ESA)	This base-line supports core protected species research to understand and predict changes to marine ecosystems affecting protected species and critical habitats.
Marine Mammal Protection (MMP)/NMFS Activities	Base marine mammal funding.
Hawaiian Monk Seals	This funding supports research and enhancement efforts for the conservation and recovery of the highly endangered Hawaiian monk seal.
Sea Turtles: Hawaiian Sea Turtles	Funds are used to conduct conservation and recovery actions for sea turtles in the insular Pacific, including the critically endangered Leatherback, loggerhead, green, and olive Ridley sea turtles.
Fisheries Research and Management Programs	The Fisheries Research and Management Program base budget line supports activities focused on eliminating overfishing and rebuilding overfished stocks.
Marine National Monuments	This funding supports research and management activities for the three marine national monuments that were established in the Pacific Ocean in 2009.
Expand Annual Stock Assessments—Improve Data Collection	Beginning in 2002, the Expand Annual Stock Assessments initiative has provided funding to improve NMFS’ ability to make accurate and timely stock predictions around the country through stock assessments.
Economics & Social Sciences Research	NMFS' Economic & Social Science Research Program is tasked with improving our understanding of the cost and benefits of proposed management actions' monitoring economic performance of commercial and recreational fisheries, including assessing changes in key economic and sociocultural indicators; and conducting applied research on ecosystem management issues.
Fisheries Statistics	The Fisheries Statistics line supports fisheries statistics activities throughout the Agency.



Table 2 continued

Pacific Coastal Fisheries Information Network (PACFIN) Catch Effort Data	The Pacific Coastal Fisheries Information Network (PACFIN) line primarily supports base funding through a cooperative agreement for the PACFIN program, the nation's first regional fisheries information network.
National Standard 8	National Standard 8 of the Magnuson-Stevens Act requires the Agency to provide for the sustained participation of fishing communities and, to the extent practicable, to minimize the social and economic impacts of fisheries regulations on fishing communities.
National Observer Program	This line funds the National Observer Program (NOP) which supports the regional observer programs and implementation of new programs based on regional priorities.
Computer Hardware and Software - FY 2004 Omnibus Funded in PAC	This line supports the operation, maintenance, and software conversion for the NMFS computer system.
National Cooperative Research	Cooperative research enables commercial and recreational fishermen to become involved in collecting fundamental fisheries information to support the development and evaluation of management options.
Information Analyses & Dissemination	These funds support the scientific and computational technology infrastructure and information management best practices, policies and processes necessary to collect, store, secure, process, document, analyze and share data through information management models, tools and systems that are used to monitor and forecast fisheries participation, resource abundance and resource management.
National Environmental Policy Act (NEPA)	This funding supports NMFS' NEPA coordinators and a staff of NEPA experts that conduct environmental impacts studies.

### **Other Resources**

#### **U.S. Agency for International Development (USAID)**

Supported by the U.S. Agency for International Development (USAID), the U.S Department of State, and NOAA's Coral Reef Conservation Program (CRCP) the PIFSC Coral Reef Ecosystem Program (CREP) provides technical assistance and capacity building as part of the Coral Triangle Initiative. The Coral Triangle Initiative aims for the application of an Ecosystem Approach to Fisheries Management to achieve growth, conservation, and sustainability for the following priorities: food security, livelihoods, biodiversity, economic development and threatened species.

**NOAA Coral Reef Conservation Program (CRCP)**

Each year, PIFSC receives funds through the CRCP for the National Coral Reef Monitoring Program (NCRMP). NCRMP supports the field monitoring of coral reef ecosystems across the PIR. Also, subject to the availability of funds, the CRCP publishes Federal Funding Opportunities in the Federal Register to solicit proposals for coral reef conservation activities, as authorized by the CRCA. In addition to internal non-competitive funds for Federal Agencies, the CRCP also awards new grants and cooperative agreements in the following two program categories: 1) CRCP Domestic Coral Reef Conservation Grants (Applicants: Universities, NGOs, commercial organizations, and local and tribal governments.); and 2) Coral Reef NGO Partnership (Applicants: Non-Governmental Organizations with non-profit 501(c)(3) status that have demonstrated expertise and experience in supporting coral reef management in U. S. States and Territories).

**S&T Request for Proposals (RFP)**

The NMFS Office of Science and Technology (S&T) has several requests for proposals they administer as described in Table 3 below<sup>11</sup>.

Table 3.--List of RFPs Administered by Office of Science and Technology

*Updated August 31, 2014*

<b>RFP Announcement Title</b>	<b>RFP Scope Description</b>
Advanced Sampling Technologies	Supports the evaluation, development, and implementation of advanced sampling technologies (AST) to improve the agency’s survey capabilities in support of stock assessment and integrated ecosystem assessments.
Cooperative Research	To enhance the data upon which fishery management decisions are made and foster greater coordination, communication, and mutual respect between agency scientists and stakeholders.
Economics Supports	Commercial fisheries data collection and research; protected species valuation; protected species research; habitat research; ecosystem research.
Electronic Monitoring/ Electronic Reporting (FIS Program)	Supports the Fishery Information System (FIS) collection, management, and dissemination solutions to improve the accuracy, completeness, timeliness, and accessibility of fisheries-dependent information, including electronic reporting and monitoring developments.

<sup>11</sup> [http://www.st.nmfs.noaa.gov/Assets/science\\_program/List%20of%20ST%20RFPs.pdf](http://www.st.nmfs.noaa.gov/Assets/science_program/List%20of%20ST%20RFPs.pdf)

Table 3 continued

<b>RFP Announcement Title</b>	<b>RFP Scope Description</b>
Electronic Monitoring/ Electronic Reporting (Observers)	To support improvements in electronic monitoring and reporting of fisheries-dependent and observer collected data necessary for management of the fishery.
Fisheries And The Environment (FATE)	Describe ecosystem response to environmental change; base science to support ecosystem status reports/assessments; new approaches, indices to support tier III stock assessments.
Habitat Assessment	To improve the use of habitat information in stock assessments.
International Science	To support and promote NMFS' international science capacity, consistent with the International Science Strategy.
National Standard 8	Supports fishing community data collection and research and other sociocultural data collection and research.
Ocean Acoustics	To conduct research addressing effects of anthropogenic sound on marine animals.
Recreational Fisheries Economics	Supports recreational fisheries economic data collection (primarily) and research.
Sea Turtle Assessment	To improve the quality of sea turtle assessments by addressing one or more specific theme: stock identification, abundance and distribution, life history and vital rates, and/or anthropogenic impacts.
Stock Assessment Analytical Methods (SAAM)	Supports projects designed to improve analytical methods used for stock assessment, including development, testing, standardization, and documentation of techniques. Projects should be oriented toward broadly applicable themes.
Improve a Stock Assessment (ISA)	To improve the accuracy and precision of specific fish stock assessments by funding short-term projects focused on improving the data inputs, data flow, and/or the modeling approach.

### **Other Funding**

Episodically PIFSC also engages in reimbursable work with non-NOAA entities. Reimbursable agreements are project-specific and directed through the relevant agreement.

### **Prioritization of Science Activities at PIFSC**

Given the broad range of scientific needs, but the limited amount of time, staff, and funding, it is necessary to prioritize the proposed research activities. The prioritized list of research activities is used during the budget formulation and allocation phase of the cycle as well as during the year

when additional funding may become available. Research prioritization also facilitates in identifying what may be missing or duplicative.

### **Previous Prioritization Exercises**

In 2012, a priority ranking exercise for PIFSC took place after the Science Plan collaboration exercises (described above under Science Plan). Division Chiefs were asked to rank their priority activities and topics according to their capabilities (on a 1–10 scale) and describe the challenges they have encountered, and resources they need to be fully successful at these activities. At that time, NOAA Fisheries leadership directed the Science Centers to create implementations plans that tiered to their Science Plans and to higher-level guidance and that show how resources were allocated and priorities were selected. The FY13 implementation plan was created consisting of a spreadsheet showing how the requirements (budgets) linked back to the milestones and the Science Plan activities and themes. In early 2014, direction was sent from NOAA Fisheries leadership to coordinate a ranking system across Centers. The Alaska Fisheries Science Center’s prioritization model was the suggested tool to follow and it included specific criteria that should be used for ranking. A spreadsheet was created that listed the major program activities, as described in the “Resource Requirements” documents. Several milestones were also provided per program as examples. Division Chiefs were asked to rank each resource requirement area (i.e., major program activities) in relation to seven different criteria provided by the NOAA Fisheries leadership. The Division Chiefs ranked these resource requirement topics and the results were compiled into an excel spreadsheet and analyzed. This ranking exercise did not achieve the expected output since it seemed to be a ranking of milestones rather than program activities.

### **2014 Prioritization Workshop**

#### *Design*

The lessons learned from previous ranking exercises were taken in to consideration later in 2014 when the PIFSC prioritization process was further improved. Milestones were removed from the ranking process and instead distinct, but not overly detailed, research activities were prioritized. A further improvement to the PIFSC ranking system was to divide the activities according to the PPA funding line to better reflect PPA integrity. A prioritization workshop was held at the IRC in July 2014 with the following objectives:

- Discuss research priorities in the context of PIFSC funding sources
- Set up scenarios with some ranking exercises to discuss activities, timing, and drivers
- Identify research gaps and missing activities

- Have PIFSC leadership each rank all of the research activities by PPA and compile the results

Unlike previous ranking exercises, the prioritization workshop was specifically a budget-driven exercise. The discussion centered on rolled-up funding lines (i.e., PPAs with very similar objectives grouped together) and current research activities as well as those anticipated within the next 5 years. The discussion also involved future new approaches to achieve the science mission. An ancillary goal was to develop common terminology for programs when it came to planning and discussion of the activities.

A presentation and handouts of the master list of activities per PPA funding line and an associated ranking sheet were created to guide the prioritization workshop discussion. Planning staff standardized the number of activities to approximately six per rolled-up funding line. A gaps document was created based on the previous individual Division meetings and these ideas were incorporated into the slides and activities. The rolled-up budget lines for this exercise include: Fish, Marine Mammals, Sea Turtles, Marine National Monuments, Pacific Islands Region/Center (Ecosystems), Cooperative Research, Other Lines and Other funding opportunities (e.g., RFPs).

The planning and guidance documents described in previous sections, including the NOAA Next Generation Strategic Plan, NMFS AGM, PIFSC Science Plan, external peer reviews, PIRO requests, and WPRFMC priorities, were discussed with participants to orient them to national and regional science needs.

The scale of the discussion focused on mission activities (e.g., insular shallow reef fishery-independent surveys) as opposed to specific projects. The point was not to rank milestones because milestones are the outcomes or products of activities (e.g., write report for blue marlin stock assessment). Detailed discussion topics were held on complex activities such as stock assessments, and species life history. Participants also discussed new approaches to research and made a distinction about the difference between science and science advice (e.g., International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean vs. the Western and Central Pacific Fisheries Commission).

## ***Results***

### Priority Rankings

For the prioritization workshop each rolled-up funding line was presented and discussed (Table 2.--NMFS PPA Funding Lines.). Division chiefs then had the opportunity to mark their rankings of each activity on handout ranking sheets. Planning staff collected all the raw ranking sheets and

digitally scanned these for archival purposes. The final ranking results were tallied electronically. The resulting averaged scores for each activity were presented back to Participants during the meeting for final reflections.

During the prioritization workshop additional discussion points relevant to the exercise but not necessarily captured in the rankings were also documented. For example, important non-research activities such as effective ways to share scientific results with the public were discussed along with identification of unfunded priorities and underfunded priorities. Examples of unfunded priorities (i.e., activities that don't fall neatly under a rolled-up PPA) included assisting PIRO with ESA determinations and the importance of genetic analysis for protected species life history studies.

### **Budget Formulation and Allocation Process**

The budget formulation process begins with a data call to divisions for their resource requirements to achieve their science objectives for the coming year. The PIFSC requirement documents are divided into discrete projects or programs to streamline the formulation process. Improvements to the process were implemented in FY15 and FY16. Specifically, several data calls were consolidated into one (i.e., resource requirement, Q1 and Q2 'must pays', project travel, and milestones), and divisions were asked to indicate which of the PIFSC priority activities applied to their funding request. This Plan takes the next step and links these requirements with not only the priority activities, but the performance objectives from NMFS and the respective accomplishments.

Once PIFSC receives the NOAA budget allocation tables, the Directors Office and budget staff hold a series of formulation meetings to determine and allocate labor funds, overhead costs (as described in the policies and procedures memorandum for management and administration (M&A) costs<sup>12</sup>), science support costs, and the remaining amount available for each project or program.

Following the budget formulation meetings, a data call is sent to each program that the budget office must populate each year, called the "must pays." Each year the budget office is also required to submit a quarterly plan by project code based on the Funds Availability Table (at that time) provided by headquarters. This submission drives PIFSC's Q1–Q4 budget allocations for the entire upcoming fiscal year.

In previous years, the timing of data calls from headquarters' was out of sync with our PIFSC planning process. This Plan identifies a revised schedule to better coordinate the data calls.

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<sup>12</sup> <http://www.corporateservices.noaa.gov/finance/docs/Policy/CFOMemMAPolProced091511.pdf>

## **Mid-year Funding Opportunities**

Mid-year funding is crucial to address unforeseen scientific research needs, emerging priorities, as well as under-funded priorities. As described under the Other Resources section, many of these RFPs are announced after the initial allocation of funds. The proposals developed by PIFSC staff are coordinated through the Directors Office to insure consistency. Mid-year funding still needs to comport with the scope of the annual AGM and priorities, but may reflect needed adjustments since those documents were written.

## **MILESTONES, SCIENTIFIC ACCOMPLISHMENTS, AND PROGRAM EVALUATIONS**

PIFSC employs several mechanisms to track our scientific accomplishments during the course of the year.

### **Annual Reporting Milestones**

Every year each NMFS regional office, science center, and headquarters' office develops a suite of milestones based on the NMFS AGM. In FY16, the milestones were specifically designed to achieve the list of Anticipated Results identified in the FY16 NMFS AGM Milestones and are defined in the NOAA Fisheries electronic Annual Operating Plan (eAOP) business rules as "scheduled events signifying the completion of a major deliverable or a set of related deliverables or a phase of work." The scope should be limited to the specific accomplishment to be completed during this fiscal year. Milestone descriptions should include a short, concise narrative explaining who is supposed to do what, when, and why. It should touch on the following areas:

- The specific work to be accomplished, in more detail than the title provides.
- The purpose and effect.
- Required or statutory deadlines.
- Any issues or anticipated problems.

Each year PIFSC staff work with PIFSC leadership and the headquarters program offices to develop the milestones and ensure that they address the priorities in the NMFS AGM. Headquarters program offices (i.e., Habitat Program, Coral Reef Conservation Program, Fishery Management Program, Recover Healthy Species, Improved Understanding of Ecosystems, Enforcement Program, Aquaculture Program and International Activities of FMP and PSP Programs) coordinate, and guide, the regional offices and science centers in the milestone development process and will select milestones from eAOP to build the NMFS AOP and HQ

office program AOPs. In the eAOP, every milestone must be linked to one best fit performance measure. A listing of current and past milestones can be found on the PIFSC website<sup>13</sup>.

### **Non-Milestone Scientific Accomplishments**

While milestones are a valuable tool to plan, track, and report scientific accomplishments, they are only a subset of all the PIFSC accomplishments each year. Non-milestone accomplishments can vary from program needs that arise during the course of the year to multidisciplinary large-scale projects that take several years to complete. PIFSC tracks these accomplishments in different ways, but as part of this process will incorporate these accomplishments into the cycle of plan, prioritize, allocate, and review. These accomplishments along with the milestones will also contribute to the annual report and business report. These reports are scheduled for release to the public at the beginning of each calendar year. The annual report provides a summary of the major scientific accomplishments by PIFSC. The business report provides a summary of staffing and funding resources during the year.

### **External Science Program Evaluations**

In addition to the annual accomplishment tracking, PIFSC also periodically reviews research programs. These reviews are either carried out internally or by a panel of external experts in the field.

### **PIFSC External Reviews**

PIFSC conducted external reviews annually starting in 2007 through 2012. In 2013, NMFS headquarters introduced a new approach for reviewing programs in a systematic way across all the Science Centers. The year and subject of these previous PIFSC external reviews are as follows:

- 2007 - Review and evaluate the Center's current and proposed activities, and to provide advice to the Center on the direction and quality of the science program<sup>14</sup>.
- Also in 2007, the NOAA Coral Reef Conservation Program (CRCP) undertook a comprehensive external review of its work to note successes, identify issues, and seek

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<sup>13</sup> [http://www.pifsc.noaa.gov/do/milestones\\_for\\_fy2014.php](http://www.pifsc.noaa.gov/do/milestones_for_fy2014.php)

<sup>14</sup> [http://www.pifsc.noaa.gov/do/ExternalReview\\_2007.php](http://www.pifsc.noaa.gov/do/ExternalReview_2007.php)



expert guidance on ways to improve the program. The review included an evaluation of the extensive coral reef ecosystem research by the PIFSC's Coral Reef Ecosystem Division in the central and western Pacific and resulted in a final report out on NOAA CRCP Goals and Objectives<sup>15</sup>.

- 2008 - Examine the ecosystem monitoring and research programs of the Center, their relationship to NMFS's vision of ecosystem research, and to solicit advice, recommendations, and direction on these programs<sup>16</sup>.
- 2009 - Review and evaluate the Center's current and proposed pelagic research, and to provide advice to the Center on the direction and quality of the pelagic research programs<sup>17</sup>.
- 2010 - Evaluate the PIFSC approach to management of its scientific data<sup>18</sup>.
- 2011 - Sea Turtle Research, Monitoring and By-catch Engineering covering five species (with an emphasis on the Hawaiian green and North Pacific loggerhead)<sup>19</sup>.
- 2012 - The Directors Office of PIFSC commissioned a survey of the Center's primary stakeholders in the first quarter of 2012 to better understand how well the Center is fulfilling its mission<sup>20</sup>.

## NMFS Program Reviews

Starting in 2013, a standardized 5-year cycle of peer review and evaluation was instituted by NMFS. These reviews are intended to address the fundamental science programs at both the national and regional level, and ensure that these programs are at the cutting edge of science while still meeting the needs of stakeholders. Each year of the cycle has a specific thematic focus. In 2013, peer reviews focused on the data collection and management programs that support stock assessments for fish stocks managed under the MSA<sup>21</sup>. In 2014, the thematic focus shifted to the actual fisheries stock assessments conducted under mandate of the MSA<sup>22</sup>. In 2015 the thematic focus was on protected species science with an emphasis on the science that

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<sup>15</sup> [http://coralreef.noaa.gov/conservation/resources/3threats\\_go.pdf](http://coralreef.noaa.gov/conservation/resources/3threats_go.pdf)

<sup>16</sup> [http://www.pifsc.noaa.gov/do/ExternalReview\\_2008.php](http://www.pifsc.noaa.gov/do/ExternalReview_2008.php)

<sup>17</sup> [http://www.pifsc.noaa.gov/do/ExternalReview\\_2009.php](http://www.pifsc.noaa.gov/do/ExternalReview_2009.php)

<sup>18</sup> [http://www.pifsc.noaa.gov/do/ExternalReview\\_2010.php](http://www.pifsc.noaa.gov/do/ExternalReview_2010.php)

<sup>19</sup> [http://www.pifsc.noaa.gov/do/ExternalReview\\_2011.php](http://www.pifsc.noaa.gov/do/ExternalReview_2011.php)

<sup>20</sup> [http://www.pifsc.noaa.gov/do/stakeholder\\_survey\\_feedback\\_report\\_2.1.pdf](http://www.pifsc.noaa.gov/do/stakeholder_survey_feedback_report_2.1.pdf)

<sup>21</sup> [http://www.pifsc.noaa.gov/media/news/peer\\_review\\_of\\_data\\_management\\_2013\\_presentations.php](http://www.pifsc.noaa.gov/media/news/peer_review_of_data_management_2013_presentations.php)

<sup>22</sup> [http://www.pifsc.noaa.gov/do/peer\\_reviews/program\\_review\\_of\\_fisheries\\_stock\\_assessments\\_2014.php](http://www.pifsc.noaa.gov/do/peer_reviews/program_review_of_fisheries_stock_assessments_2014.php)

supports stock assessments<sup>23</sup>. In 2016 the thematic focus was on ecosystem sciences and in 2017 it will be economics and social science.

### **Center for Independent Experts (CIE)**

NMFS S&T provides each Science Center with the opportunity to have independent peer-reviews of their scientific work through a contract to the Center for Independent Experts (CIE). S&T selects which projects will have a CIE reviews and the number varies subject to the availability of funds. CIE reviews of PIFSC projects have included several fish stock assessments, a research program, an Endangered Species Act status review. The PIFSC website provides access to peer reviews completed to date and a listing of those scientific work products for which peer reviews are still underway or waiting to begin<sup>24</sup>.

### **Western Pacific Stock Assessment Review (WPSAR)**

Unlike the NMFS External Program Review, the WPSAR process is specific to the Pacific Islands and its stock assessment process. The WPSAR has two tiers of review depending on the circumstances of the review. The Tier 1 is for new stock assessments and involves a review by the CIE. Tier 2 is for the review of new applications of existing methodologies previously peer reviewed. Unlike Tier 1, Tier 2 uses a panel of four to six independent subject matter experts selected by PIFSC in consultation with the WPSAR Steering Committee.

## **ANNUAL REVIEW OF THE IMPLEMENTATION PROCESS**

The final step in the annual implementation process of plan-prioritize-allocate-review is the review of the scientific work products. As described in the previous section, the PIFSC tracks both milestones and non-milestone accomplishments, and periodically entire programs are evaluated. However, a systematic review of the scientific work products in the context of the whole implementation process has not previously been carried out. During this annual strategic review, the completed scientific work products will be evaluated with the planning, prioritization, and allocation steps over the course of the year. Once this review is completed, the results would be used to better inform the next implementation cycle that starts again with planning phase in Q3.

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<sup>23</sup> <http://www.st.nmfs.noaa.gov/science-program-review/program-review-reports/index>

<sup>24</sup> [http://www.pifsc.noaa.gov/do/peer\\_reviews/](http://www.pifsc.noaa.gov/do/peer_reviews/)

## **Strategic Review of Scientific Work Products**

An annual strategic review is proposed going forward in FY16-17 to help PIFSC improve performance, verify and validate science work products, and to achieve priority goals. The outcomes of the review would be used to validate best practices and identify performance improvement strategies. The annual strategic review will be led by the PIFSC Director and include the PIFSC leadership. PIFSC will also use the annual strategic review to address and prepare for the potential challenges of uncertain resources and changing guidance in the following year.

The questions posed during this review will focus on the decision-making during the year and include:

- Was the year-end execution of resources in accordance with the funding lines?
- Were the scientific accomplishments in line with the research priorities?
- How many PIFSC, NMFS, and NOAA priorities were achieved?
- What trade-offs were made to meet certain research priorities but not others?
- What challenges prevented a priority from being met and how can those be addressed next year?
- Where are there gaps remaining in our research and how should we address these in the future?
- Did mid-year funds address emerging priorities and under-funded priorities?
- How successful was PIFSC at securing funding through RFPs?
- How close were the projections to reality?

## **Analysis of the Strategic Review**

The results of the strategic review should help PIFSC prepare for both the anticipated and unforeseen challenges in the following year. Every new fiscal year brings both difficult changes and new opportunities. Preparing for these variables starts with understanding and documenting how past decisions were executed. With each successive cycle, PIFSC will reflect on the previous year's accomplishments and discuss what this means for our prioritization process moving into the subsequent fiscal year. Similarly, PIFSC will also have the opportunity to discuss external challenges outside of the implementation process and decide how to respond to them.

Recently PIFSC relocated to the new IRC facility on Ford Island. While this presents many opportunities – partnerships with other NOAA line offices, new state of the art facilities such as laboratories, life support systems, dive facilities, and dockside ship access – it also comes with uncertain costs and new challenges. The past year PIFSC also continued to execute the science

mission in spite of another continuing resolution and sequestration. PIFSC also successfully transitioned to a new Science Director and Deputy Science Director.

Under the newly formed Ecosystems Sciences Division, there will be new opportunities to study interdisciplinary climate change variables and better address relationships between the social sciences with other aspects of the environment. Similarly, under the newly formed Science Operations Division, there will be new opportunities to integrate and operationalize recently developed advanced sampling technologies with each research division.

## **CONCLUSIONS**

This document describes the annual PIFSC process of planning, prioritizing, allocating, and reviewing the science mission. As this is the first comprehensive Plan that connects all of these complex actions together, it will require additional refinements and modifications over time.

With each successive cycle in the process, further improvements are anticipated. This Implementation Plan builds on the previous PIFSC initiative of developing a Science Plan and convening a science prioritization workshop. Specific to this Implementation Plan are revised planning timelines (including budget actions and data calls), improved tracking and reporting mechanisms for our accomplishments, and a new annual strategic review. This Plan will assist PIFSC staff through this process, while improving transparency with NMFS leadership and our research and management partners.