



WESTERN  
PACIFIC  
REGIONAL  
FISHERY  
MANAGEMENT  
COUNCIL

## **Western Pacific Regional Fishery Management Council (WPRFMC)**

### **Council Member Ongoing Development: November 2022 in Denver, CO Ecosystem Based Fisheries Management (EBFM)**

#### **What is EBFM?**

The reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) calls for expanded attention to ecosystem principles in fishery conservation and management actions. The WPRFMC was one of the first Councils to progressively apply ecosystem principles to management of fisheries under its jurisdiction, specifically through the development of Fishery Ecosystem Plans (FEP). Workshops to implement ecosystem approaches to fisheries management were held as early as 2005.

*NOAA Fisheries defines EBFM as a systematic approach to fisheries management in a geographically specified area that contributes to the resilience and sustainability of the ecosystem; recognizes the physical, biological, economic, and social interactions among the affected fishery-related components of the ecosystem, including humans; and seeks to optimize benefits among a diverse set of societal goals.*

For the purposes of this policy developed by the National Marine Fisheries Service, but often guided by the WPRFMC, EBFM includes considerations of interactions among fisheries, protected species, aquaculture, habitats, and other ecosystem components, including the human communities that depend upon them and their associated ecosystem services. EBFM examines not only the broader suite of factors that impact fisheries, but also considers the potential impacts of fisheries and fished stocks on other parts of the ecosystem (e.g. on other fish species, marine mammals). “Societal goals” should consider and include any relevant economic, social, and ecological factors in the context of relating to fisheries and fishery resources. EBFM is cognizant of both human and ecological considerations.

#### **Previous EBFM Workshops and Outcomes**

##### Ecosystem Science and Planning (2005)

- Review existing ecosystem models and their applications and management of marine resources in the Western Pacific.
- Identify the best suite of quantitative ecosystem indicators, short-term applications of EBFM given the current data and new data or models.
- Identify changes in policy necessary to implement EBFM in the Western Pacific.

##### Social Science and Planning (2006)

- Identify short-term applications of EBFM given the current data and explore new social and policy science data/models that help advance approaches to EBFM.

- Convene nationally recognized scientists to review social science applications, resource management requirements, and ecosystem indicators related to the human and institutional ecology of marine ecosystems in the Western Pacific.

#### Ecosystem Policy (2007)

- Discuss and identify the challenges of implementing new marine resource management policies in the diverse social and biophysical settings that are characteristic of the Western Pacific.
- Identify policy options for maximizing the potential benefits of EBFM in the cross-jurisdictional and cross-cultural settings that are characteristic of the Western Pacific.
- Examine policy options for addressing the needs and interests of indigenous fishing practitioners and other resource user groups across the region.
- Discuss options for enhancing the benefits of fishery ecosystems research and monitoring in the Western Pacific.

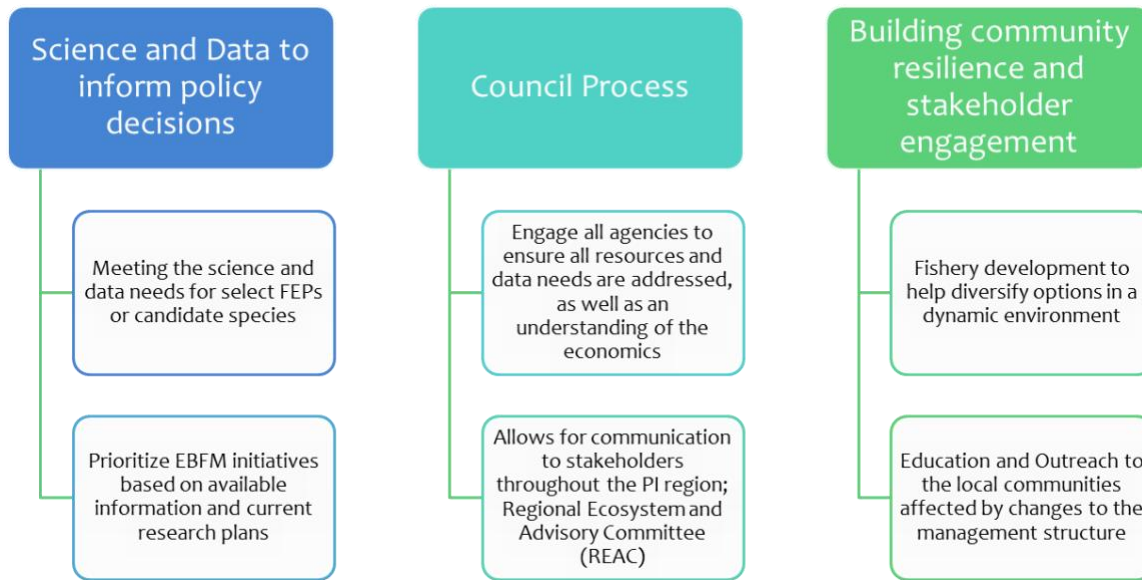
#### WPRFMC, PIFSC and PIRO EBFM Priorities (2022)

- Improve understanding of the scope of EBFM and develop a shared understanding of the state of EBFM in the region, what changes we want to see in the coming decade, and how we can position ourselves to achieve that goal.
- Foster a shared understanding of the management, science and data challenges and capabilities in the Pacific Islands.
- Learn from a case study (i.e., Integrated Ecosystem Assessment) in West Hawaii and discuss how to “scale up” in the Western Pacific region.
- Identify common threads (e.g. human dimensions, climate change, socioeconomics, equity and environmental justice) that offer opportunities to maximize efforts and prioritize outcomes.
- Develop recommendations on engaging state and territorial stakeholders for future EBFM initiatives.

#### **WPRFMC EBFM Initiatives**

- Shift from species-based Fishery Management Plans to place-based Fishery Ecosystem Plans (FEP)
- Focused on advances in ecosystem modeling, data requirements and the policy framework
- Ecosystem chapter in the Stock Assessment and Fishery Evaluation Reports
- Development of the Regional Ecosystem Advisory Committee (REAC)
- Ecosystem considerations were included in every amendment to the FEPs: habitat, protected species, fishing communities, economic impacts, etc.
- EBFM framework to monitor changes in the fisheries as a function of the ecosystem – proactive management, as opposed to reactionary
- Model development for understanding factors driving protected species interactions

## WPRFMC EBFM Pillars



## Next Steps for Implementing EBFM in the Western Pacific Region

WPRFMC Scientific and Statistical Committee recommendations based on the 7<sup>th</sup> National Scientific Coordination Subcommittee Outcomes:

- *Identify reliable ecosystem indicators* to incorporate into stock assessments, as well as *resources needed to improve and enhance data collection for monitoring* the indicators and providing information to understand ecosystem changes and their effects;
- *Conduct scenario planning* for extreme environmental events to assist with economic and social resilience of fishing communities;
- *Collaboration and idea sharing* between regions to explore expanded management options;
- *Support efforts to build flexibility* into stock status, reference point, and rebuilding guidelines when incorporating ecosystem considerations;
- Data-rich pelagic fisheries should consider *approaches to link allocations to climate-related changes to abundance*;
- Identify scenarios where *quantitative decision making tools could help improve understanding of ecosystem considerations* for fisheries in the WP region. Priorities include interactions between protected species taken in the region's longline fisheries and current management approaches, and considering ways to incorporate ecosystem considerations into bottomfish assessments and reference points.

## Additional Information and Resources

[WPRFMC Fishery Ecosystem Plans and Amendments](#)

[West Hawai'i Integrated Ecosystem Assessment](#)

[West Hawai'i Ecosystem Status Reports](#)

[Pacific Islands Regional Action Plan: Climate Science Strategy for 2022-2024](#)

[Pacific Islands Region EBFM Implementation Plan 2018–2022](#)