

Outreach and Education Advisory Panel
Hybrid Meeting
March 22 2023

Fishery Ecosystem Plan Update

LIAJAY RIVERA GARCÍA

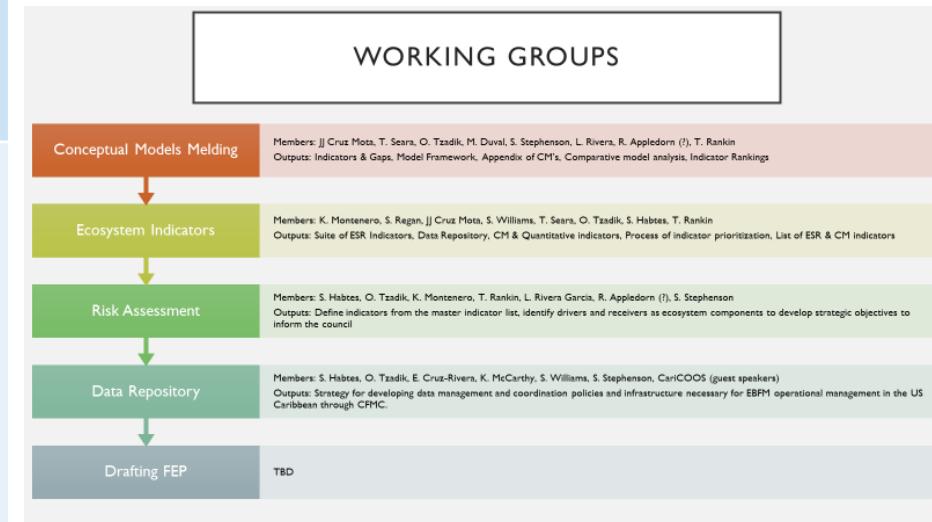
GRACIELA GARCÍA-MOLINER

CARIBBEAN FISHERY MANAGEMENT COUNCIL



Previous report

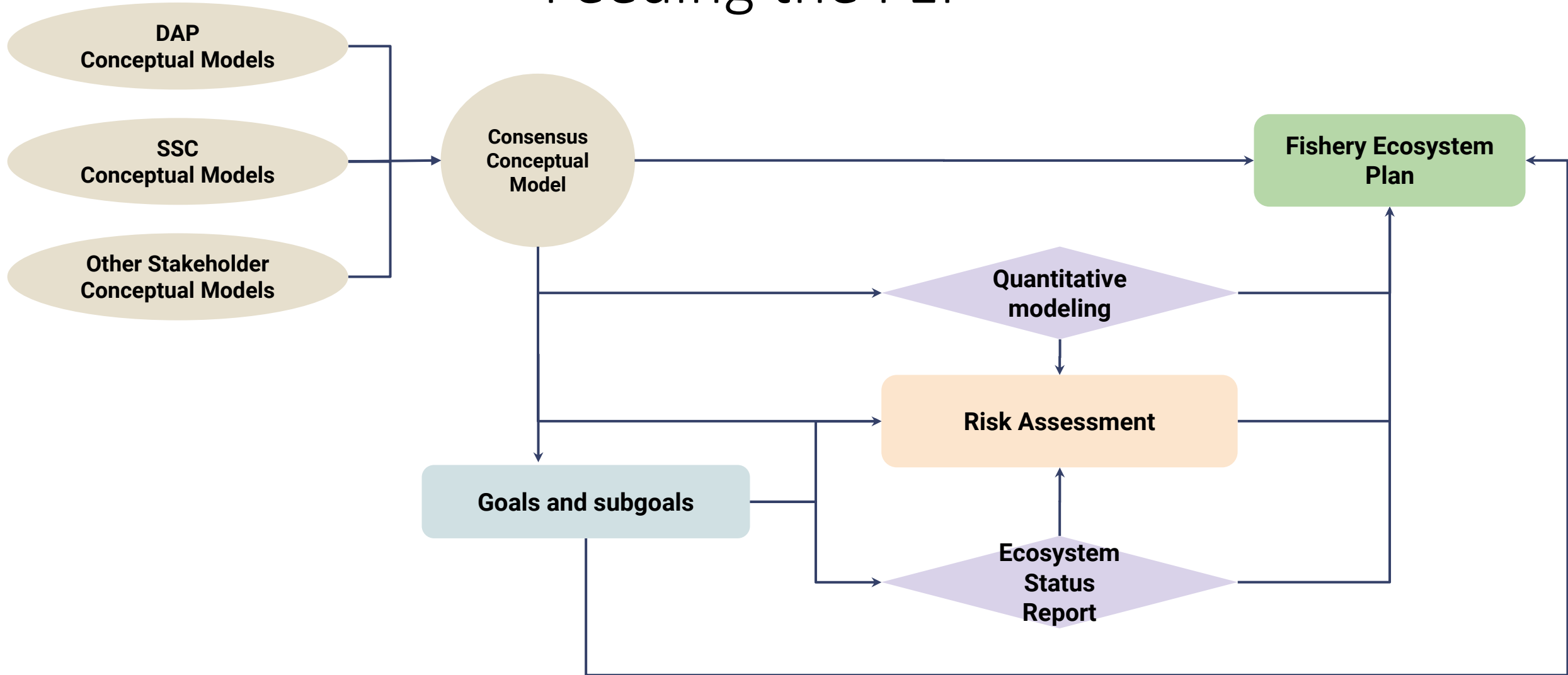
Topic	Previous status (OEAP Nov 11 2022)
Conceptual Models	-Done; highlighted O&E as a common component across all SSC and DAPs CMs -NSSC case report on EBFM implementation in U.S. Caribbean
TAP Working Groups	-Conceptual Modeling Melding: merging -Ecosystem Indicators: Suite of indicators -Risk Assessment: Use of main drivers from CMs as risk factors -Data Repository: No updates -Draft FEP: Jurisdictions
Caribbean FEP outline	-Products feeding the FEP; data mining & challenges
Timeline	-Extended with pending finalization this year.



Updates

Topic	Current status
Conceptual Models	-Done; continue to provide commonalities across DAPs and SSC components and its connections
TAP Working Groups	-Conceptual Modeling Melding: to be finalized next month -Ecosystem Indicators: Update to be provided at joint meeting -Risk Assessment: In discussion -Data Repository: In discussion -Draft FEP: 1st -4th section.
Caribbean FEP outline	-New, re-arranged version
Timeline	-Extended with pending finalization this year.

Feeding the FEP

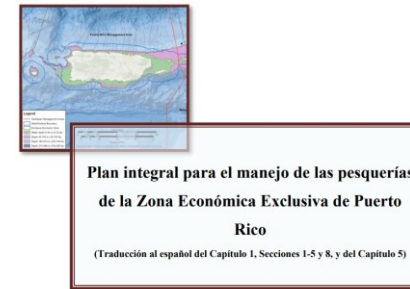


Source: Tauna Rankin. GCFI 75th

Drafting FEP: re-arranged outline

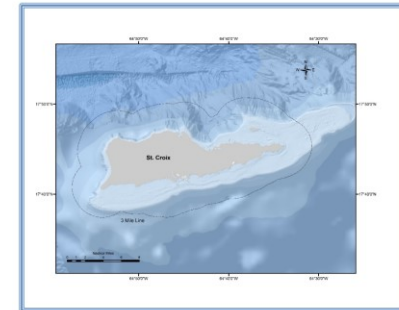
1. Introduction/Background
 - a. Purpose and need
 - b. Goals and Objectives
 - c. Explain the approach of EBFM
 - d. Describing the organization (council panel group management boundaries)
2. Defining the Interface Between Fishery and Ecosystem Management
 - a. Jurisdictions
 - b. Magnuson-Stevens Act
 - c. Other federal law and guidance
 - i. NOAA obligations
 - ii. Other federal agencies (e.g. Dept of Agr., USFWS, EPA, Coast Guard, USCE)
 - d. Local regulations
 - e. FEP development process and reassessment
 - f. Local interface between fisheries, fishery communities and ecosystem management
3. Environmental setting
 - a. Society and culture
 - i. St. Croix
 - ii. St. Thomas/St. John
 - iii. Puerto Rico
 - iv. Connectivity *NOTE-this establishes the framework for a hierarchical spatial approach*
 - b. Economics
 - i. St. Croix
 - ii. St. Thomas/St. John
 - iii. Puerto Rico
 - iv. Connectivity
 - c. Ecology
 - i. St. Croix
 - ii. St. Thomas/St. John
 - iii. Puerto Rico
 - iv. Connectivity
 - v. Habitat
 - d. Fisheries
 - i. St. Croix
 1. Fisheries regulations
 - ii. St. Thomas/St. John
 1. Fisheries regulations
 - iii. Puerto Rico
 1. Fisheries regulations
 - iv. Connectivity

4. Conceptual Models
 - a. SSC, DAPs and other Council body conceptual models
 - b. Any other conceptual models developed by independent researchers
 - c. Stack Conceptual Models under council's guidance or by independent researchers
 - d. Applications
5. Present Status
 - a. Review of Ecosystem work in the U.S. Caribbean
 - b. Ecosystem Status Report prepared by SEFSC
 - c. Risk Analysis
 - d. Other reports and documents (e.g. EPA bio criteria analysis, NCRMP status reports)
 - e. Applications
6. Future prospects
 - a. Quantitative Models
 - b. Restoration/Mitigation
7. Assessing Fishery and Ecosystem Conditions
 - a. Data availability, needs, strategies
 - b. Assessment within an Ecosystem Context
 - c. Developing group (e.g., biomass based) Assessment Approaches
 - d. Assessing EFH
 - e. Understanding the uncertainties/ variability of environmental changes and human activities on ecosystems and fisheries resources
8. Coordination of ecosystem approaches to fisheries management in the US Caribbean
 - a. Considerations for Management
 - i. MSA Revisions
 - ii. FMP Amendments
 - iii. CFMC policy statements
 - b. Process for bringing the EBFM to the Council *(Convey the notion that the TAP is still in discussion on this. EBFM might inform management decision made by the Council)*
 - c. Identify potential management strategies
 - d. Integrated Ecosystem Assessment *NOTE-we may not have one for a while, but this outline includes not just what we have but what we need*
9. Research needs
10. Performance evaluation
 - a. Performance measure
 - b. Management strategy evaluation
 - c. Review and revision schedule



Versión final
Diciembre 2019

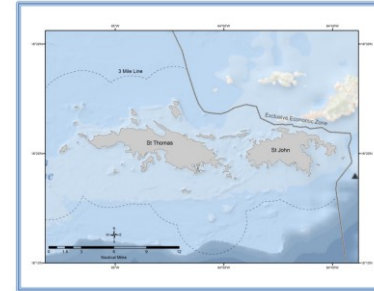
(Traducción al español no oficial. Versión corregida del 31 de agosto de 2020.)



Comprehensive Fishery Management Plan for the St. Croix Exclusive Economic Zone

Including Environmental Assessment, Regulatory Impact Review,
and Fishery Impact Statement

Final Version
December 2019



Comprehensive Fishery Management Plan for the St. Thomas/St. John Exclusive Economic Zone

Including Environmental Assessment, Regulatory Impact Review,
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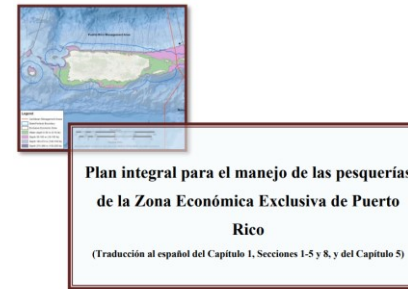
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Drafting FEP: re-arranged outline

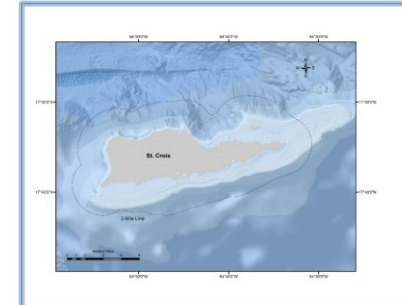
Draft FEP Outline

1. Introduction
 - a. Purpose, need, and limits of the FEP
 - b. Goals and objectives
 - c. Approach of EBFM
 - i. Within EBFM context:
 1. US Caribbean jurisdictions
 2. MSA
 3. Other federal law, federal agencies, and obligations
 4. Local regulations
2. Ecosystems and ecosystem services
 - a. Local interface between fisheries, fishery communities, and ecosystem management
 - b. Basic description, compare/contrast, and describe connectivity among the three island platforms with regards to:
 - i. Society and Culture
 - ii. Economics
 - iii. Ecology
 - iv. Fisheries
3. Ecosystem indicators
 - a. ESR
 - b. Conceptual Models
 - c. Other available products for reference
4. Use of Indicators in Management
 - a. Tools for Council Use:
 - i. Risk Assessment
 - ii. Quantitative Models
 - iii. Restoration/Mitigation
 - b. Other ecosystem approaches
 - i. MSA Revision
 - ii. FMP amendments
 - iii. CFMC policy statements
 - iv. Integrated Ecosystem Assessment
5. Plan Moving Forward
 - a. Research needs
 - b. Strategic objectives
 - c. Operational objectives
 - d. Performance measures
 - e. Management strategy Evaluation
 - f. Review and revision schedule



Versión final
Diciembre 2019

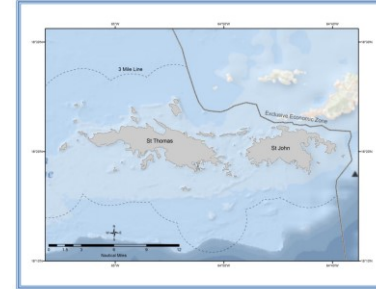
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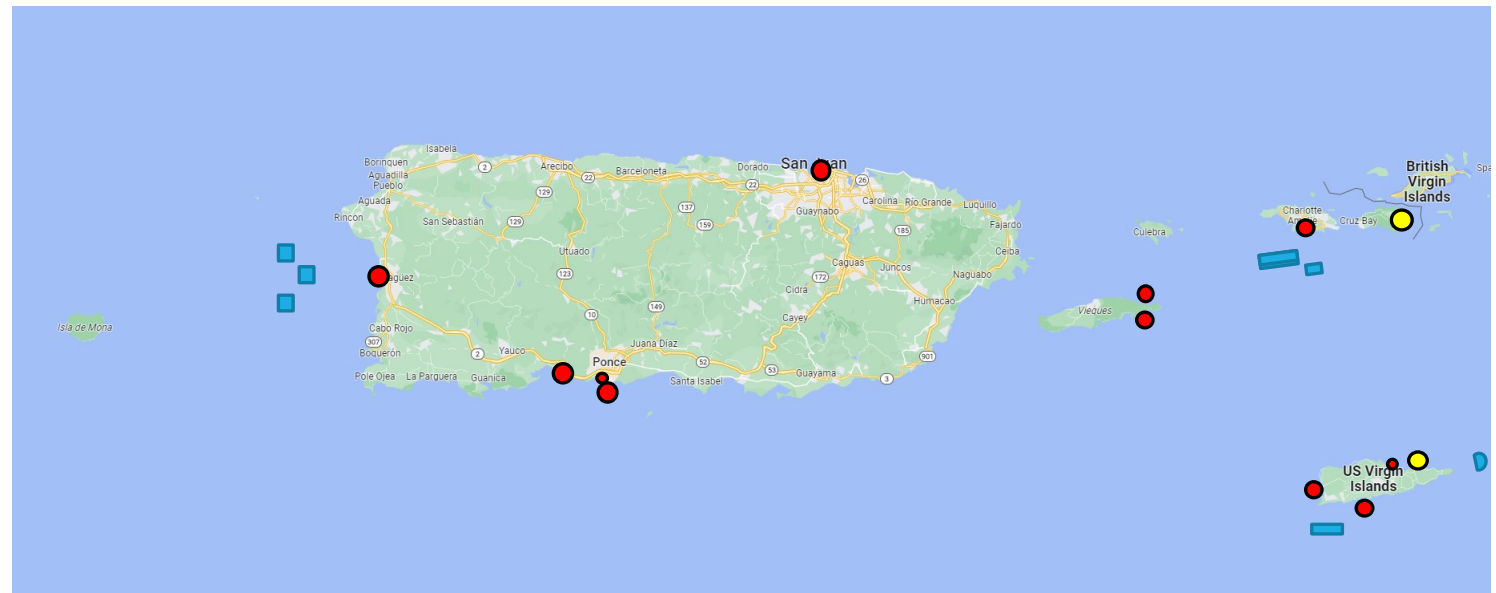
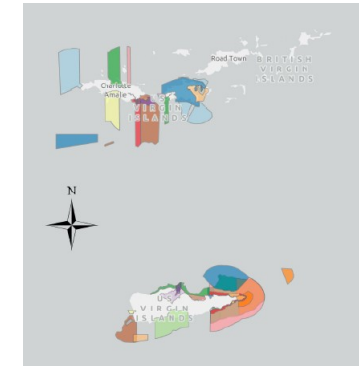
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FEP: gathering maps, regulations, etc

- Coast Guard Safety Zones ●
- NPS Monuments ●
- MPAs
- CFMC managed areas ■
- More to come



Conceptual Models: Socioeconomic (S-E)

DAP PR:

Socioeconomic is being affected; not a driver.

Drivers affecting S-E:

Effective management

Fish Stocks (health of)

Fishing gear loss

Illegal Fishing

Imports (control of)

Infrastructure

Lobster availability

Market/product availability

Pollution

Shift in Fishing gear

DAP STX:

Not addressed directly

DAP STT-STJ:

Drivers affecting S-E:

Coastal management

Heritage and culture

S-E effect on:

Tourism and local Economy

Fishers (market-driven)

Timeline

Activity	Expected Date of Completion
Revise and draft EBFM TAP goals and objectives	December 2020
Draft FEP goals and objectives	April 2021
Continue to collect and analyze existing data sets from Lenfest, SeaMap, ESR, etc... Expected products = a centralized repository of data (e.g., MBON, Caricoos, etc.); summary analyses of pertinent datasets; potentially peer-reviewed publications	April - December 2021 (ongoing)
Complete all conceptual models	June 2022 ✓
Meld conceptual models to create island-specific conceptual models	December 2022 now Spring 2023
Use the conceptual models & additional products to create island-specific risk assessments for consideration by the SSC, that will be used to inform approaches that will be presented in the FEP.	December 2022 (now 2023)
Use the conceptual models and other products produced by the ESR, EBFM TAP, and by the Lenfest FEP project to identify ecosystem indicators that should be monitored. In addition to inclusion in the FEP, these indicators will be presented to the SSC and the CFMC for consideration to include in EBFM management practices.	December 2022 (1st presentation to SSC November 2022) (continue into 2023)

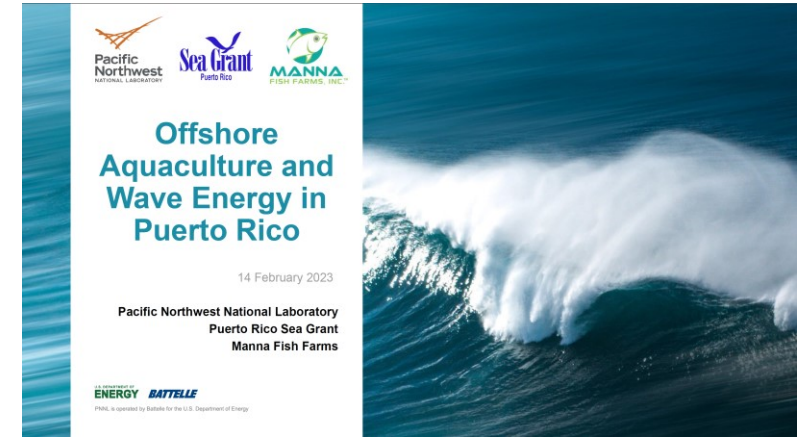
Timeline

Activity	Expected Date of Completion
Develop strategic objectives, prioritize the objectives, and outline a vision for the use of the FEP for consideration in the CFMC processes.	Mar 2023
Develop operational objectives with concrete action items to be presented in the FEP, for consideration by the CFMC.	May 2023
Develop performance measures and draft a management strategy that can be used situationally during CFMC decision making, to be presented in the FEP, for consideration by the CFMC.	July 2023
Develop a feedback mechanism for adaptive management to be presented in the FEP, for consideration by the CFMC.	July 2023
Develop a draft FEP document	August 2023
Submit FEP for council approval	December 2023

Other activities

-Feb 14 2023: Workshop

Offshore Aquaculture and Wave Energy in Puerto Rico



-April 11 2023: Webinar

Progress toward informing an ecosystem-based approach for fisheries management in the U.S. Caribbean

- Link to register: https://us02web.zoom.us/webinar/register/WN_CS316IC2S0KH50qMSV1U2Q
- Or scan QR code to register



¡Gracias!

Thank you!