



# **Status Update: Development of the U.S. Caribbean Fishery Ecosystem Plan**
























**159<sup>th</sup> Caribbean Fishery Management Council  
Regular Meeting  
April 18-19, 2017**

# Outline

- ❖ What is a FEP?
- ❖ FEP Workshop overview
- ❖ FEP Draft Outline
- ❖ Next Steps



# What is a FEP?

Levels	Scientific Advice	Management Framework
<b>EBM</b> Ecosystem Based Management	 Fisheries  Development  Energy  Eco Tourism  Oil & Gas  Conservation  Marine  Sanctuaries  Aquaculture  Etc	
<b>EBFM</b> Ecosystem Based Fisheries Management	 Fisheries  Climate  Habitat  Predator	
<b>EAFM</b> Ecosystem Approach to Fisheries Management	 Fisheries  Climate  Habitat  Predator	
<b>SS</b> Single Species		

FEP will guide us to operate at this level

We presently operate at this level



# What is a FEP?

## ❖ FEP serves as a guidance document

- Scale-dependent and hierarchical:
  - ◆ Individual island
  - ◆ U.S. Caribbean region
  - ◆ Caribbean basin/Large Marine Ecosystem
  - ◆ Global
- Includes ecosystem-scale information on structure and function
- Biogeographic information and spatial scales
- Describe relationships between LMRs, human uses of the resource, and activities affecting the LMRs
- In place, in various forms, in other regions throughout the nation



# FEP Workshop

## ❖ 2-Day workshop Feb 23-24, 2017

- NMFS & Council Staff
- Additional Attendees
  - ◆ Tim Essington, University of Washington
  - ◆ Angela Bednarek and Charlotte Hudson, Lenfest Ocean Program
  - ◆ Orian Tzadik, Pew

**The goal of the Workshop was to hear information and viewpoints on FEPs and lessons learned on the development of FEPs from the individual attendees**



## FEP Draft Outline

Determine Initial  
Goals & Objectives

Resource  
Characterization

Process  
Characterization

Inventory Ecosystem  
Threats & Issues

Determine Relationship  
between FEP and FMP

Guidance Process

- ❖ Develop and prioritize goals and objectives with input from stakeholders.
- ❖ Develop both strategic (stakeholder input) and operational (logistics of development) objectives.

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Determine Initial  
Goals & Objectives


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Process  
Characterization

Inventory Ecosystem  
Threats & Issues

Determine Relationship  
between FEP and FMP

Guidance Process

- 
- ❖ Inventory the historical and available data
  - ❖ Compile the data into a database
  - ❖ Conduct a data gap analysis and determine additional data needs
  - ❖ Suggest ecological status indicators

# FEP Draft Outline

Determine Initial  
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Inventory Ecosystem  
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Determine Relationship  
between FEP and FMP

Guidance Process

- 
- ❖ Develop a conceptual ecosystem model
  - ❖ Develop a geospatial model and determine the suitable resolution for data analysis

# FEP Draft Outline

Determine Initial  
Goals & Objectives

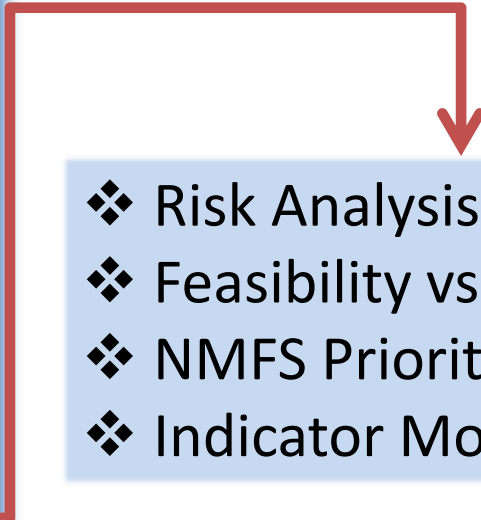
Resource  
Characterization

Process  
Characterization

Inventory Ecosystem  
Threats & Issues

Determine Relationship  
between FEP and FMP

Guidance Process

- 
- ❖ Risk Analysis
  - ❖ Feasibility vs. Applicability
  - ❖ NMFS Prioritization
  - ❖ Indicator Modeling

Determine Initial  
Goals & Objectives

Resource  
Characterization

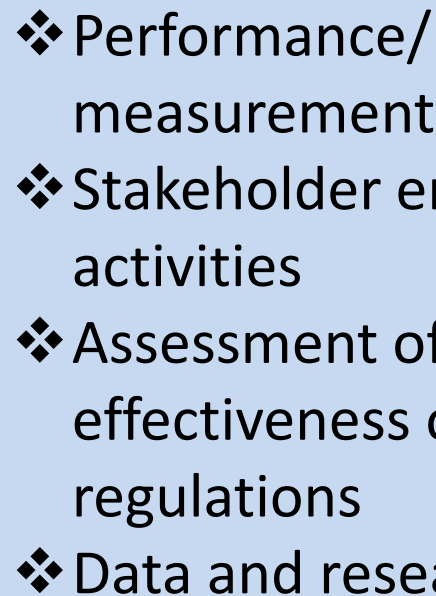
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Determine Relationship  
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Guidance Process

## FEP Draft Outline

- 
- ❖ Performance/ effectiveness measurements
  - ❖ Stakeholder engagement activities
  - ❖ Assessment of the effectiveness of current regulations
  - ❖ Data and research needs

# FEP Draft Outline

Determine Initial  
Goals & Objectives

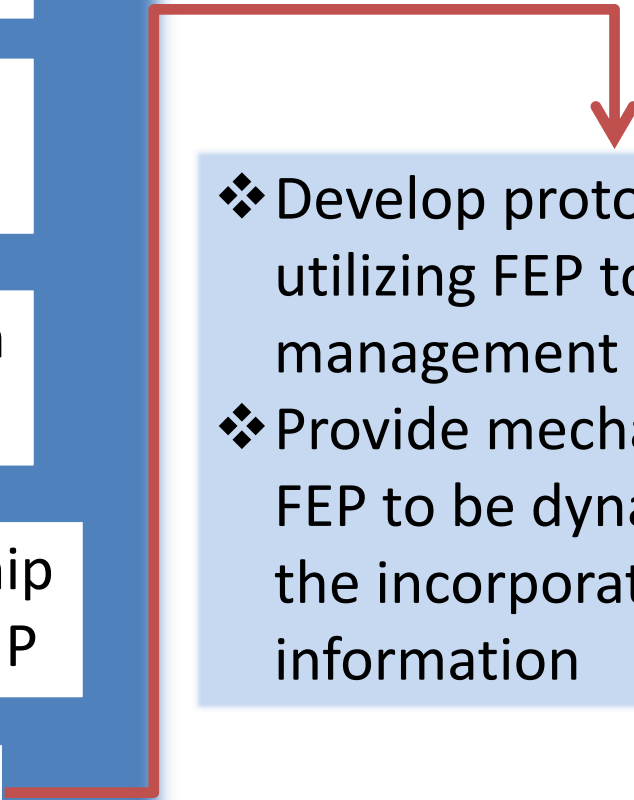
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Determine Relationship  
between FEP and FMP

Guidance Process

- 
- ❖ Develop protocol for utilizing FEP to guide management decisions
  - ❖ Provide mechanism for the FEP to be dynamic, allowing the incorporation of new information

# FEP Summary

## ❖ Concept & Aim of FEP

- The FEP would be a guidance document to aid in the refinement of FMPs that consider ecosystem relationships between species and their habitats from **Ridge to Reef**.

## ❖ Data Challenges

- Data mining is necessary to compile the data
- Cooperation from other agencies is essential
- Organizing data and building a geospatial database



# Next Steps

- ❖ Develop a refined outline
- ❖ Draft a Conceptual Ecosystem Model
- ❖ Develop strategy to facilitate partner and stakeholder engagement in FEP development process
- ❖ Data Compilation and Gap Analysis
  - Data Inventory
  - Data Acquisition Opportunity
  - Data Gap Analysis
  - Data Prioritization



# Questions

## ❖ Further questions or comments:

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## ❖ Additional Resources:

- <http://www.st.nmfs.noaa.gov/ecosystems/ebfm/index>

