

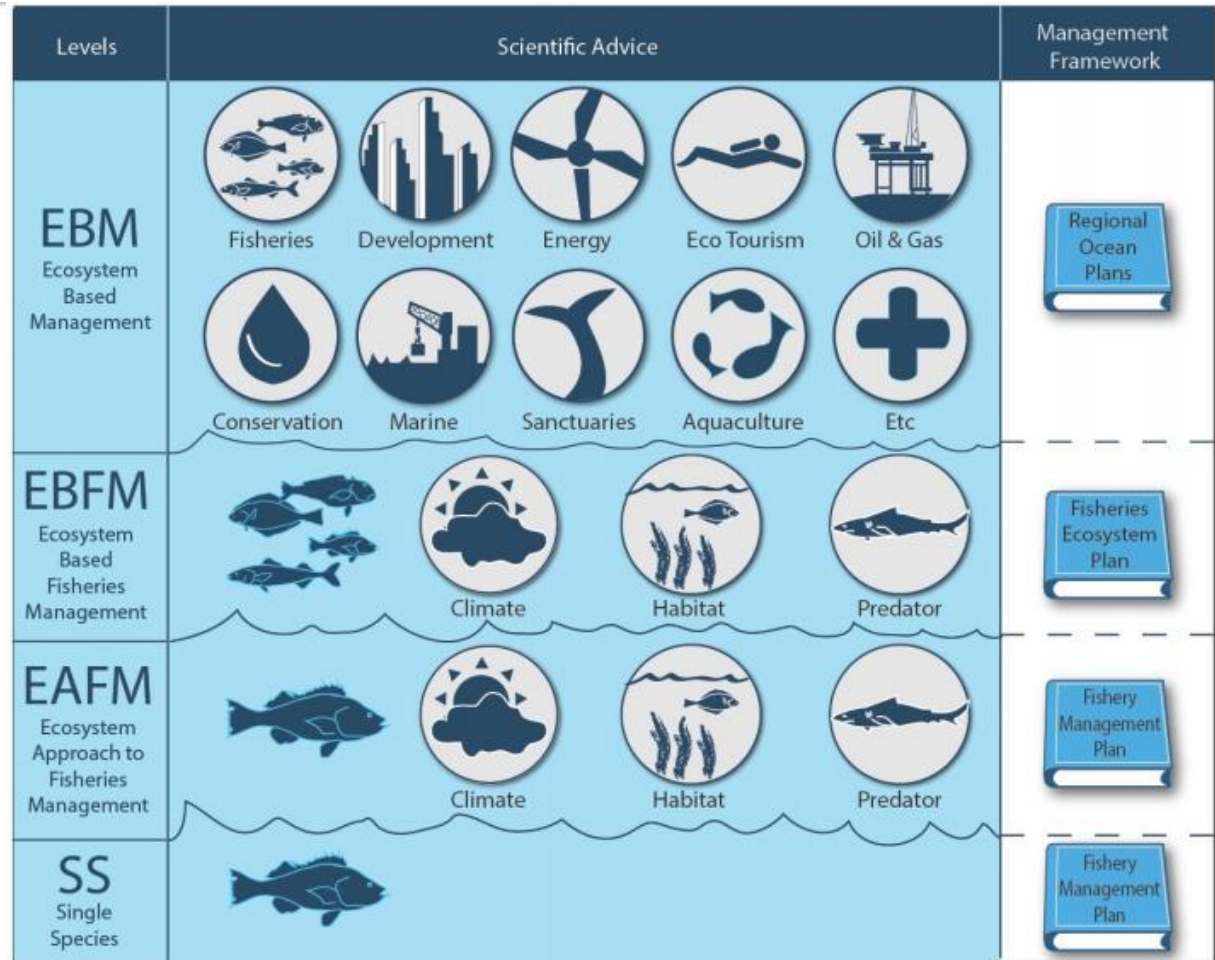


Tab E, No. 8(b)

EAFM in Regional Management Councils and Gulf Specific Examples of EAFM

What is EAFM and EBFM

- Ecosystem approaches to fisheries management (EAFM)
- Ecosystem Based Fisheries Management (EBFM)



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

What are the MSA requirements for Councils?

- Integrate ecosystem considerations into fishery conservation and management actions
- Minimize the impacts of fishing on ecosystem components
- Authorizes NOAA Fisheries to provide technical advice and assistance to the Councils to develop and design regional EBFM programs

What is an FEP?

- Not prescriptive
- Several different approaches to what is included in each region
- Does not necessarily have management teeth

From NOAA

- Provide description and understanding of the fundamental physical, biological, and human/institutional context of ecosystems within which fisheries are managed
- Direct how that information should be used in the context of fishery management plans
- Set policies that guide development and implementation of fishery management options

Other Region Fishery Ecosystem Plans/Policies

NEFMC

Status: Initiated the development of an FEP

- Outlined purpose and objectives
- Council decides on scale and approaches
- Simulated management strategy evaluations (MSEs) for a review panel
- 2018 – MSE review and other FEP decisions
- Example FEP based on Georges bank

Other Region Fishery Ecosystem Plans/Policies

MAFMC

Status: Developed an EAFM policy

- Series of workshops
 - forage fish, climate change, species interactions, and an ecosystem level habitat workshop.
- Policy
 - data considerations for single species and habitat information
- Developed an unmanaged forage species omnibus (generic) amendment

Other Region Fishery Ecosystem Plans/Policies

SAFMC

Status: Completed an FEP and is working on a second FEP

- Current issues:
 - Forage fish action
 - Several iterations of methodology for completion of the FEP
 - Preliminary priorities have been established
 - Using EBFM roadmap to tailor discussion

Other Region Fishery Ecosystem Plans/Policies

CFMC

Status: Initiated the development of an FEP

- Preliminary (April 2017 presentation)
- Outline and strategy as well as ecosystem model, data compilation, and assessing data gaps
- 'Island-based' FEPs

Other Region Fishery Ecosystem Plans/Policies

NPFMC

Status: Completed one FEP and initiated a second FEP

- Policy and planning document (Aleutian islands)
 - a guidance document
 - identifies information and indicators
 - develops and refines management tools and goals
 - identifies sources of uncertainty
- Currently working on Bering Sea Ecosystem Plan

Other Region Fishery Ecosystem Plans/Policies

PFMC

Status: Completed FEP

- California Current FEP
- Informational document
- Identifies knowledge gaps
- Annual review of how ecosystem initiatives are progressing
 - e.g. one initiative prohibited commercial fishing on unmanaged forage stocks; considered them ecosystem species

Other Region Fishery Ecosystem Plans/Policies

WPFMC

Status: Island based plans (5 different FEPS) Hawaii
FEP established in 2009

Gulf Council Approaches

- Ecosystem workshops (nine throughout the Gulf in 2004-2010)
- Attitudes and value survey (4 Councils)
- Ecosystem Modeling workshops
- Comment on ecosystem related NMFS products/policies (e.g. [Ecosystem Roadmap](#) and [Gulf of Mexico Ecosystem Status Report](#))
- Incorporate red tide events and impacts into reef fish stock assessments
- Ecosystem Scientific and Statistical Committee (SSC) (2005-2015)
 - Standing SSC has 3 ecosystem positions (only one filled)

FMP Specific Management Measures

Reef Fish

- Incorporates other fisheries
- Included habitat information
- Stressed area
- Multispecies aggregate bag limits
- Other fishery affect management benchmarks (e.g. BRDs)
- Adjust harvest to respond to environmental events (e.g. red tide)
- Multiple species analyzed in a single amendment/management action
- Establish marine reserves

FMP Specific Management Measures

Shrimp

- Incorporates other fisheries (gear conflict, bycatch, etc.)
- Manage based on environmental conditions for optimal harvest (TX closure)
- Measures for protected species
- Introduction of permit to provide better science
- OY developed based on factors outside of shrimp biology

Spiny Lobster

- Marine Reserves
- Measures for protected species
- ACL development and low landings trigger
- External recruitment

FMP Specific Management Measures

Coral

- Multispecies amendments
- HAPCs (for other species)
- Similar to SAFMCs first FEP

Coastal Migratory Pelagics

- Joint plan based on species' ranges
- Migratory pattern changes result in management boundary modifications

EBFM \neq increasing complexity!!

Fish inherently track their environment; adding more data to models does not equate to adding information

Potential priority areas for EBFM approach:

- Fishing mortality lowered but stock doesn't respond
- Major changes to population dynamics (e.g., natural mortality, recruitment)
- Long-term, gradual shifts in carrying capacity (evaluate need for shifting mgt benchmarks?)
- Strong trophic linkages (e.g., decrease in prey spp leads to decrease in productivity of managed stock)

FYI- Other Items

Ecosystem status report

http://www.aoml.noaa.gov/ocd/ocdweb/ESR_GOMIEA/

National EBFM Policy (May 2016)

<http://www.nmfs.noaa.gov/op/pds/documents/01/01-120.pdf>


National EBFM Roadmap (November 2016)

https://www.st.nmfs.noaa.gov/Assets/ecosystems/ebfm/EBFM_Road_Map_final.pdf

Regional EBFM Roadmap under development

FYI- Other Items

Regional EBFM Roadmap under development

- Jan. 2018: Discussion/Presentation of draft regional and headquarters implementation plans (EBFM workgroup and Council staff representatives)
- Feb. – Mar. 2018: Revisions based on EBFM Workgroup/Council staff feedback
- Mar. – Apr. 2018: review of draft regional plans by RA, SD, Council ED/Executive Committee. Review headquarters plan by HQ Office Directors, NMFS Regulatory and Science Boards, and Council EDs.
- Apr. 2018: Update and review of draft plans by NMFS Leadership (AA, DAARP, Chief Scientist).
- May 2018: Draft plans/status to Council Coordination Committee.
-  ● Jun. – Aug. 2018: Draft implementation plans presented for full Council review and made available for public comment.
- Sep. – Oct. 2018: Revision of regional and headquarters implementation plans based on input.
- Nov. 2018: Review of final plans by RA, SD, and Council ED/Executive Committee and headquarters plan review by HQ Office Directors, NMFS Leadership Council, and CCC.
- Dec. 2018: Review, approval, and public release of final plans by HQ leadership.