

EBFM Staff Presentation

Andrew Applegate (EBFM PDT Chair)

**EBFM Committee and PDT
meeting
March 10, 2022**



Public Information Workshop planning

- Outreach and facilitation
 - Oceanvest, Tom Balf
- Phase 1A – outreach, promotion and preparation for workshops
- Phase 1B – Conduct six port-based workshops
 - A few hours – general overview of eFEP strategies
 - Invited expert to give presentations and answer questions
- Phase 2 – Two deep dive workshops
 - Demonstrations and detailed discussion
 - A few days

Initial focus

- **Develop an MSE plan**
 - What is the problem?
 - Why are we doing this?
 - What would be the scope of a prototype MSE (bounds)
 - What do we hope to achieve?
 - Who will participate?
- **Develop a Request for Proposals and hire a contractor to develop and conduct a prototype MSE for EBFM (Georges Bank)**
- **Conduct MSE; Summarize and present results**
- **Learn from the MSE and engage public**

Planning Document

- 1. Purpose** – why are we doing this prototype MSE? I developed the draft material here based on the discussion that the Council had at the September Council meeting, during the priority discussion (priorities were approved in December).
- 2. Objectives for the prototype MSE** – What do we want out of doing this MSE exercise? Some draft objectives are listed. These are NOT the management objectives that will be developed during the MSE process.
- 3. Participation and roles** – Who will participate as stakeholders? How many? What role with the PDT play? What will the contractor do to support the prototype MSE?
- 7. Presentation of results** – this one should have input from the committee and PDT, but also be developed with the input from stakeholder participants.
- 8. Proposed timeline** – this is tentative – what happens after the April Council meeting and how long it takes depends on the design of our prototype MSE how complicated or simple we make it.

Planning Document

- 4. Management objectives** – this is a placeholder, an element to be filled in by ‘stakeholders’ when the prototype MSE begins.
- 5. Operating model** – ditto. What stocks will be included and how will we characterize the system in which to test management procedures (harvest control rules, etc).
- 6. Example management strategies** – ditto. Listed are some examples, but again these will be developed by stakeholder participants.

Timeline

2022	
JAN -MAR	Design phase: Develop plan for desirable objectives, characteristics, and intended results. Joint meetings with EBFM Committee and PDT
APR	MSE plan approval
APR-MAY	Issue RFP and hire contractor to conduct MSE and run analyses
JUN-JUL	Develop operating model and MSE procedures
JUL-AUG	Conduct MSE with Committee, PDT, and a limited number of chosen stakeholders
AUG-SEP	Summarize MSE outcomes and results
SEP or DEC	Present beta MSE results to the Council and use the demonstration during public information workshops

Worked example

- Five example scenarios or management procedures applied on the Hydra OM
 - Worked example presented for independent peer review.
- Other examples shown
 - Interactive catch management strategy
 - Demonstration of how trophic effects can affect yield and biomass when applying a simple constant F control rule.
- Did not meet everyone's definition of what a worked example would entail

eFEP concept

- Manage at higher levels of organization
 - Spatial management rather than by stock, accounting for migration between EPU
 - Account for trophic effects
 - Stock complex catch limits with floors to protect stocks
 - Biological reference points for higher levels of organization are more stable
 - Climate change will affect species composition, but the function of a stock complex/functional group will allow for more stable catch limits
 - Ecosystem catch limit that is consistent with system productivity
 - Stock complex catch management to address technical interactions (species caught together)

Dynamic biological reference points

- Adjustments to biomass targets and thresholds to account for trends in productivity
- Added MSE complexity; possibility of shifting baselines
 - More difficult to comprehend differences between ecosystem stock complex and single species catch management
 - But biological reference points are often reestimated during Research Track and Level III assessments
- Expands the scope of the prototype MSE – testing dynamic reference points.
 - More MSE complexity -> More time, higher cost
- Raises issue of shifting baselines, partially caused by fishing
 - Changes in M , growth, Ave R/SSB
- Approaches to issue
 - Build in uncertainty in ‘knowledge’ of biological reference points built into OMs; OM matrix?
 - Single species topic for a future research track assessment
 - Ask NMFS consider a dynamic reference point working group to lead and evaluate a strategy that might be widely applicable.

Prototype MSE purpose

- To demonstrate how MSE will be used to evaluate EBFM management strategies for a Georges Bank Ecosystem Production Unit, using what we learn to communicate with the public about MSE for EBFM.
- To develop the science and MSE process that will support evaluation of EBFM strategies when all stakeholders can participate in the next phase of the Council's EBFM development strategy.
- A “walk through” that demonstrates the viability of the concept laid out in the eFEP and how the strategy would be applied.

Prototype MSE objectives

- Increase understanding of the eFEP and use the outcome to build stakeholder engagement in the Council's EBFM strategy
- Identify management decision points and potential sequences of decisions within the eFEP
- Identify critical decision points and data gaps that the prototype MSE could address
- Investigate how human behavior (i.e. targeting vulnerable stocks) can impact the ability of EBFM strategies to meet objectives (i.e. preventing overfishing and overfished conditions)
- Identify example management objectives and associated performance metrics
- Identify a limited set of realistic management procedures (harvest control rules) to be evaluated

Prototype MSE objectives

- To show whether and how the proposed EBFM strategy (i.e. ceilings and floors approach) could be consistent with Magnuson Stevens Act National Standard 1 criteria.
- Develop scientific support for EBFM MSE; e.g. “rapid-prototyping” process with the Committee, PDT, and participating stakeholders?
- Apply a multispecies operating model that includes trophic and technical interactions and the potential effects of climate change along with estimation, management, and implementation models in closed loop simulations to address the identified set of critical decision points and data gaps
- Identify and develop summary products for effective communication and discussion of MSE results (key communication tools and visuals)