

FEP Development

Tom Nies

**Executive Director,
NEFMC**

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New England
Fishery Management Council

Management Policy

“Having identified as a primary problem the inappropriateness of single-stock management methods...”

“...the Council’s realization that economic, biologic, and operational linkages exist...that make it difficult and undesirable to try and isolate a stock ...”

NE Multispecies FMP, 1985

EBFM



Kill **ALL** the Dogfish

Management Considerations and Concerns

- Various strategies were evaluated in early 2015 to develop ecosystem management for NEFMC fisheries
 - EAFM
 - Example FEP (to be evaluated and validated through MSE)
 - Operational FEP (develop new FMPs with alternatives)
 - Blended FEP (Omnibus approach)

(<http://s3.amazonaws.com/nefmc.org/EBFM-procedure-discussion-2.pdf>)



Management Considerations and Concerns

- The NEFMC chose to develop a trophically-based example FEP for evaluation, verification, scoping, and dialogue with the public
 - A policy describing goals and objectives, and approaches, for taking account of ecosystem processes
 - An example fishery ecosystem plan based on fundamental ecosystem properties, with enough realism and specifications such that it can be implemented
 - An example that makes clear what a FEP would entail and focus debate
 - One-year time frame

(http://s3.amazonaws.com/nefmc.org/150421-23_final_motions2.pdf)



Management Considerations and Concerns

- After reviewing progress to date and related issues, the EBFM Committee directed the PDT to prepare a report by September to:

- Describe a trophic web area-based operating model
- Test alternative approaches to management including
 - Current single species approach
 - Guild (trophic level) approach
 - Total ecosystem productivity approach
- And for each approach specify
 - Criteria for overfishing
 - Rebuilding strategy
 - Mechanism to protect most targeted or vulnerable stocks

(<http://s3.amazonaws.com/nefmc.org/160414-summary.pdf>)



Management Considerations and Concerns

- Description of an ‘operating model’ for a Georges Bank FEP remains elusive
- An operating model would describe how the various ecosystem models would be used to set annual catch limits for total ecosystem removals and for functional groups.
 - Generalized ecosystem production models
 - End-to-end strategic models (e.g. Ecosym/Ecopath, Atlantis)
 - Multispecies models to provide tactical advice (Hydra, Multispecies Catch at Age) for functional groups (yet to be defined)
 - Single species assessments that incorporate trophic interactions and climate effects



Management Considerations and Concerns

- Application of ecosystem models may be hindered by incomplete:
 - Parameterization to become operational
 - Peer review
- Myth 6 : Does NEFSC have sufficient resources and support needed to develop an example FEP and evaluate its potential performance with MSE methods while meeting current management needs?
- Integrated Ecosystem Assessment reports are useful to inform the Council of observed ecosystem changes but not very informative about how the Council should change management
- Effects of changing trophic dynamics and climate effects are not being fully incorporated into catch advice given to the Council through stock assessments and forecasts

Management Considerations and Concerns

- The PDT has made progress on drafting discussion documents, but they are incomplete
 - NEFSC staff has participated in meetings, but participation and input has been inconsistent
- PDT needs more contribution from Ecosystems Assessment and Population Dynamics Branches
 - Loss of important PDT member (knows most about ecosystem assessment modelling)
 - Meetings difficult to schedule because NEFSC staff are overloaded with conflicting assignments
 - Need more written contributions for draft documents to be presented at Council meetings



Management Considerations and Concerns

- Are trophic dynamics and climate change effects sufficiently incorporated into advice given to the Council through stock assessments, for example:
 - For each managed stock, have the observed (or predicted) changes resulted in increases or decreases in productivity?
 - Have changes in distribution improved or reduced the preferred habitat for a stock? How have the observed ecosystem changes affected the stock assessment and scientific uncertainty?
 - Are the bottom trawl surveys being affected by climate change due to trends in catchability?
 - Are the retrospective patterns that are frequently observed affected by or partially due to changes in ecosystem- and climate-driven changes in productivity?



Who Goes First?





Questions?