Title: Building operational ecosystem assessments for management advice

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Funding Pool Selection: 1. NERAP/EBFM

Funding Priorities:

The proposed research supports EBFM IP Priorities 1b *Support development of Fishery Ecosystem Plans*, 4a *Establish sufficient EBFM modeling capacity to analyze trade-offs*, 5a *Develop and Monitor Ecosystem-Level Reference Points*, and 5b *Incorporate Ecosystem Considerations into Appropriate LMR Assessments, Control Rules, and Management Decisions*; NEFMC Ecosystems Priority 1 *Research ecosystem operational advice, emphasizing synthesis of existing data, modelling, and meta-data analysis, including [...] trophic interactions and their implications; managing mix species fisheries […]*, and MAFMC General Modeling and Quantitative Priority 5. *Incorporate ecosystem level data (predator/prey interactions, trophic dynamics, etc.) into single and multi-species assessment and management models.* The New England Fishery Management Council's example Fishery Ecosystem Plan centers on multispecies harvest control rules (HCRs) and advice; multispecies model performance testing is a necessary precursor to implementation of multispecies HCRs and represents a major and critical step forward in operationalizing EBFM in our region. Both Councils prioritize multispecies approaches as next steps towards incorporating ecosystem considerations into assessments, and work to analyze tradeoffs and develop reference points is clearly mandated under the Northeast EBFM implementation plan.

Problem and Objectives:

Brief overview: full-time dedicated contract staff to work between now and next 1-2 SOE cycles on priority analyses supporting SSC requests to use SOE information in management. For example, indicators for which Mid-Atlantic OFL CV bin a species or group of species falls into (low, medium, or high uncertainty) which translates into ABC. to be filled in with more detail after the May 11-12 MAFMC SSC meeting. Also more general analyses: work with a lot of the ecosystem indicators data to evaluate thresholds for either individual indicators or groups, look at multivariate analyses to detect regime shifts, and other analyses contributing to possible ecosystem level reference points.