EAFM Recreational Summer Founder Discards MSE

Operating Model Overview and Possible Model Configuration Options

April 2022

Below are potential operating model configurations to be considered in the MSE. These configurations incorporate some of the critical uncertainties (e.g., data, biology, climate etc.) identified through stakeholder scoping and by the technical/modeling work group. They are intended to evaluate how different management scenarios perform under these alternative assumptions about the "true" summer flounder population.

Below each model configuration is an overview of some key attributes of the model configuration and rationale/considerations for the non-baseline options.

Baseline operating model configuration

- Age, length, and sex structured and conditioned with same inputs as the 2021 stock assessment model
- Separate growth and maturity schedules for males and females
- 4 fleets – commercial landings and discards and recreational harvest and discards
- Uses MRIP point estimates for catch/effort and includes length frequency information from state volunteer angler surveys (VAS) and American Littoral Society (ALS) data
- Median recruitment with variability as estimated in current assessment
- Assumes fishing trip ends once possession limit reached and no illegal harvest (100% compliance)
- Annual time step
- Projections over a 26-year time period with 100 simulations for each scenario (combination of operating model, assessment configuration, and management regulations)
- Run to all seven management scenarios

Alternative MRIP operating model configuration

- Assume MRIP point estimates are biased high and use the lower bound of catch and effort estimates
- Not an evaluation of MRIP data and/or program but how management scenarios might perform under different catch/effort assumptions and uncertainties
- Issue and consideration raised extensively by core stakeholder group
- Affects the operating model configuration when initializing the population dynamics and calibration of the recreational demand model
- All other components as in baseline configuration run to all seven management scenarios

Distribution change operating model configuration

- Utilize some of the distribution shift information/projections to specify one change in the stock distribution (e.g., reasonable change or extreme change) to demonstrate uncertainty and potential implications with management scenarios – not trying to predict exactly
- This is an EAFM project and conceptual model identified stock distribution shifts likely effecting a variety of variables within the summer flounder fishery (most linked variable in conceptual model)
- Mechanics of model already set up to be able to address by modifying expected catch per trip, angler behavior, and size distribution available by state
- All other components as in baseline configuration run to all seven management scenarios

Different stock productivity operating model configuration

- Potential changes in stock productivity is another critical uncertainty and has been observed/considered for summer flounder
- Some EAFM considerations and stock productivity has been evaluated for summer flounder in other Council actions (e.g., risk policy framework)
- Technical work group still needs to determine how to evaluate stock productivity
    - Changes in recruitment, growth, stock size
        - Change the steepness of the S/R function
- All other components as in baseline configuration run to all seven management scenarios