Recreational demand model data sources and their function

Catch-per-trip of fluke, black sea bass, and other species on directed fluke trips, i.e., trips that caught or primarily targeted fluke

- Source: MRIP 2019
- Unit: Region (MA-NY, NJ, DE-NC)
- Function: Input data for copula modeling and subsequently assigning catch-per-trip to simulated fishing trips.

Proportion fluke harvest-at-length

- Source: MRIP 2018/19
- Unit: State
- Function: Input into creating 2019 catch-at-length distribution.

Total fluke harvest

- Source: MRIP 2019
- Unit: State
- Function: Multiplied by proportion fluke harvest-at-length to arrive at 2019 fluke harvest-at-length. Then added to 2019 fluke discards-at-length to create 2019 fluke catch-at-length.

Proportion fluke discards-at-length

- Source: Raw MRIP 2018/19, American Littoral Society Tagging data (MA-MD) 2018/19, Volunteer Angler Logbook data (CT, NJ, RI) 2018/19
- Unit: State
- Function: Input into creating 2019 catch-at-length distribution.

Total fluke discards

- Source: MRIP 2019
- Unit: State
- Function: Multiplied by proportion fluke discards-at-length to arrive at 2019 fluke discards-at-length. Then added to 2019 fluke harvest-at-length to create 2019 fluke catch-at-length.

Population numbers-at-age

- Source: Operating model
- Unit: Coast
- Function: In projection years, multiplied by recreational selectivity-at-length to arrive at population-adjusted catch-at-length and catch-per-trip.

Directed fluke fishing trips

- Source: MRIP 2019
- Unit: State
- Function: Used to calibrate the model to baseline year 2019. We create a set of N simulated fishing trips in the calibration algorithm, each characterized by a probability of occurring. The number of simulated fishing trips N is chosen such that the sum of the estimated probabilities equals the MRIP-based estimate of directed trips in 2019. This number of simulated fishing trips is held constant through subsequent projection years.

Angler preference parameters

- Source: 2010 angler choice experiment survey
- Unit: Region (MA-NY, NJ, DE/MD, VA/NC)
- Function: Used to estimate angler preferences for harvesting and discarding fluke, black sea bass, and other species, and other trip features like trip cost. The estimated preference parameters tell us the relative importance of these features on overall fishing trip satisfaction. They are then incorporated in the simulation model to calculate expected utility of a fishing trip, the probability of that trip occurring, expected harvest and discards on that trip, and angler welfare measures associated with that trip.

Trip costs

- 2017 nationwide marine angler expenditure survey
- Unit: State
- Function: Used to generate a distribution of fishing trip costs by state and mode. Trip costs drawn at random from these distributions and assigned to simulated fishing trips to calculate expected utility of a fishing trip, the probability of that trip occurring, expected harvest and discards on that trip, and angler welfare measures associated with that trip.