State of Science Needs for the Chesapeake Bay Stock Assessment Committee

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Science. Restoration. Partnership.

Blue Crab Science Needs

Improving Model Performance

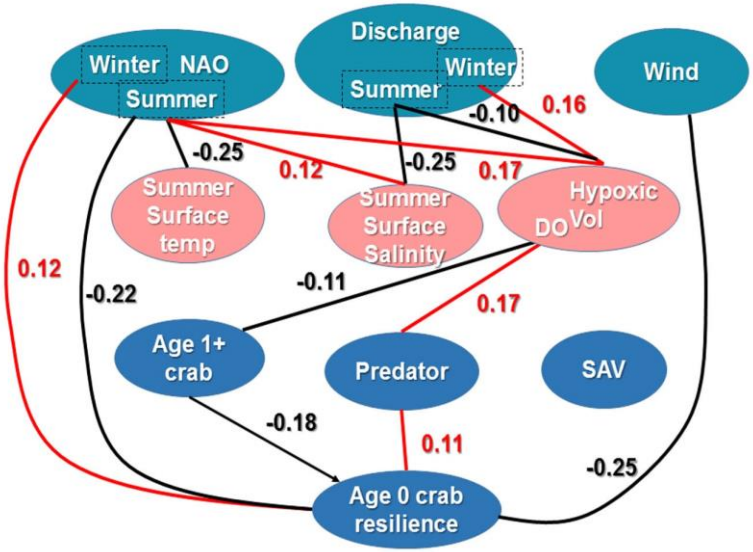
- Currently the primary focus for CBSAC
- Immediately useful for management

Understanding Population Dynamics

- Of great interest, but not as high priority for CBSAC
- Not immediately useful for management; EBFM is not applied to the blue crab fishery

Science Needs in Progress

- Evaluate the effects of environmental factors on blue crab abundance and recruitment
  - UMCES GIT-funded project completed in 2019
  - Greater interest now due to current population status
- Improve accountability and harvest reporting for commercial/recreational fisheries
  - Developed a harvest reporting document
  - PRFC to conduct a pilot program in 2022



Science Needs in Progress

- Improve characterization of catch composition and effort using fishery-dependent sampling
  - Starting to discuss this with respect to the MDNR Cooperative Data Collection Program
- Evaluate the efficacy of the WDS as an index of abundance
  - Graduate student project underway at UMCES

Ongoing Science Needs

- Stock assessment update
  - Running updates annually to evaluate model performance
- Examine differences in gear efficiency between Maryland and Virginia WDS
  - Conducting paired tows annually
- Blue catfish predation in tidal reaches of tributaries
  - Not actively conducting research, but interested in new research results that quantify catfish predation on blue crabs

Science Needs Not Being Addressed

- Investigate the stock assessment model's poor fit to sex-specific catch and abundance indices
  - Will likely be addressed with the upcoming GIT-funded population simulation project
- Development of a blue crab data hub
  - Low priority relative to other science needs
- Evaluate models for fishery-independent indices to identify the most appropriate form and standardize index development

Science Needs Not Being Addressed

- Investigate potential applications of existing fishery-independent data sets
  - Could answer questions about environmental and climate change impacts to blue crabs in the Bay
- Improve documentation of sex ratio and shedding mortality in the peeler fishery for more accurate harvest reporting
  - Still of interest, but no data/information available to quantify this
- Gauging public perceptions and commercial fishery stakeholder views on key Bay resources

Recent Considerations

- CBSAC is currently looking into a science workshop
  - Improve understanding of drivers of abundance and recruitment
  - Identify questions, data sources, science gaps, resource needs, etc. for a potential benchmark stock assessment in the near future
- Additional science needs may be added after CBSAC develops the 2022-2023 Logic & Action Plan (Jan 2022) and holds the science workshop (TBD)