A summary of CBSAC September 25th Meeting

MARYLAND DEPARTMENT OF NATURAL RESOURCES

VIRGINIA MARINE RESOURCES COMMISSION

NOAA U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

NATIONAL MARINE FISHERIES SERVICE

University of Maryland CENTER FOR ENVIRONMENTAL SCIENCE

Smithsonian Environmental Research Center

VIMS

The story so far…

- A full stock assessment of the Blue Crab population is due and slated to be carried out in 2016.

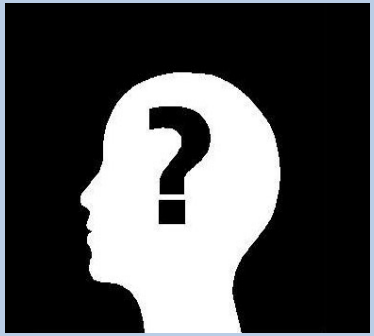
- A voluntary subset of CBSAC has been identified to aid in the planning of the full assessment and development of the draft terms of reference to present to jurisdictional managers and the full CBSAC for approval.

  - Tom Miller (UMCES)
  - Rom Lipcius (VIMS)
  - Glenn Davis (MDDNR)
  - Joe Grist (VMRC)
  - Lynn Fegley (MDDNR)
  - John McConahaue (ODU)
  - Mike Wilberg (UMCES)

Why should we do this…

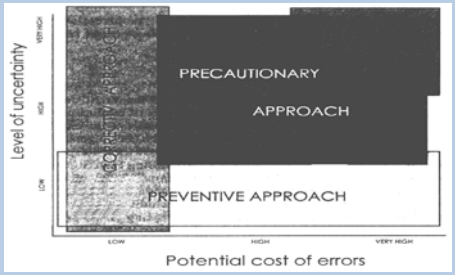
- There is a growing concern that the assessment and surrounding terms of reference best fit and support management needs. Better prepared equipped managers can increase management efficacy and maintain sustainable crab fisheries.

- In the past many of the supporting high priority research items have not been addressed. Aiding jurisdictional managers by answering the questions and addressing high priority research needs articulated in the TOR's for the upcoming stock assessment will bolster both the accuracy and precision of management strategies.

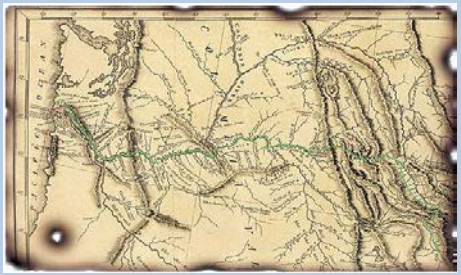


What we considered…

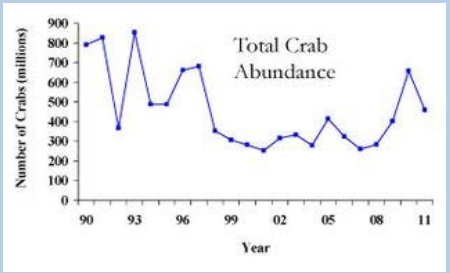
- Take a precautionary approach, sustainability is our goal.



- Avoid uncharted territory by using what we know, what we have observed and the inherent undulations in abundance.



- Clearly define historical bounds for managers to determine where we are, where we want to be, and how do we get there.



Next Steps: Draft TOR's

TOR 1: Critically review and estimate life history parameters and vital rates of blue crab in the Chesapeake Bay that are relevant to an assessment of the stock. In particular, the assessment should evaluate the extent and scale of inter-annual variation in life history parameters and vital rates of blue crab in Chesapeake Bay.

TOR 2: Describe and quantify patterns in fishery-independent surveys. Analyses should include an evaluation of the most effective partitioning of survey data in space and time and in relation to biological characteristics of crabs caught, evaluation of the efficacy of fishery-independent surveys not included in previous stock assessments, and an evaluation of the impacts of environmental and abiotic factors on survey catches, to maximize the information content of resultant survey time series

TOR 3: Describe and quantify patterns in catch and effort by sector and region, including analyses that examine the impacts of reporting changes and trends in CPUE.

TOR 4: Evaluate the utility of incorporating a commercial CPUE index in the assessment.

TOR 5: Update with relevant new data assessment models used previously in assessing the Chesapeake blue crab stock

TOR 6: Evaluate the feasibility of assessment models for the blue crab fishery that operate on sub annual time steps and/or at spatial resolutions lower than that of the entire Chesapeake Bay.

TOR 7: Evaluate and recommend biological reference points for the Chesapeake Bay blue crab population.

TOR 8: Provide an evaluation of the status of the stock relative to recommended reference points.

TOR 9: Characterize uncertainty in assessment estimates.

TOR 10: Evaluate the potential for ecosystem-based considerations to explain past fishery performance.

Funded Research CBT

CBSAC Research Items

Each year, the Chesapeake Bay Stock Assessment Committee (CBSAC) identifies critical research and data needs in their Blue Crab Advisory Report. Research priorities of CBSAC include improved estimates of overwintering mortality, application of other surveys to complement and validate the Winter Dredge Survey and evaluation of gear efficiency estimates between MD and VA. The project(s) contribute to Blue Crab Outcomes under the Chesapeake Bay Watershed Agreement and the associated management strategy being developed by the Sustainable Fisheries Goal Implementation Team.

1) Blue Crab Abundance Outcome: Maintain a sustainable blue crab population based on the current 2012 target of 215 million adult females. Refine population targets through 2025 based on best available science.
2) Blue Crab Management Outcome: Manage for a stable and productive crab fishery including working with the industry, recreational crabbers and other stakeholders to improve commercial and recreational harvest accountability. By 2018, evaluate the establishment of a Bay-wide, allocation-based management framework with annual levels set by the jurisdictions for the purpose of accounting for and adjusting harvest by each jurisdiction.

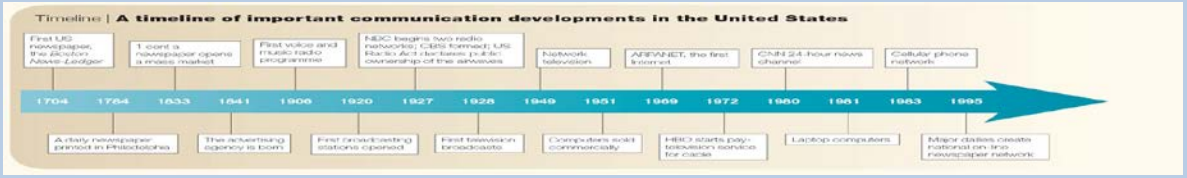
From the expected and estimated 85K, CBSAC has identified one or more of the following projects and identified the breakdown:

a. 40K: Analysis of the summer survey data from the VIMS trawl survey. Summer survey data needs to be analyzed to determine its application and potential enhancement or validation of the Winter Dredge survey results. Analysis should also consider how summer data could be applied to better understand blue crab population dynamics throughout the year as well as help guide the parameters and population characteristics measured and recorded in summer survey

b. 30-35K: A paired vessel gear efficiency survey to improve winter dredge survey results and evaluate the individual gear types used between the Maryland and Virginia surveys.

c. 10-15K Assess how many broods each adult female can produce over a lifetime. This will help improve understanding of the variability in recruitment, the size of each brood produced by a female crab, necessary sperm for optimal fecundity. A more comprehensive understanding of the reproductive needs and will contribute to a better understanding of the overall efficacy of the female management framework.

Timeline….



1. Carry through WDS of 2014-2015: Business as usual, survey, preliminary recommendation, advisory report.

2. Winter of 2014-2015: Complete and begin previously mentioned and funded high priority research items.

3. Summer of 2015: Complete planning of full assessment and continue to make progress on CBT funded CBSAC priority research items

4. Winter of 2015-2016: Complete WDS with added components to address terms of reference identified, approved, and adopted by CBSAC and affiliated institutions.

5. Spring 2016: Incorporate WDS results into new assessment model and issue preliminary recommendations statement based on WDS results.

6. Summer and Fall of 2016: Finalize full assessment and address remaining TOR's.

7. Winter 2016: Present results of benchmark assessment at December GIT meeting, as a portion of the report, provide detailed advisory report.

8. Spring 2017: Finalize respective funded research needs and report to CBSAC and full GIT

Acknowledgments

-Chesapeake Bay Stock Assessment Committee

-University of Maryland Center for Environmental Science

-Maryland DNR

-Virginia Institute of Marine Sciences

-Virginia Marine Resource Commission

-Chesapeake Research Consortium

-Old Dominion University