Chesapeake Bay oyster stock assessment Terms of Reference

- 1) Characterize the commercial catch including landings, effort, CPUE and discards. Describe the uncertainty in these sources of data.
- 2) Characterize the survey data that are being used in the assessment (e.g., regional indices of abundance, recruitment, state surveys, age-length data, etc.). Describe the uncertainty in these sources of data.
- 3) Cross calibrate Maryland dredge with Virginia patent tong methodologies to provide information for total Baywide population estimation. Describe the methodology and characterize uncertainty.
- 4) Evaluate status of shell substrate on public reefs Baywide.
- 5) Quantify disease prevalence and intensity in all sampled populations Baywide. Compare age-specific mortality against disease prevalence and intensity. Retrospectively apply disease analysis Baywide to develop a single Baywide time series on oyster disease.
- 6) Estimate annual fishing mortality, recruitment and stock biomass (both total and spawning stock) for the time series, and characterize the uncertainty of those estimates.
- 7) Update or redefine biological reference points (BRPs; estimates or proxies for B_{MSY} , $B_{THRESHOLD}$, and F_{MSY} ; rebuilding thresholds, and estimates of their uncertainty). Comment on the scientific adequacy of existing and redefined BRPs.
- 8) Evaluate stock status with respect to the existing BRPs, as well as with respect to updated or redefined BRPs (from TOR 7).
- 9) Identify potential environmental, ecological, and fishing-related factors that could be responsible for low recruitment in future years.
- 10) Develop and apply analytical approaches and data that can be used for conducting single and multi-year stock projections and for computing candidate ABCs (Acceptable Biological Catch).
 - a. Provide numerical short-term projections (1-5 years; through 2015). Each projection should estimate and report annual probabilities of exceeding threshold BRPs for F, and probabilities of falling below threshold BRPs for biomass. In carrying out projections, consider a range of assumptions about the most important uncertainties in the assessments.
 - b. Comment on which projections seem most realistic, taking into consideration uncertainties in the assessment.
 - c. Describe the oyster stock's vulnerability to becoming overfished, and how this could affect the choice of ABC.
- 11) Identify, review, and prioritize future research needs (including to the extent practical, cost estimates).