Maryland Ocean Acidification Task Force

The Task Force to Study the Impact of Ocean Acidification on State Waters mission is to:

1. Analyze the best available science regarding ocean acidification and the potential effects of acidification on the ecology of State waters and on State fisheries.
2. Make recommendations regarding potential strategies to mitigate the effects of acidification on State waters and on State fisheries.

Maryland
Department of
the Environment

CHESAPEAKE BAY
FOUNDATION
Saving a National Treasure

University of Maryland
CENTER FOR ENVIRONMENTAL SCIENCE

Structure

- Formed by Maryland General Assembly
- Met between July ‘14 to Jan ’15
- Monthly meetings
- Final report – to Governor by Jan, 2015

Membership

Task Force Member	Representation
Bill Ferguson	Maryland Senate
Eric Luedtke	Maryland House of Delegates
Eric Schwaab, Chair	National Aquarium
Tal Petty	Aquaculture Industry
Robert T. Brown	Maryland Watermen's Association
Bruce Michael	Maryland Department of Natural Resources
Lee Currey	Maryland Department of the Environment
Thomas J. Miller	University of Maryland Center for Environmental Sciences
Doug Myers	Chesapeake Bay Foundation

Contributors

Contributor	Affiliation
Dr. Dwight Gledhill	NOAA Ocean Acidification Program
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Dr. Whitman Miller	
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Catherine McCall	
Eric Weissberger	
Karl Roscher	
Kathy Brohawn	Maryland Department of the Environment
Matt Rowe	
Matt Stover	
Ryan Ono	Ocean Conservancy

Report Structure

- Basic Science and the Problem
- Relevant existing restoration strategies
- Social, economic, environmental vulnerability
- Existing monitoring
- Direct and indirect effects
  - General and specific (key species)
- OA threats and responses in other places
- Recommendations

Focus species

- Oyster
  - Climate scenarios predict increasing area where argonite $\Omega<1$.
  - Restoration, wild capture and aquaculture vulnerabilities
  - Monitoring doesn’t currently assess vulnerability

Focus species

- Blue crab
  - Uncertain risk.
- Striped bass
  - Uncertain risk, potentially broad effects
- Forage fish
  - pH levels likely are harmful to early life stages

Recommendations

1. Enhance monitoring of State waters to quantify scale, patterns, and trends of OA
   - Leverage existing programs to establish monitoring of the right parameters on the right spatial and temporal scale
2. Establish additional research priorities in estuarine and coastal waters
   - University, organization, state and federal programs, monitoring programs, industry reps should work to increase knowledge of carbonate budget and impacts focusing on key species
3. Improve coordination with other states and federal resource managers
   - EPA, NOAA, MARACOOS, other states, existing restoration activities and organizations

Recommendations

4. Focus on impacts to key species and associated activities
5. Provide direct support to affected industries
   - Support development of a cooperative system to support industry engagement in healthy and growing shellfish production; educate growers about and incorporate relevant mitigation strategies, etc.
6. Pursue legislative action
   - Establish an interagency commission or working group to implement recommendations. Funding should support monitoring and coordination of activities.
7. Improve communication and outreach
   - Develop a targeted outreach plan with a website for watermen and coastal communities to encourage engagement in planning etc.

Update….

- “Maryland has been able to increase their OA monitoring efforts through some NOAA grant activities to the University of Maryland Environmental Science (UMCES) and Virginia Institute of Marine Sciences (VIMS). The enhanced OA monitoring leverages the Chesapeake Bay's long-term comprehensive water quality and habitat monitoring efforts for ship time, auxiliary parameters, and spatial and temporal expansion. The 3-year NOAA funded research also evaluates the linkage between eutrophication and OA”
  - Bruce Michael, Task Force member, Director of Resource Assessment Service, MD DNR

Other related reports

- “Science Assessment of Chesapeake Bay Acidification; Toward a Research and Monitoring Strategy
  - http://mddnr.chesapeakebay.net/mdoatf/docs.cfm
- Strategic Plan for Federal Research and Monitoring of Ocean Acidification
  - ftp://ftp.oar.noaa.gov/OA/IWGOA%20documents/IWGOA%20Strategic%20Plan.pdf
- California monitoring networks
  - http://oceanacidification.noaa.gov/EngagementActivities/USRegionalNetworks.aspx