

Science and Technical Workgroup

Recommendations for 2021 Annual Report and 2022 Work Plan

October 2021

As requested by MCCC and MDE, STWG will provide scientific guidance related to setting priorities on how Maryland can achieve prevailing GHG reduction goals set by state or federal legislation,

Blue Carbon. Work with the MCCC and external partners (COMPASS, Restore America's Estuaries) to explore the opportunities associated with blue carbon for carbon sequestration, protecting shorelines and enhancing the tidal ecosystem. Blue Carbon is defined as the carbon accumulating in vegetated, tidally influenced ecosystems such as tidal forests, tidal marshes and intertidal to subtidal seagrass meadows. Blue carbon exhibits significant potential for both mitigating and adapting to the adverse impacts of climate change. ARWG, MDE and DNR will host 3 events around this topic to (a) methodology for quantifying blue carbon sequestration potential, (b) innovative models to finance blue carbon projects, and (c) highlight wetland restoration and other nature -based solutions that have been implemented in Maryland.

Identify New Technologies and Innovations. The STWG has expanded its membership with experts in new technologies. As the impacts of climate change continue to become a threat to ecosystems and human health, a significant number of innovative concepts are evolving. STWG will continue to track articles and webinars of interest to MCCC.

Advise Maryland's Ocean Acidification Activities. The STWG will assist MDE and DNR in reviewing and supporting the *Ocean Acidification Research and Monitoring Action Plan* as part of the State's membership in the International Alliance to Combat Ocean Acidification. Building on the workshop of regional scientists who are working on ocean acidification within the Chesapeake Bay the following recommendations are proposed for 2021. Coastal acidification exists at the intersection of climate mitigation and habitat protection. Ocean acidification can impact commercial, recreational and subsistence shellfish fisheries. Efforts to address coastal acidification or to enhance blue carbon ecosystems (marshlands) achieve the MCCC's GGRA priorities while advancing ecosystem restoration. Communities that are resilient to climate change with healthy natural resources are better positioned to be equitable vibrant communities with thriving diverse economies.

The STWG will continue to support the Maryland Ocean Acidification Action Plan's⁹ goal of '*Improving Scientific Understanding*'. The STWG will convene interested STWG members and external partners to advise on the following:

- Enhancement of the existing State agency monitoring networks to improve the understanding of the carbonate system of the Chesapeake Bay and the potential impacts of coastal acidification on important resources;
- Identification of priorities for research on coastal acidification relevant to the State including linkages with submerged aquatic vegetation and Blue Carbon;

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- Development of essential communication themes for the key audiences identified in Maryland's Action Plan to be shared with the ECO Work Group.

State agencies are currently formulating a proposal for enhancing MDE and DNR monitoring networks. The intent is for the STWG to be provided the opportunity to review and advise on this proposal in 2022.

Environmental and Climate Justice. STWG will have a member assigned to track and contribute to MCCC focus on climate justice issues. STWG will embed principles of climate justice as needed into reviews and recommendations and engage additional professional experts as needed.

Maryland's Climate Adaptation Plan. STWG will review as requested by the Department of Natural resources, including recommendations on resiliency indicators and the project's website <https://mdcoastaladaptation.net>.

Enhance Interactions between MCCC Working Groups. Continue to have STWG members participating in the other workgroups and respond to requests from other working groups. STWG will work with other working groups to identify common science and engineering priorities for planning or implementation of strategies. STWG will continue to host webinars on emerging science and technology topics as requested by MCCC, the working groups and agencies.