

Meeting Summary

Workgroup on
Developing a Climate-Resilient Fishery Management Plan for Maryland
June 23, 2026
4:00-6:00 PM
Tawes State Office Building, Room C-1 Conference Room

Attendance

Workgroup Members

Kiley Dancy, Mid-Atlantic Fishery Management Council
Harry Hornick, Retired DNR
Henry Legett, Smithsonian Environmental Research Center
Mariah Livernois, Maryland Coastal Bays Program
Will Poston, Chesapeake Bay Foundation
Julie Reichert-Nguyen, NOAA Chesapeake Bay Office
Dave Sikorski, Coastal Conservation Association
Ward Slacum, Oyster Recovery Partnership
Troy Tuckey, Virginia Institute of Marine Science

DNR Staff

Amanda Malagari, DNR Project Lead
Tammy O'Connell
Jacob Holtz
Mike Luisi
Kate Charbonneau
Andrew Loftus, Workgroup Facilitator

Workgroup Members Not Attending

Greg Casten, ProFish Seafood Company
Sonny Gwin, Commercial Fisherman, Ocean City Maryland
Jorge Holzer, University of Maryland, College Park
Kenneth Rose, Horn Point Laboratory UMCES
Bill Sieling, Chesapeake Bay Seafood Industries Association
Taylor Woods, USGS Eastern Ecological Science Center

Pre-Meeting Background Materials

- Agenda (see Appendix A)
- Climate Change Key Facts (content summarized in the presentation slides)
- [Climate-Ready Fisheries Planning Menu](#)
- Key Terms for Adaptation and Resilience (see Appendix B)

Welcome

Andrew Loftus, Group Facilitator (see the presentation slides)

Andrew Loftus welcomed the group, thanking them for their participation and introducing the project lead Amanda Malagari. He noted that this workgroup is different from the advisory commissions and committees that DNR engages and that it wasn't intended to advise on policy but is primarily for gathering the thoughts and input of individuals to feed into the formal process for developing a climate resilient Fishery Management Plan covering all estuarine and marine species.

Specifically, the outlined work group objectives are to:

1. Exchange existing climate and fisheries data and industry knowledge, and;
2. Collaboratively develop a climate resilient fishery management plan (FMP) for state-managed fisheries

Loftus concluded by outlining some of the logistics for this workgroup process.

Introductions and Environmental Change Observations

Workgroup members and attendees were asked to introduce themselves and provide one observation of their individual experience with climate-related impacts to fisheries. Observations included:

- Observing changes in coastal bays from the earlier generations when family members owned waterfront property;
- Changes in fishing regulations that became necessary as species composition, spawning success, and species occurrences shifted as a result of altered environmental conditions;
- New fisheries developing as species that had rarely occurred here moved into the Bay and became common occurrence fisheries (e.g., tarpon, Spanish mackerel, cobia, etc.);
- Reduced spawning success of striped bass under current-day environmental conditions;
- The need to change (and sometimes expand) sampling programs to make sure that the species of interest are occurring in the same habitats and at the same times as in past sampling programs;
- Species that can't move (e.g., oysters) having to adapt to changing conditions (salinity, water temperatures etc.) in place or failing to thrive under new conditions;
- Required changes in governance of fisheries on the coast as species ranges and distributions change up and down the coast;
- Connecting climate and environmental change to the management and governance of fisheries;
- Substantial shifts of summer flounder occurrences and fisheries, causing changes in management.

Climate-Related Factors Predicted to Impact Fisheries

Amanda Malagari (see the presentation slides)

Amanda Malagari provided a comprehensive overview of observed climate and environmental changes in the Chesapeake region. Workgroup members posed the following questions and comments:

Question: Does this workgroup address habitat?

Answer: Maybe in the context of how the DNR Fishing and Boating Services can integrate with the appropriate agencies and entities that impact habitat.

Comment: Fisheries managers can take actions to control fishing mortality but not much more. The department needs to be more aligned to how appropriate divisions integrate on a common direction. For example, oysters are much more than a “fishery” but are integral to habitat for other fisheries and should be considered in that context.

Comment: Natural adaption processes are occurring in the ecosystem. We are keeping an eye on them to assess how they can be leveraged.

Comment: There are geographic patches in the Bay. We need to determine how that variability affects species?

Comment: A plan should outline specific pathways for making decisions or engaging with authorities for maximum flexibility and effectiveness.

Comment: The plan needs to be detailed enough so that we have actions but broad enough that we can reach out to different resources and funding organizations. Formalized triggers would be a prescriptive action.

Comment: The Ecosystem Approach to Fisheries Management could serve as a model for how to organize guiding principles and actions.

Comment: Incorporating aspects to address habitat will be key to resiliency!

Comment: We need to address how to cover new species that have not yet entered the fishery; new species that will move in as conditions change.

Comment: Administrative aspects need to be considered and addressed in a plan, such as potential need for additional funding to adapt data capture (e.g., monitoring programs) as monitoring programs may need to be expanded over larger periods of time and geographic regions to keep pace with changes in species distributions.

How Does a Climate Resilient FMP Fit into Department Wide Resilience Goals

Kate Charbonneau, Assistant Secretary for Aquatic Resources

Kate Charbonneau provided some context of how the climate resilient fishery management plan will interact with the overall department-wide resiliency efforts. The better input that the department can get from this group on fisheries, the more it will influence the overall department wide climate resilience plan. It's important that workgroup members bring the perspectives and experiences in dealing with changing fisheries to the forefront during this process to develop a plan that can meet the needs of constituents under future environmental conditions.

Reflecting on the Impacts of a Changing Environment

Workgroup participants were provided fifteen minutes to write down ways that the environment has changed over their lifetime and what they have done to cope with or adapt to it. These were categorized as fishing resources, fishing industry, or management.

Reflect on your experience with a changing environment. What is one way the environment has changed over your lifetime? What have you done to cope with or adapt to it? Categorize it as fishing resources, fishing industry, or management.		
Resources	Industry	Management
Changing seasons & weather patterns affecting seasonal migration and productivity leads to data survey challenges. I've found myself adapting to these changes by fishing for things in different times of the year or shifting effort to relieve stress on struggling species.	Fluctuations in availability of fisheries products (e.g., oysters) from other states and how that influences the viability of local industry.	Changing species distributions and/or differential changes in productivity by region (e.g., black seabass). Leads to management action to reconsider allocation to reflect more recent distributions but also account for shoreside impacts/communities.
Predator-prey mismatch with seasonal change and how it affects different species recruitment.	White shrimp fishery - commercial in Virginia; no regulations for recreational.	Spring warm temperature changes -warming earlier. Spring striped bass spawning stock sampling started earlier.
Formation of cold plumes off NE Atlantic moving into the Bay during the fall. Overall geographic variability of anomalies;		

Reflect on your experience with a changing environment. What is one way the environment has changed over your lifetime? What have you done to cope with or adapt to it? Categorize it as fishing resources, fishing industry, or management.		
Resources	Industry	Management
warm & cool areas in the Bay compared to climatological baseline. How does it affect fish movement/migration?		
I grew up fishing for wild trout in Montgomery County. Over time, those populations have blinked out. Now I don't fish those areas anymore – lost access.		
Warmer spring temperatures and higher variation in temperatures = shifts in Bay and coastal migration. Reduced habitat leads to shift to other species.		
Greater variability with back-to-back extremes (more heat waves/cold snaps) during transition of seasons (winter-spring; fall-winter). Unknown how it affects recruitment. Info: NOAA Chesapeake Bay Office Seasonal Summaries; NOAA Rare Events Research with UMCES.		
Increasing uncertainty and extremes in weather events (e.g., hurricanes, cold snaps) can directly affect fishing resources (fish kills, precip events, etc.) but also fishing industry and infrastructure.		
Changing productivity of striped bass leads to fishing for other species.		

What Do We Want from this Workgroup at the End of Three Meetings

Amanda Malagari and Tammy O'Connell (see the presentation slides)

Amanda Malagari provided a summary of what input would be helpful from this workgroup at the conclusion of this process. In summary, the department would benefit if they could develop a toolbox for adaptation strategies that can be pulled out when needed. One example of such a toolbox is outlined in the California Marine Life Management Act (<https://wildlife.ca.gov/Conservation/Marine/MLMA>).

Focus of Future Meetings

Workgroup participants suggested topics that would help them to accomplish their task in future meetings. Suggestions included:

- Clarity on the function and structure of fishery management plans
- The fishery management planning process overall
- The current parameters around regulatory authorities and where we may need to wade into new territories
- Specific examples of how this will integrate into existing fishery management plans
- How do the Fishing and Boating Services plans integrate with MAFMC and ASMFC?
- What tools are available for understanding vulnerability
 - Projected changes in fish distribution and timing
 - Habitat suitability modelling
 - We could use striped bass as a case study

Scheduling the Remaining Three Meetings

Meeting 2 of this workgroup will take place Thursday, July 30 from 4:00-6:00 pm. The meeting will offer a Virtual option but participants are encouraged to attend in-person at the DNR Tawes Building if possible.

Meetings 3 and 4 will be scheduled using a meeting scheduling platform sent out to the workgroup in the coming weeks.

6:15PM – Workgroup was adjourned.

Appendix A

Workgroup on Developing a Climate-Resilient Fishery Management Plan for Maryland

June 23, 2026

4:00-6:00 PM

Tawes State Office Building, Room C-1 Conference Room

Background Materials

- [Climate-Ready Fisheries Planning Menu](#)
- Key Facts Handout
- Terms for Adaptation and Resilience

Meeting Agenda

4:00 PM	Welcome – Andrew Loftus, Group Facilitator Workgroup purpose Self-Introductions, including one individual experience with the impacts of environmental change Workgroup principles and ground rules
4:30 PM	Climate-related factors predicted to impact fisheries – Amanda Malagari and Tammy O’Connell
5:00 PM	Activity – Reflecting on the impacts of a changing environment
5:30 PM	How does a climate resilient FMP fit into department wide resilience goals – Jackie Specht
5:35 PM	What do we want from this workgroup at the end of 3 meetings / Topics for future meetings – Amanda Malagari and Tammy O’Connell
5:45 PM	Scheduling remaining three meetings / Initial thoughts about sources of information (speakers etc.) needed in future meetings
6:00 PM	Adjourn

Appendix B

Adaptation and Resilience Terms

<i>Term</i>	<i>Definition</i>
Adaptation	Action to prepare for and adjust to new conditions, thereby reducing harm or taking advantage of new opportunities.
Climate Adaptation	Actions taken to reduce vulnerability to the impacts of climate change, aimed to enhance the resilience of natural and human-based systems.
Climate Change	Changes in long-term weather patterns on a global, continental, regional, or local scale occurring as a result of greenhouse gas emissions.
Fishery Management Plan	A systematic description of a given fishery or fisheries and the objectives and conservation and management measures for the fishery or fisheries. A fishery management plan serves as a framework for conserving and wisely using fishery resources.
Mitigation	Human intervention to reduce emissions or enhance the sinks of greenhouse gasses.
Resilience	The capacity of natural and human-based systems to anticipate threats, reduce vulnerability, and respond to and recover from heavy disturbances and chronic stresses.
Vulnerability	The characteristics of exposure, sensitivity, and adaptive capacity that make a system, asset, or the natural environment more or less susceptible to harm or change.

Principles of Adaptation

<i>Principle</i>	<i>Description</i>
Prioritization and triage	Based on vulnerability of fisheries resources and on the anticipated effectiveness of actions that attempt to reduce vulnerability
Flexible and adaptive management	Incorporates new knowledge and experience over time Aligns with the existing fishery management framework
“no regrets” decisions	Actions with variety of benefits and minimal risk; Good place to start
Precautionary actions	Reduce risk in the near term, even when future uncertainty is high
Vulnerability and uncertainty	We won’t be able to account for every variable
Integrating mitigation	Investigate ways fishery management intersects with carbon sequestration strategies

5 Pillars of Climate Resilience

(Rutger de Graaf-van Dinther)

1. Threshold = Ability to withstand levels of stress before failing
2. Coping = Immediate response to manage impacts
3. Recovery = Ability to bounce back and restore normalcy
4. Adaptive = Ability to adjust practices and policies
5. Transformative = Potential for fundamental changes in systems