

Building Capacity for Climate Adaptation Planning in North Atlantic Coastal and Marine Protected Areas

Workshop Proceedings
October 6, 13, and 20, 2020



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Background

A virtual training series¹ was held on October 6th, 13th, and 20th, 2020, for 22 attendees from the North Atlantic region of the U.S. and Canada. Organized by the Commission for Environmental Cooperation (CEC), in collaboration with EcoAdapt, Parks Canada, and NOAA's Marine Protected Area (MPA) Center, this workshop series provided training on using the CEC's [Climate Adaptation Toolkit](#) to help MPA practitioners adapt to the impacts of climate change. The training was delivered for coastal and MPA practitioners in Atlantic Canada and the United States who share a common seascape (Gulf of Maine and environs) and focused on vulnerabilities and adaptation strategies for salt marsh and eelgrass habitats. The objectives of the workshop series were to:

1. Provide training, resources, support, and experience in using the Climate Adaptation Toolkit to strengthen the capacity of MPA practitioners to adapt to climate impacts;
2. Promote collaboration and communication on oceans and climate change mitigation and adaptation; and
3. Engage new audiences in the promotion and use of climate adaptation tools.

The workshop series was divided into 3-hour sessions over the course of three days, and led participants through a basic process of climate adaptation planning using the [Climate Adaptation Toolkit](#) and associated training module and exercises. Using the Adaptation Ladder of Engagement as a guide, participants learned how to move from one step to the next in adaptation planning, including the resources and information needed to accomplish each step. Each workshop session consisted of a presentation by the facilitators, followed by small group exercises to apply the concepts taught.

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Day 1: Project Scoping and Vulnerability Assessment

Day 1 of the virtual training series began with welcoming remarks from CEC, Parks Canada and NOAA's MPA Center. Workshop facilitators then introduced the training series and agenda, and invited participants to introduce themselves by name, affiliation, and a brief description of the site or habitat they work on and primary challenges. Representation across the North Atlantic region included approximately ten field sites (Figure 1). The workshop facilitators introduced the [Climate Adaptation Toolkit](#) and led participants through the first two steps of the training module: (1) Project Scoping and (2) Awareness and Assessment. The following learning objectives were identified:

1. Become familiar with project scoping components and how Toolkit resources can assist in defining parameters;

¹ Workshop support page: <http://ecoadapt.org/workshops/cec-atlantic-canada>

2. Practice defining project parameters, including habitat description, timeframe, and key climate and non-climate stressors;
3. Understand how to access basic climate data for the targeted region; and
4. Practice assessing climate vulnerability for a habitat of interest using the Rapid Vulnerability Assessment (RVA) Tool.

Participants then split into two habitat groups (eelgrass and salt marsh) to complete the Project Scoping exercise. Due to technical difficulties experienced with the GoTo Training platform during these breakout groups, the training was momentarily paused and reconvened in WebEx for the next breakout session. To complete the Assessment exercise, each habitat group split into two smaller groups, for a total of four breakout groups (see list of participants by group in annex). Each group assessed a different climate stressor, and due to the technical delays, the exercise was not completed in the time allotted. A brief plenary concluded the day, with plans to revise the next day’s agenda to accommodate the need for more time on the Assessment exercise.

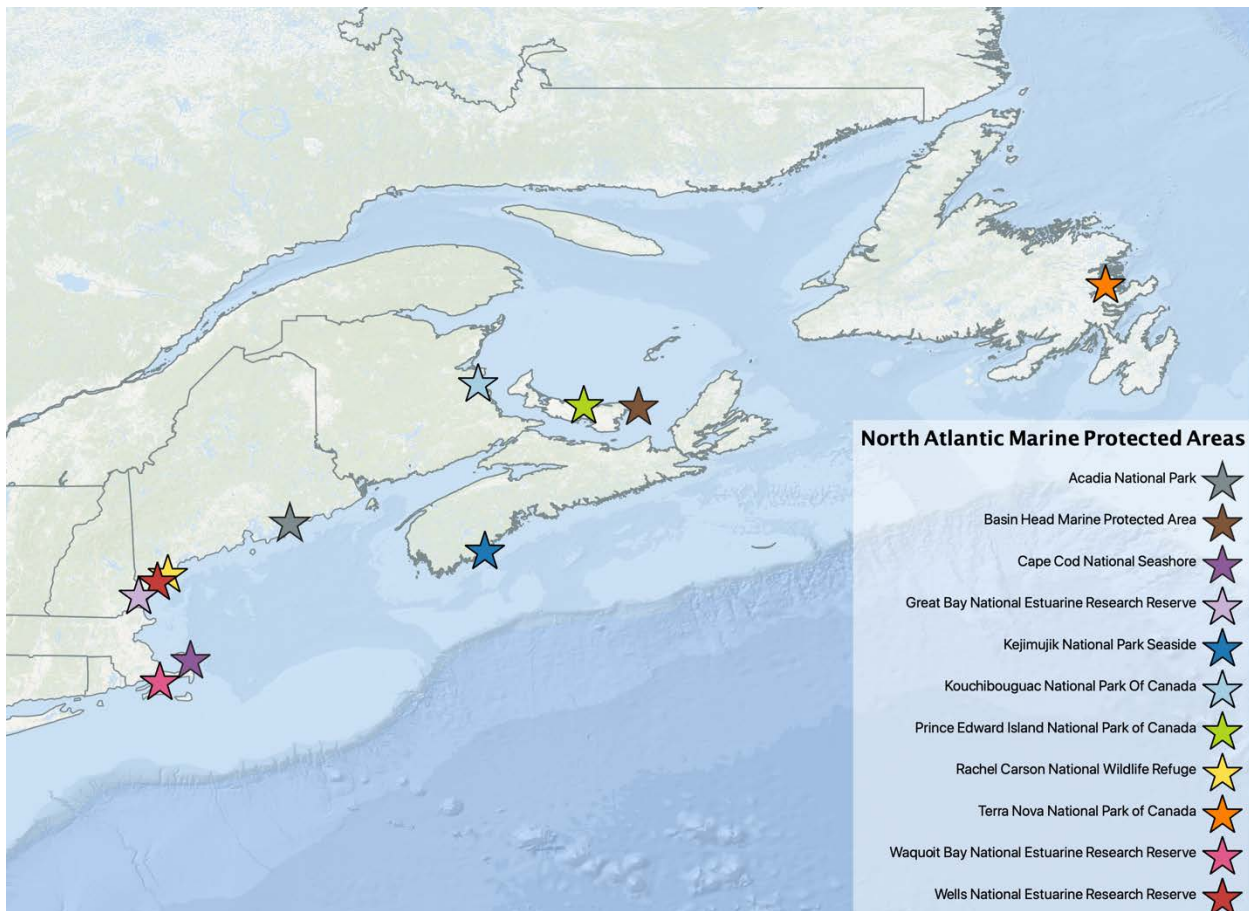


Figure 1. North Atlantic Marine Protected Areas that participated in this workshop series.

Day 2: Adaptation Strategy Development

Day 2 of the virtual training series began with a brief introduction to the day, followed by time in habitat groups to finish out the Assessment exercise. Workshop facilitators then led

participants through the next step in the training module: (3) Planning. The following learning objectives were achieved:

1. Introduce adaptation planning concepts and terms;
2. Understand how to move from assessment to planning - what to do with the findings from the vulnerability assessment; and
3. Understand how to develop adaptation strategies and actions using the [Climate Adaptation Toolkit](#).

Participants then heard from a guest presenter, Chris Nadeau of Northeastern University, on the topic of genetic management as a possible climate adaptation approach. During a brief break, CEC shared a map of all ten field sites (Figure 1) so that participants had a better sense of where each was located in the region. Participants noted that the addition of the map helped to focus on a unified geography rather than different site challenges. Participants then moved into their assigned breakout groups to develop adaptation strategies for addressing the impact of their chosen climate stressor on their habitat. All breakout groups then reconvened in plenary to share a few priority strategies discussed by their group, with time for questions and discussion. Some things that came up during the plenary discussion included:

- An example adaptation strategy in action for salt marsh is from Great Marsh (U.S. Fish & Wildlife Service), where they are undergoing a [ditch remediation project](#)
- A recent article ([Plaisted et al. 2019](#)) explores how eelgrass genetic diversity influences resilience to stresses associated with eutrophication
- Two research gaps were identified by the salt marsh group: improving understanding of drought impacts on salt marsh vegetation, and identifying the upper thermal limits of *Spartina*
- The salt marsh group also identified shifting roads further up into the estuary as a possible adaptation strategy, although did not explore it in detail in their breakout group

Day 3: Adaptation Strategy Implementation

Day 3 began with an introduction to the day and moved right into the final two steps of the training module: (4) Implementation and (5) Monitoring and Evaluation. Though the virtual format of the training series did not allow time for participants to explore monitoring and evaluation objectives through breakout group work, the concepts were still presented and discussed. The following learning objectives were achieved:

1. Understand how to move from planning to action –know what needs to be done and how to do it;
2. Explore how to leverage case studies, planning documents, and experts to implement desired actions;
3. Understand how to develop a plan to monitor and evaluate the efficacy of adaptation actions; and
4. Explore strategies for successful monitoring and evaluation efforts.

Participants then split into two habitat groups to complete the Implementation exercise, with an eye towards collaborative opportunities as well as opportunities for regional conservation gains. All participants reconvened in plenary to share a few key insights from their discussion, and the remaining time was spent in full-group discussion where a number of different topics arose.

- The group spent quite a bit of time discussing the Resist-Accept-Direct (RAD) framework in the context of the eelgrass group’s adaptation strategy focused on a regional approach to eelgrass conservation. Specifically, the strategy outlined the need to regionally identify refugia (for increased protection) as well as places to let go (i.e. accept change or transition to a new habitat type). Participants acknowledged the difficulty of this type of strategy, including the challenges associated with stakeholder/partner conversations and messaging to the public. Members of the eelgrass breakout group also noted that the regional strategy could be developed in different ways; for example, one way would involve mapping places likely to be vulnerable or resilient to climate changes and then selecting the corresponding best management approach (e.g., vulnerable places may be better for an Accept or Direct approach), while another way would involve discussions with sites and local stakeholders to leverage what each site can do and select the management approach they feel most comfortable with (i.e., Resist, Accept, or Direct) and then developing a regional strategy based on site preferences. In either case, it was recognized that communication of a regional approach would be critical for support, so it is not seen as a net loss, but bigger than any one site.
- There was some discussion around focusing on the stressors and impacts that MPA managers can exert some control over, rather than those that are more difficult or costly (e.g. we cannot completely control invasive green crabs, but we can improve water quality by focusing on nutrient reduction strategies).
- Rachel Stevens (Great Bay National Estuarine Research Reserve) shared an example of [regional planning in southern New England](#), where best management practices have been associated with marsh types based on current condition, vulnerability, and adaptation potential.
- The group also discussed applying the RAD framework in the context of invasive species management, as the native/invasive dichotomy no longer seems accurate given climate change. Some invasive species considerations that arose included newly arriving or likely to arrive species such as “neo-natives” (i.e. new arrivals that are not particularly invasive), native species expanding their ranges (including protected native species – e.g., mangroves invading salt marsh in Florida), and being clear about whether we are resisting the current state or the loss of historical ecosystems.

Workshop facilitators thanked everyone for their time and expertise and concluded the training series. All presentations and materials were made available to workshop participants following the workshop conclusion (<http://ecoadapt.org/workshops/cec-atlantic-canada>).

Annex: Breakout Group Assignments

SALT MARSH: Breakout Group A		
	<i>Name</i>	<i>Agency/Organization</i>
1	Zac Cannizzo	Facilitator, NOAA MPA Center
2	Gabrielle Beaulieu	Parks Canada
3	Scott Covington	U.S. Fish & Wildlife Service
4	Cathy Johnson	U.S. National Park Service
5	Abe Miller-Rushing	Acadia National Park
6	Garrett Mombourquette ¹	Prince Edward Island National Park
7	Rachel Stevens	Great Bay National Estuarine Research Reserve
8	Megan Tyrrell	Waquoit Research Reserve

SALT MARSH: Breakout Group B		
	<i>Name</i>	<i>Agency/Organization</i>
1	Jessi Kershner	Facilitator, EcoAdapt
2	Jacob Aman ³	Wells National Estuarine Research Reserve
3	Chelsey Campbell ²	The Confederacy of Mainland Mi'kmaq
4	Rebecca Cole-Will ⁴	Acadia National Park
5	Claire Enterline ¹	Maine Coastal Program
6	Irene Novaczek	Basin Head MPA
7	Karl Stromayer	Rachel Carson National Wildlife Refuge
8	Erica Stuart	Fisheries & Oceans Canada
9	Lauren Wenzel	NOAA MPA Center

¹ Attended Day 1 only

EELGRASS: Breakout Group C		
	<i>Name</i>	<i>Agency/Organization</i>
1	Chantal Vis	Facilitator, Parks Canada
2	Karyne Bellehumeur	Kouchibouguac National Park
3	Gonzalo Cid	NOAA MPA Center
4	Olivia Clark ²	Fisheries & Oceans Canada
5	Randall Hughes ⁴	Northeastern University
6	Leah McConney	Fisheries & Oceans Canada
7	Elizabeth Nelson	Parks Canada
8	Marie-Hélène Thériault	Fisheries & Oceans Canada

EELGRASS: Breakout Group D		
	<i>Name</i>	<i>Agency/Organization</i>
1	Hilary Harrop Archibald	Facilitator, Parks Canada
2	Sara Hutto	Facilitator, Greater Farallones Association
3	Megan Lynch	Fisheries & Oceans Canada
4	Chris Nadeau	Northeastern University
5	Marlow Pellatt	Parks Canada
6	Troy Pretzlaw	Kejimikujik National Park
7	Philippe St-Onge	Northern New Brunswick Field Unit

² Attended Day 2 and 3 only



³ Attended Day 1 and 3 only

⁴ Attended Day 1 and 2 only