

SCENARIO PLANNING FOR CLIMATE CHANGE UNCERTAINTY

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The Lake Ontario ecosystem has undergone vast changes and uncertainty remains as to how it will change in the future. While scientists work to understand how and why aspects of the ecosystem changed, a scenario planning workshop educated a broader group about future uncertainties in the lake ecosystem. Participants completed a scenario exercise and created future stories to educate others about the interconnectedness of the ecosystem and people. Using funding from the Great Lakes Integrated Science Assessment, New York Sea Grant, Northeast Regional Climate Center, USGS and academics from the Cornell University Department of Natural Resources explored these same uncertainties in the context of exploring how the Lake Ontario Lakewide Management Plan (LaMP) along with local watershed plans could be updated in order to address climate change and support resilience to potential resultant ecosystem changes. The outcomes of the project are intended to inform the update of the LAMP and assist local partnerships to address these issues on a smaller watershed scale.

In September of 2012, as part of a Great Lakes Restoration Initiative funded project, Lake Ontario Lower Food Web Assessment, New York Sea Grant and USGS convened a diverse set of stakeholders for a two day scenario exercise. Participants learned about the scenario tool, defined their system of interest, identified what drives change within that system from local to global scales, and then ranked uncertainty with respect to those drivers. After discussion, the group agreed that climate (more specifically precipitation) and population growth were the most uncertain drivers for the ecosystem's future. By considering four scenarios that represented the opposite ends of those two uncertainties, four very different stories about the 30-40 year future of Lake Ontario emerged (Extreme Everything; Boatless Ontario; Soggy Metropolis; Toronto in Sodus). Stories were told from a shoreline perspective, so they could illustrate how changes in climate and human behavior interacted to create a picture of the future. In addition to describing the landscape of the future, the stories laid out plausible sequences of actions that created those futures using the ecological, social, economic and cultural interactions. In May 2015, a second workshop was held with a similarly diverse group of stakeholders from around the Lake Ontario shoreline; academia, human health, recreational fishing, agriculture, local small business, energy industry, state and local governments, tribes, tourism interests and natural resource managers. At the end of this two-day workshop, we synthesized a deliberated set of stakeholder driven recommendations, barriers and ways of overcoming them for updating the LaMP and local watershed plans, in order to address climate change and become more resilient. Over the winter, we will hold two validation workshops where we ensure that the actions identified are representative of other areas along the Lake shore, that the barriers are accurate and complete, and assistance in further identifying other policies or activities to assist communities in hurdling the barriers.

In this session, we will review the scenario process used, the lessons learned from our efforts and describe how this tool can be used for other coastal management challenges.