



WHERE PEOPLE MEET THE MUCK

Beach Muck and Public Perception at the Bay City State Recreation Area, Saginaw Bay, Lake Huron

CORE QUESTION: What are the causes, consequences and possible ways to address the muck problem at the Bay City State Recreation Area in Saginaw Bay, and what is the public perception of this issue?

INTEGRATED ASSESSMENT

OVERVIEW

In several regions of the Great Lakes, including Saginaw Bay, muck has been and continues to be a problem. Muck is a common term for mats composed of different types of algae, other aquatic plants (macrophytes) and decomposing organic matter that form in the water or wash up on shore. Muck has been blamed for poor water quality and economic losses in the region. Records of muck in Saginaw Bay go back to the 1960s, but other accounts mention muck as an issue as far back as the 1920s.

The current view is that the muck is a result of excess nutrients in the system (e.g., phosphorous runoff, combined sewer overflows), though changes in the food web, particularly those caused by invasive mussels, likely contribute.

PROJECT DESCRIPTION

Using the Integrated Assessment (IA) framework, the research team will summarize what is currently known about muck-related conditions at the Bay City State Recreation Area (BCSRA), including the socio-economic impacts of muck at the park and on the Saginaw Bay Region as a whole. The project will build off of the five-year Saginaw Bay Multiple Stressors Project that

started in 2007 and focused on evaluating the impacts of different stressors and their combined effects on Saginaw Bay.

Engaging people who are affected by the muck — the stakeholders — is a priority throughout the project. The targeted audience includes key decision makers from local, state, federal and non-government organizations in the region, as well as individuals with an interest in the muck-related issues at the park and in the Bay.

WHAT IS INTEGRATED ASSESSMENT?

Rather than running additional experiments, the research team summarizes what is known and offers an assessment of how the science could be interpreted and used. The team focuses on a complex environmental issue and then conducts a comprehensive analysis of natural and social scientific data and information.

The IA process is different from traditional research because researchers work closely with stakeholders to examine an issue from many perspectives, identify challenges and evaluate feasible solutions. The aim is to create results that are current, trusted, accessible and useful.





The team will ask for stakeholder input using a suite of models, interviews, surveys and meetings. The results of the IA will provide stakeholders with a shared understanding of what is currently known about the muck and options for managing the effects of muck.

EXPECTED OUTCOMES

Ultimately, the assessment will help the research team identify a series of feasible short-term and long-term management actions that could help alleviate and better manage the effects of muck.

The primary objectives within the IA project are grouped into themes:

Environment and Human Health

ACTION: Compile and analyze the available data and research related to:

- The origins of muck
- The potential for muck to harbor harmful bacteria
- How it behaves in the system and at the study area

OBJECTIVE: Stakeholder involvement in the development of an improved and shared understanding of the human health implications, and environmental causes and consequences, of muck conditions at the park.

Economics

ACTION: Conduct economic analyses on beach visits and an impact survey to understand how recreational values and park management are impacted by muck conditions at the Bay City State Recreation Area.

OBJECTIVE: Stakeholders better understand the true economic costs and benefits of beach conditions and maintenance associated with various levels of muck at the park and in the region.

Public Perception

ACTION: Gather stakeholder input in several different forms.

OBJECTIVE: Understand stakeholder perceptions of the causes and impacts of muck and other issues like agency credibility to inform agency management strategies.

Management Solutions

ACTION: Assess previous management actions and identify any new management scenarios that may address muck-related issues at the park.

OBJECTIVE: Using stakeholder input and the research findings, investigate what remedial actions are feasible to address the aesthetics Beneficial Use Impairments within the Area of Concern program framework.

GET INVOLVED

The goal of the project is to obtain input from and share knowledge with stakeholders to have the recommended solutions of the IA considered in local decision-making efforts. The research team will facilitate stakeholder engagement through focus groups and project workshops.

Stakeholders will have ample opportunity to engage in the project through a series of workshops, socio-economic surveys, focus groups for each of the four project themes, as well as having access to a variety of outreach/ education tools that will be provided through the website designed for the project.

They will provide strategic direction, input and feedback on all aspects of the project. Stakeholders will also be involved with the identification of recommended solutions and, where applicable, promoting behavior change.

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