The Role of Science in Supporting Great Lakes Restoration

Moderator: Robert W. Sterner Large Lakes Observatory University of Minnesota Duluth

Hold 20% of Earth's accessible fresh water >10,000 miles coastline Home to >34 million people 25.8 million jobs Economy of > \$3.5 Trillion

Research investment \$250 million (?), which is 0.0071% of the economic activity.



THE PROBLEMS ARE MANY



SCIENCE IS FOUNDATIONAL TO MANAGEMENT & RESTORATION HORNE

BWWTP (~15 KM west)

-78.95

NAML Position Paper:



National Association of Marine Laboratories

Position Paper: The Need for a Strategic and Sustained Federal Investment in Basic Research and Education in Support of the Great Lakes Ecosystem February 2022

NAML believes it is essential that a sustained and strategic investment be made by the National Science Foundation (NSF) and other relevant federal agencies in fundamental science and engineering research and education associated with the Great Lakes ecosystem. Substantially enhanced investments will soon be made in the restoration of the Great Lakes. Such an investment can benefit greatly via a greater understanding of the fundamental science and engineering that underpins this vast ecosystem. NAML further recommends that NSF and other relevant federal agencies support a rigorous national workshop, a National Academies report, or other similar exercises that seek to integrate ongoing and planned restoration activities of the mission-oriented agencies with a strategic set of fundamental research, education, and related infrastructure priorities.

Recent and Ongoing Initiatives

- 2017: Grand Challenges for Research in the Laurentian Great Lakes. Limnol. Oceanogr. 62: 2510-2523.
- 2021: USGS Survey Great Lakes Science Forum.
- 2021: Common Strategy for Smart Great Lakes (GLOS)
- Upcoming: International Joint Commission Decadal Science Plan

How do we position ourselves not just to address the known problems of the past, but also to prepare ourselves for the problems of the future? Today's Panelists

<u>Pierre Beland</u>, Canadian Chair & Commissioner of the International Joint Commission

Stephen Galarneau, Director of the Office of Great Waters, WDNR

Frank Greenland, Director of the Watershed Program NE Ohio Regional Sewer District

Elizabeth Hinchey Malloy, Supervisory Physical Scientist, EPA GLNPO

Kelli Paige, CEO Great Lakes Observing System

How could a research initiative involving the academic labs along the Great Lakes ensure a more effective investment in the \$1 billion GLRI program?

What are the most pressing issues with respect to the Great Lakes that a focused research effort could help address?

In what ways could NAML labs assist you and your respective entities in meeting your mission and restoration requirements?

What are some of the major ecosystem-related challenges that could be better met via a sustained research initiative?

What role, if any, can marine and freshwater labs play with respect to funding for GLRI?

Are there opportunities for our labs to partner with EPA and other players in GLRI?