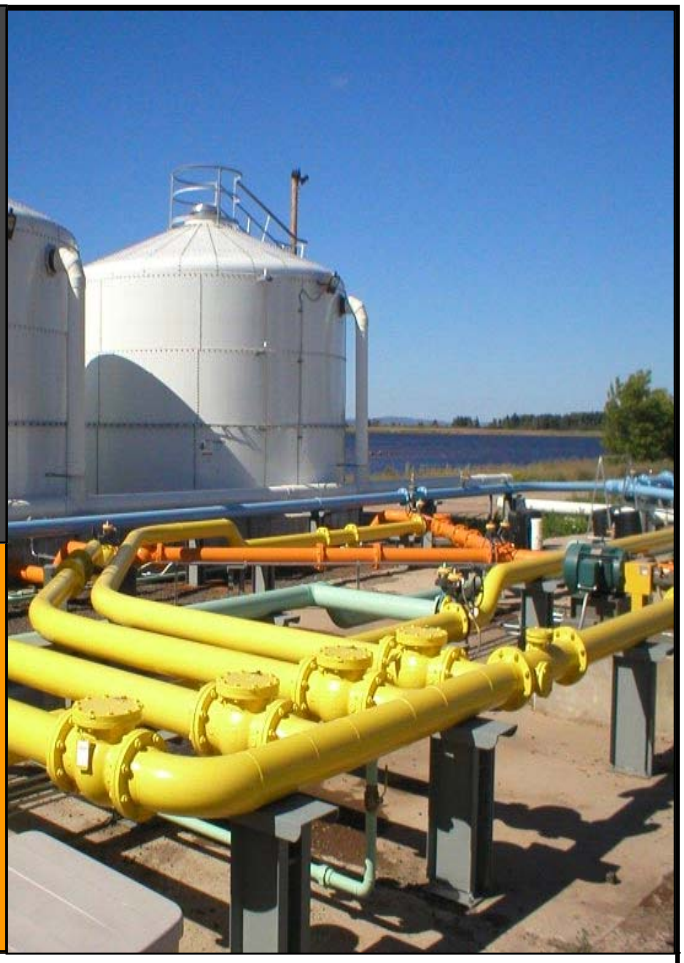
Great Ships Initiative



A collaborative effort to end the problem of ship-mediated invasive species in the Great Lakes-St. Lawrence Seaway System through independent research and demonstration of environmental technology, financial incentives and consistent basin-wide harbor monitoring.

www.greatshipsinitiative.org

Managed by the Northeast-Midwest Institute, and supported by the following entities, the GSI's immediate objective is to accelerate the identification, verification and use of effective ballast treatment systems.

Duluth Seaway Port Authority · Port of Cleveland · The Port of Milwaukee · Port of Erie · Ports of Indiana · Toledo-Lucas County Port Authority · Port of Hamilton (Connect • Innovate • Progress)

Toronto Port Authority / Administration Portuaire de Toronto · FEDNAV · Lloyd's Register · Port of Baltimore · The CSL Group Inc. · Great Lakes United · Great Lakes Commission / des Grands Lacs

The St. Lawrence Seaway Management Corporation / Corporation de Gestion de la Voie Maritime du Saint-Laurent · NOAA · American Great Lakes Ports Association · University of Wisconsin Superior · UMD Duluth

For more information contact:

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Northeast-Midwest Institute, Center for Regional Policy

Photos from the GSI's Land-Based Research, Development and Technology Evaluation (RDTE) Facility in Superior, Wisconsin.

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Services

Bench-scale services:

- Range finding for effective doses under a range of ambient conditions;
- Chemical degradation over time under a range of ambient conditions;
- Detection of any residual toxicity; and
- Confirmation of treatment process.

Land-based services:

- Detection of scale-up, mechanical operation issues;
- Effectiveness of a dose with respect to the full range of ambient organisms; and
- Detection of any whole water effluent toxicity.

Shipboard services:

- Confirmation of biological and operational performance as expected in the ship environment; and
- Confirmation of performance as expected under a broad range of ambient conditions.

Relevancy

- Research services output relevant to international and domestic regulatory processes;
- Land-based testing facility consistent with International Maritime Organization (IMO) guidelines;
- Close collaboration with other testing facilities globally;
- Commitment to high quality research and information sharing.

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Facilities

Bench-scale testing facilities:
Laboratory space within the University of Wisconsin-Superior and University of Minnesota-Duluth is utilized to meet GSI bench-scale test objectives, as well as for non-time sensitive analysis of samples from the land-based and shipboard scale tests.

Land-based testing facility:
Located in Superior, Wisconsin, the GSI's land-based testing facility offers infrastructure consistent with IMO guidelines for land-based testing of ballast treatment equipment; a freshwater estuary with plentiful aquatic life; the option to conduct either in-line or in-tank sampling and/or spiking; capacity to run controlled experiments on treatment systems at up to 341 m^3/hour; simultaneous filling of matched treatment and control retention tanks; and capacity to retain water in two pairs of matched control and treatment retention tanks, each roughly 200 m^3 in volume. An on-site mobile laboratory supports these land-based experiments.

Shipboard testing:
Shipboard in-situ testing of treatment equipment will be undertaken to "ship-truth" technology performance exhibited at the land-based scale. The platforms available to the GSI comprise ships in two distinct trades: Canadian Lakers and transoceanic vessels.