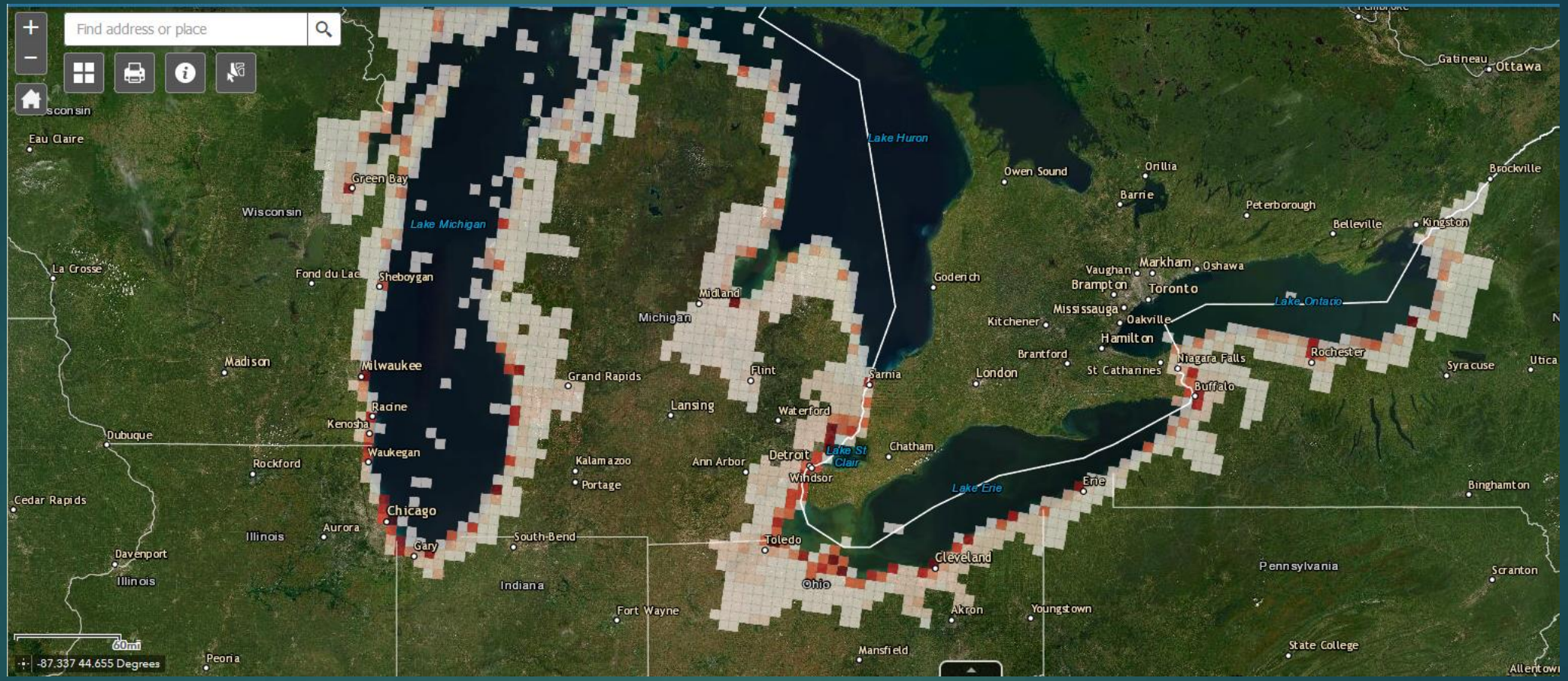
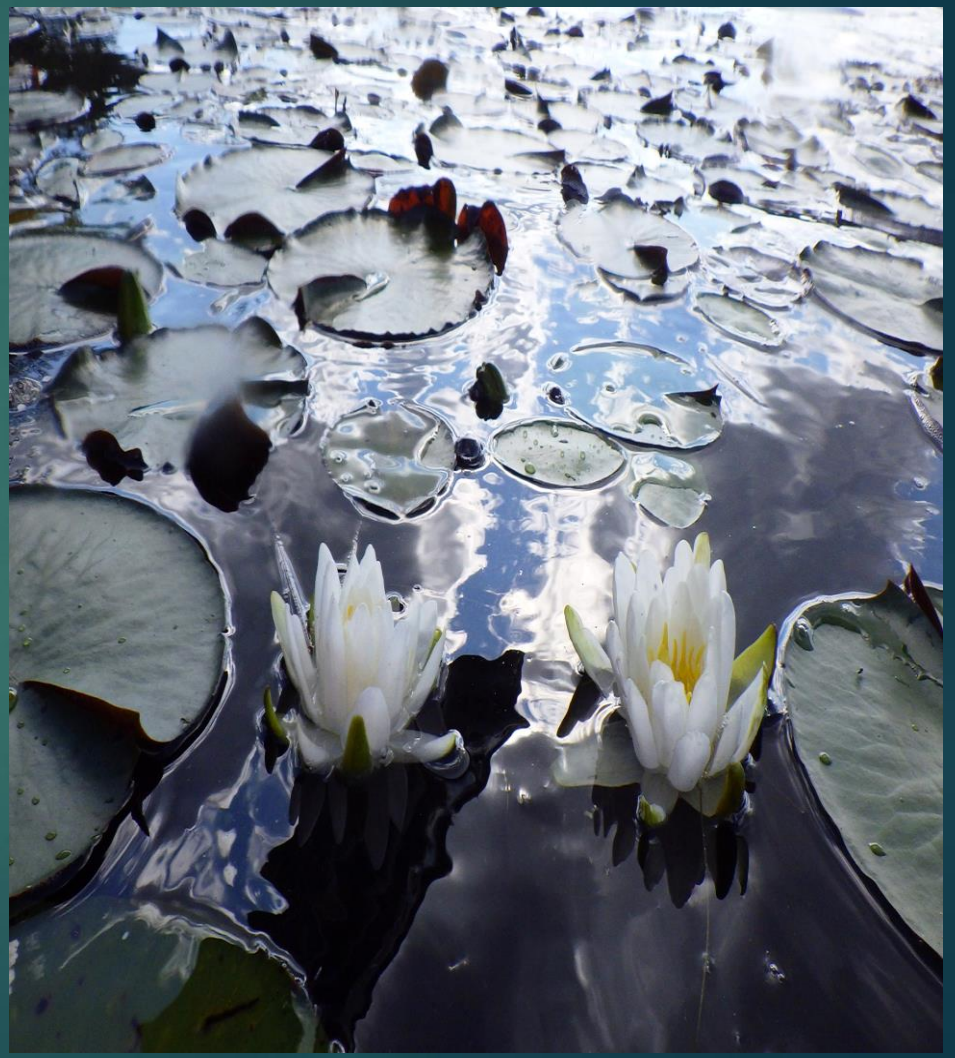
EARLY DETECTION OF INVASIVE AQUATIC PLANTS IN COASTAL WATERS OF THE GREAT LAKES



- Builds on previous Interstate Early Detection and Response projects, specifically GLRI interstate projects (F15AP00041, F18AS00106, F16AP01013) and interstate early detection and response planning efforts.
- Falls under FY 2020 – FY 2024 Great Lakes Restoration Initiative Action Plan Summary Focus Area 2.1

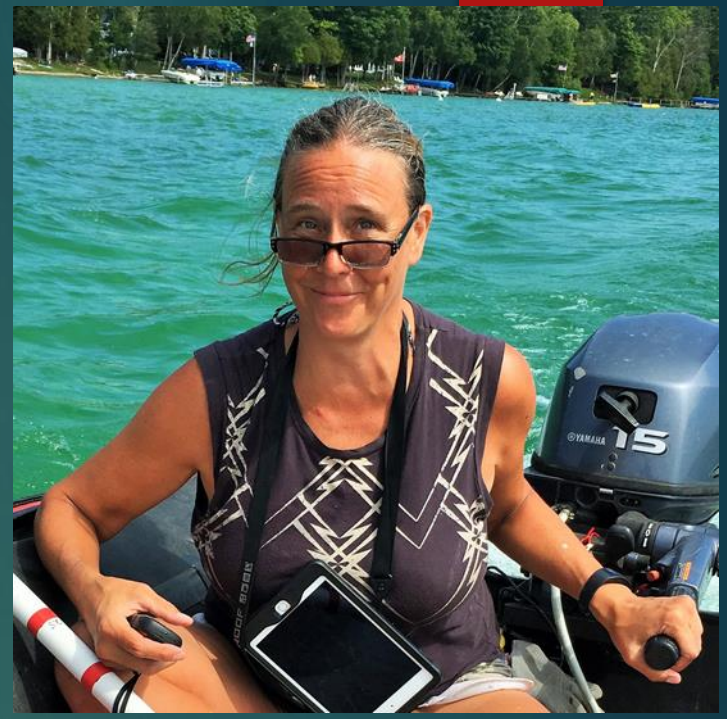
Foundational Work

- Starting in 2017 TNC surveilled five of the highest risk sites in the GLRI Interstate Surveillance Framework ranked list of sites for invasive plant incursion in the Great Lakes basin.
- TNC subsequently developed an early detection survey design and sampling approach that increases survey efficiency and facilitates a quantitative assessment of survey performance.
- In 2019, TNC secured funding from the New York State Department of Environmental Conservation to conduct surveys in New York Waters of the Great Lakes.



Building on this progress

- by operationalizing a regional aquatic plant surveillance program based on
  - the TNC sampling protocol and
  - the species watch list and site priorities identified by the Interstate Team in previously funded projects.
- 3 year baseline survey starting in 2022
  - Targeting many of the as yet unsurveyed top 25 priority sites and
  - a number of additional sites based on emergent risks or regional incursion response efforts.
- Implemented by the Great Lakes Environmental Center (GLEC) with oversight by The Nature Conservancy and in collaboration with interested state, tribal, and federal agencies.



- Total of 16 sites
  - ten unsurveyed top 25 priority sites located in IN, MI, OH, PA, and WI
  - five additional sites in OH recently identified as at risk due to potential incursion of Hydrilla from Lake Pymatuning and
  - Sturgeon Bay in WI which is at risk of Nitellopsis incursion.

*Table 1 Proposed Survey Sites. *Designates a site ranked among the Top 25 highest risk sites in the GLRI Interstate Surveillance Framework ranked list of sites.*

State	Site Name	Proposed Year Sampled
Michigan	Grand Haven*	2022
	Gross Pointe Shores/Lake St. Clair*	2022
	Clinton River Mouth*	2023
Wisconsin	Sturgeon Bay	2023
	Green Bay/Fox River Mouth*	2024
Indiana	Calumet River Mouth*	2022
	Portage-Burns Waterway*	2022
Pennsylvania	Erie/Presque Isle*	2024
Ohio	Lorain/Black River Mouth*	2023
	Fairport Harbor/Grand River Mouth*	2023
	Geneva-on-the-Lake	2023
	Ashtabula/Ashtabula River Mouth	2023
	Conneaut/Conneaut Creek Mouth	2023
	Toussaint River Mouth*	2024
	Vermilion/Vermilion River Mouth	2024
	Eastlake/Chagrin River Mouth or Rocky River Mouth	2024

- Plants will be sampled using a double-sided rake or hand pulling to enable identification of resident plant species.
- Sampling locations will be selected using a stratified random design based on water depth subgroups, maximizing effort where plants are most likely to be found.
  - Further group subdivisions to increase survey efficiency or prioritize GLRI member needs will be discussed for each individual sampling site.

Photo: MN DNR

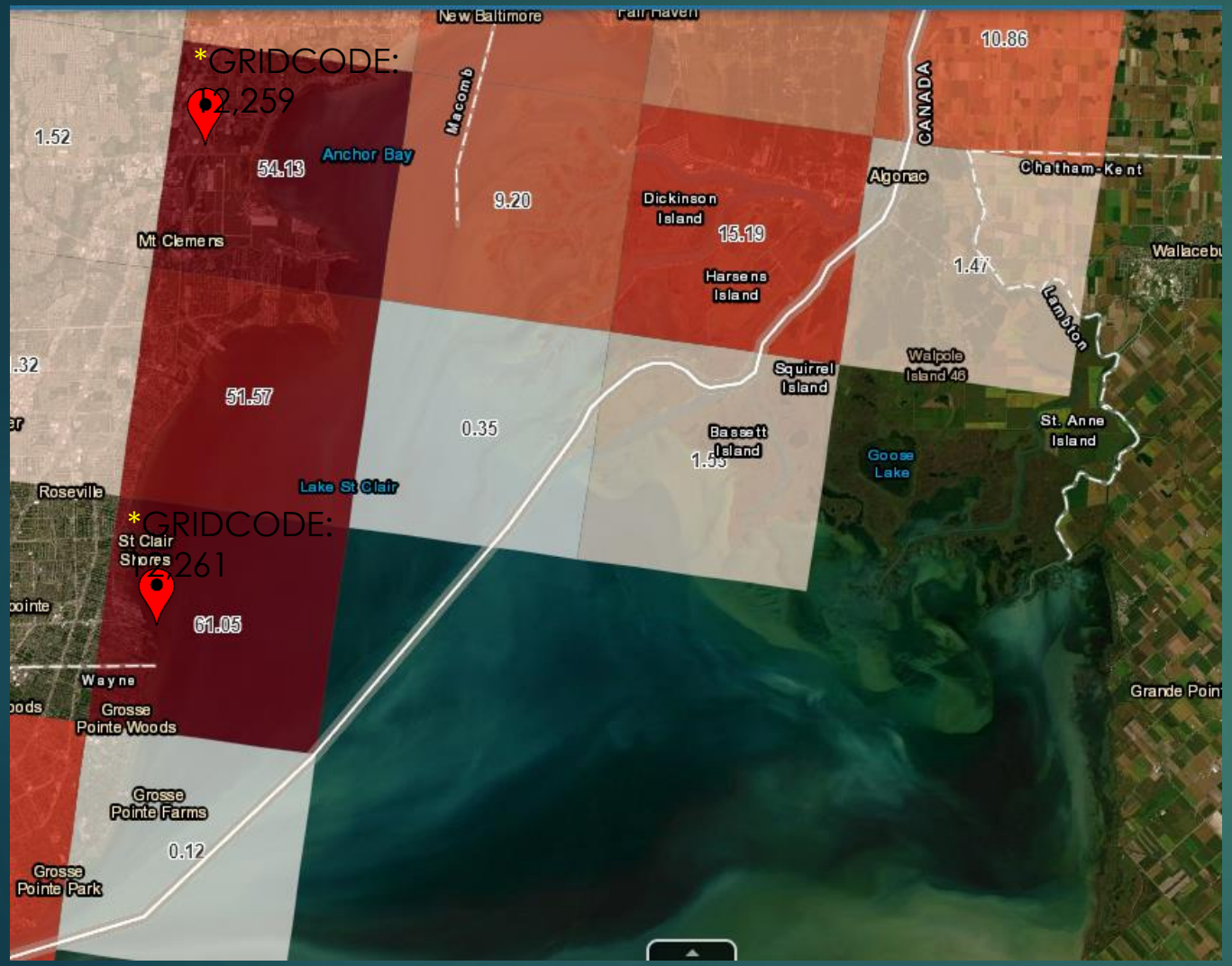
Photo: Jeff McPherson, EPA Region 8

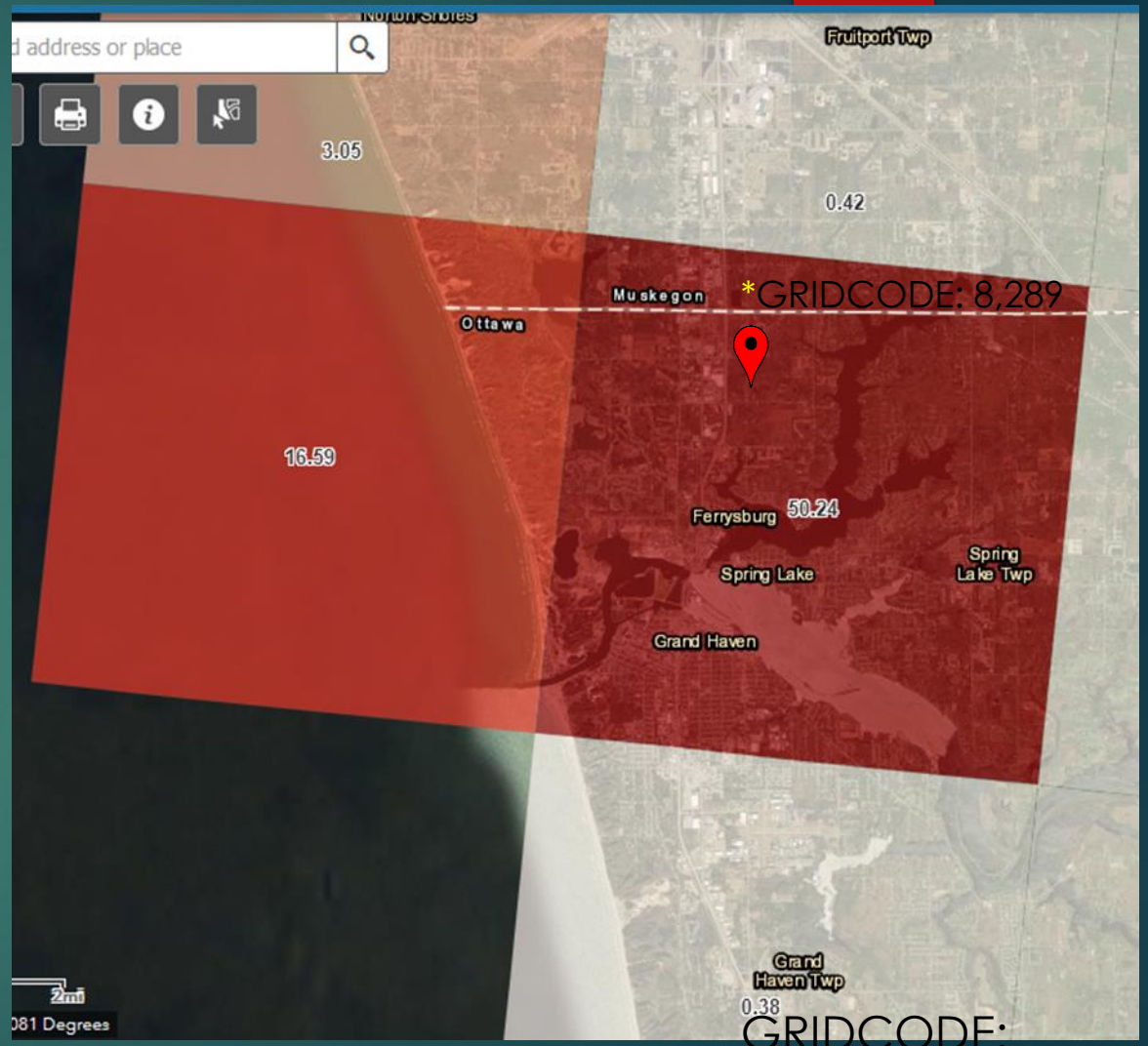
Deliverables

- Semi-quantitative aquatic plant surveys.
- Site survey reports with complete plant lists, site records including fine scale spatially referenced locality data and survey performance measures.
- Pressed voucher specimens submitted to local herbaria.
- Annual presentation to Interstate Team, including survey results and recommendations for next set of priority sites.
- To ensure that surveys are meeting agency and tribal needs we will attend and participate in annual planning and communication efforts to share surveillance results and coordinate field programs with the relevant state, tribal and federal entities.

Ohio and Pennsylvania Sites

Michigan Sites





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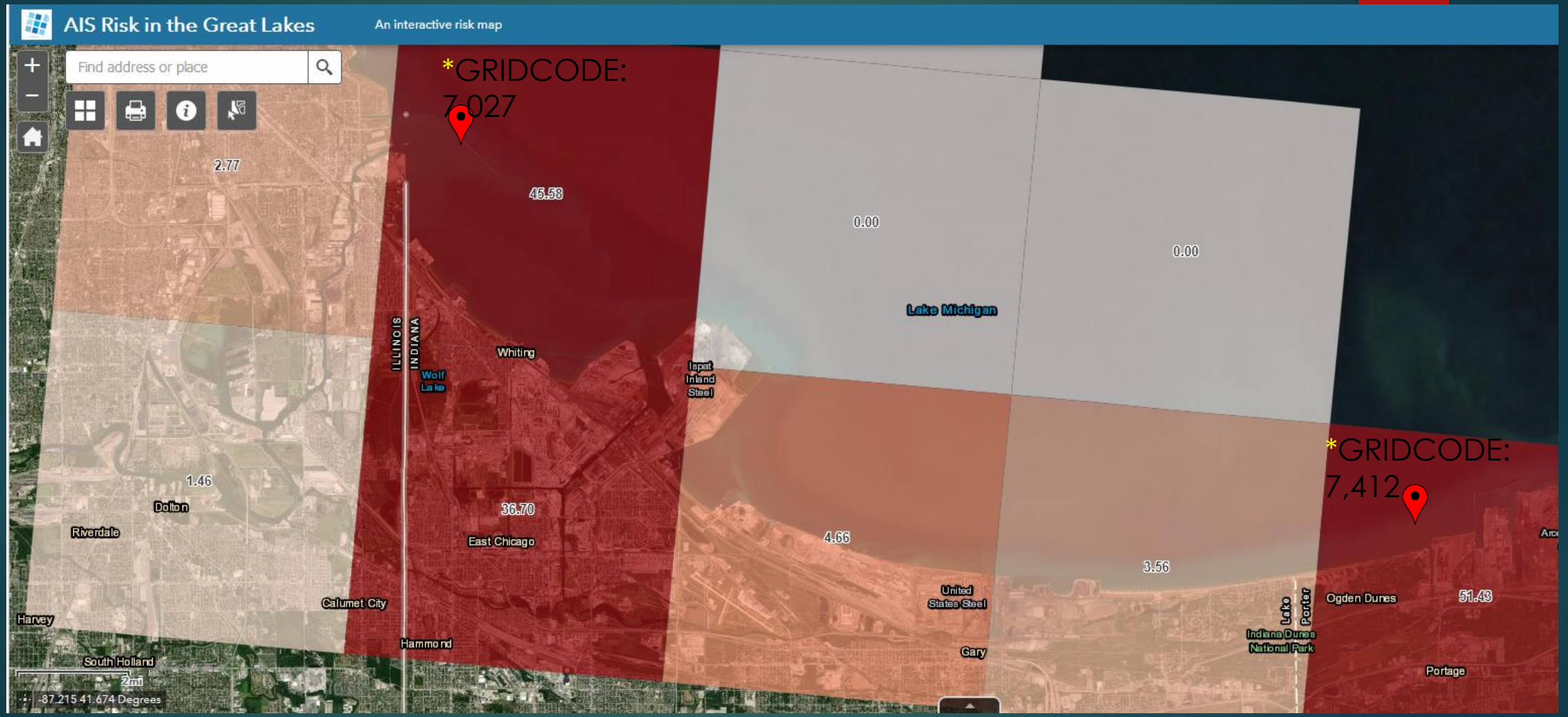
Indiana Sites



Wisconsin Sites