

# Approaches for Data Sharing: Science in the Great Lakes (SiGL) Mapper

Lake Superior Environmental Monitoring Collaborative June 9, 2015

<u>Ashland, Wisconsin</u>

# GLRI Data Delivery Overarching Goal

To create a publicly accessible data network that:

- Seamlessly provides efficient discovery of and access to multi-disciplinary monitoring data sets to advance Great Lake science
- Enables policy makers to plan and evaluate restoration activities
- Provides flexible products that can accommodate the community's changing needs and integrate with other Great Lakes data applications



# Purpose of the SiGL Mapper

- Supports strategic Great Lakes data collection and analysis
  - Increases access and visibility of existing efforts
  - Identifies areas and topics that need more study
  - -Allows future projects to build on existing data
- Captures and displays spatial data component
  - Those without GIS capabilities can display monitoring locations
- Built for both large and small datasets
  - Connects with large, enterprise data repositories
  - Captures smaller datasets that aren't documented using current metadata standards or may not have access to online data hosting



### Data vs. Metadata

Your science produces data: measurements, values, statistics, results, analysis, etc.

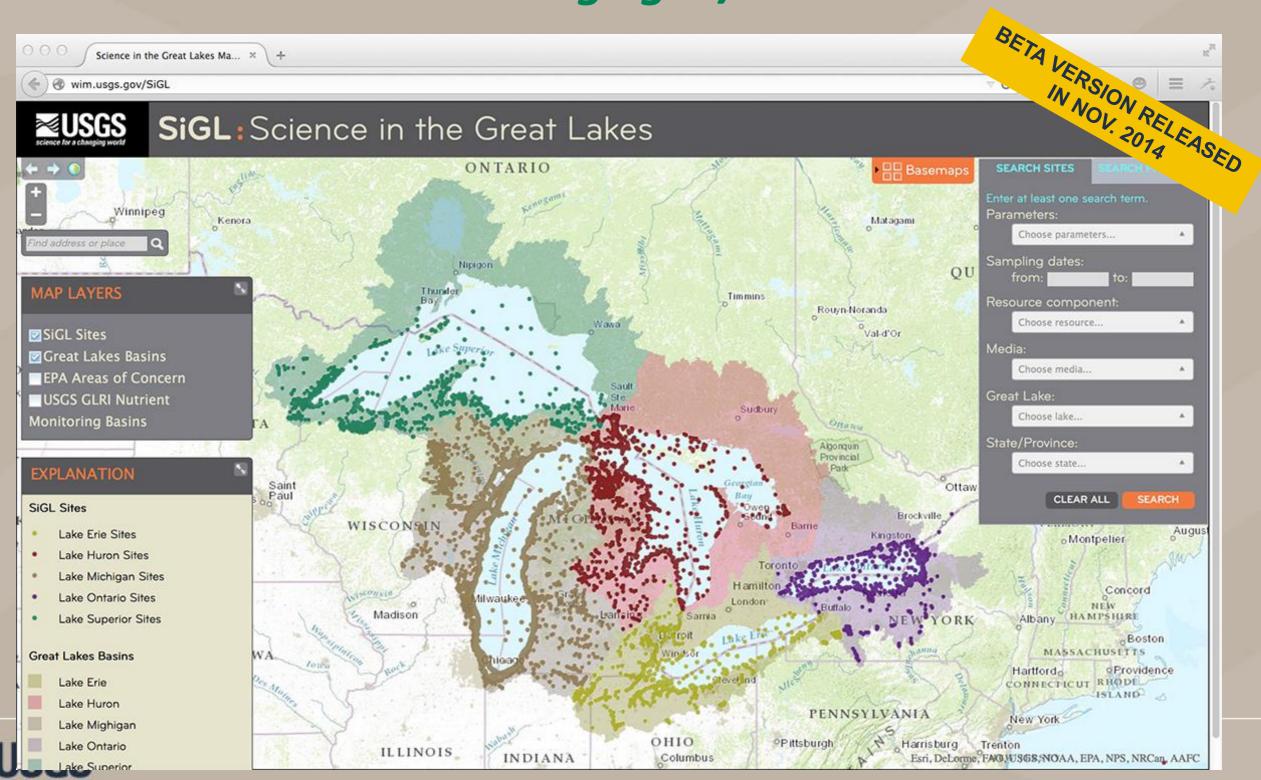
SiGL collects metadata: information about your data

- Project information
  - Who, what, where, when, why?
  - Contact/PI details
  - Publications
- Data information
  - Sources (what data exists and where it's stored)
  - Site information (what, where, when, and how data was collected)



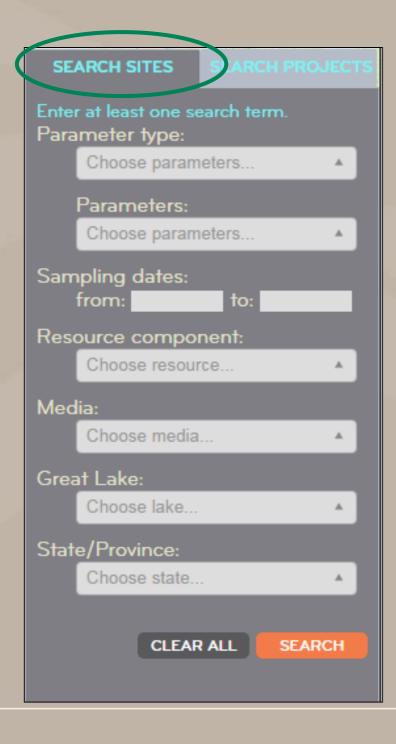
# Science in the Great Lakes (SiGL) mapper

# wim.usgs.gov/SiGL

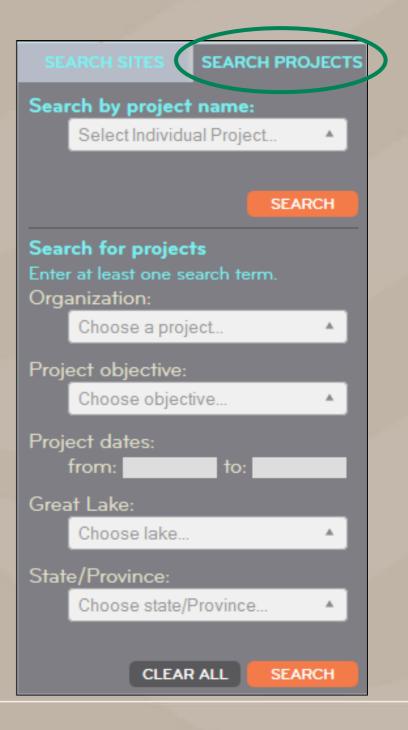


## Searchable data

#### **Search SITES**



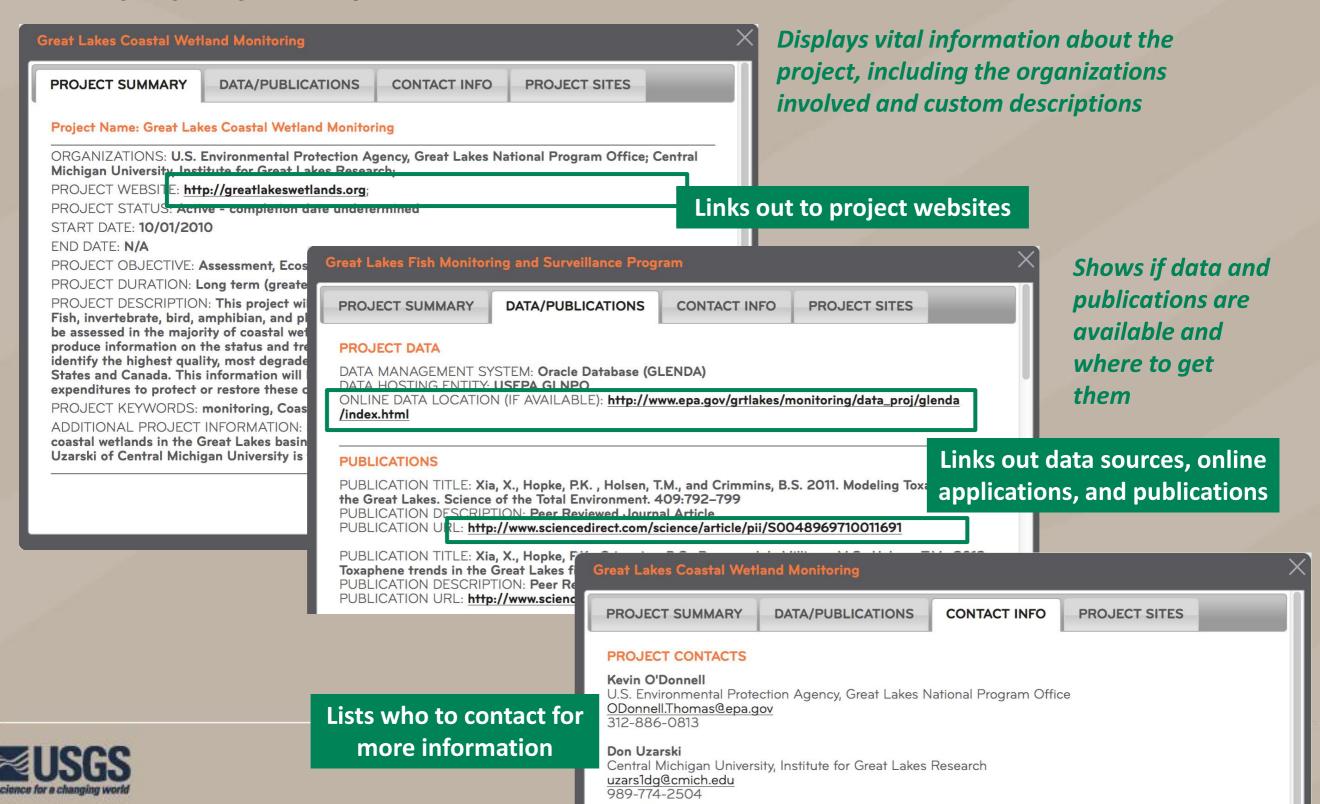
#### **Search PROJECTS**





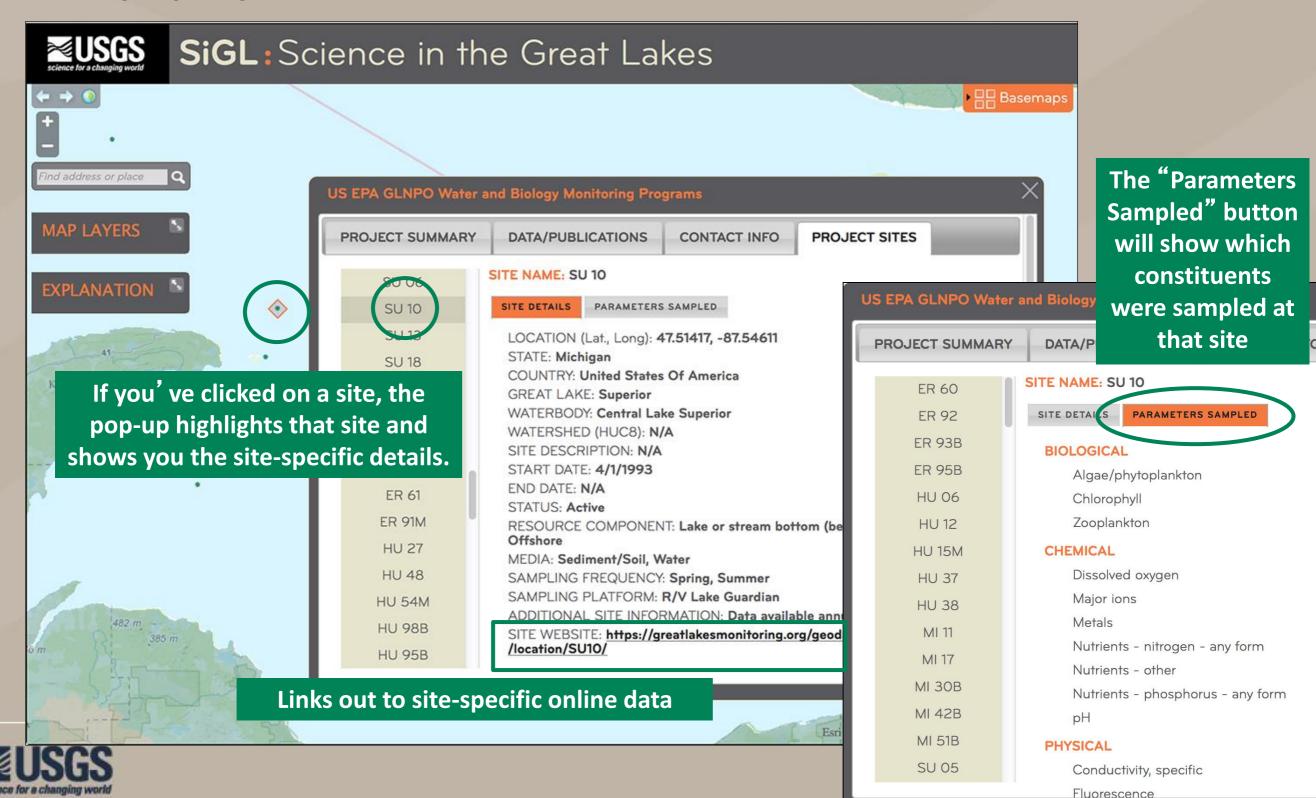
# Information available in SiGL

## SiGL pop-up: Project information



## Information available in SiGL

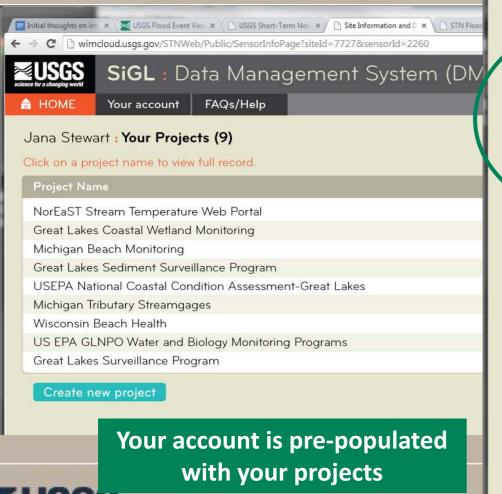
## SiGL pop-up: Site information

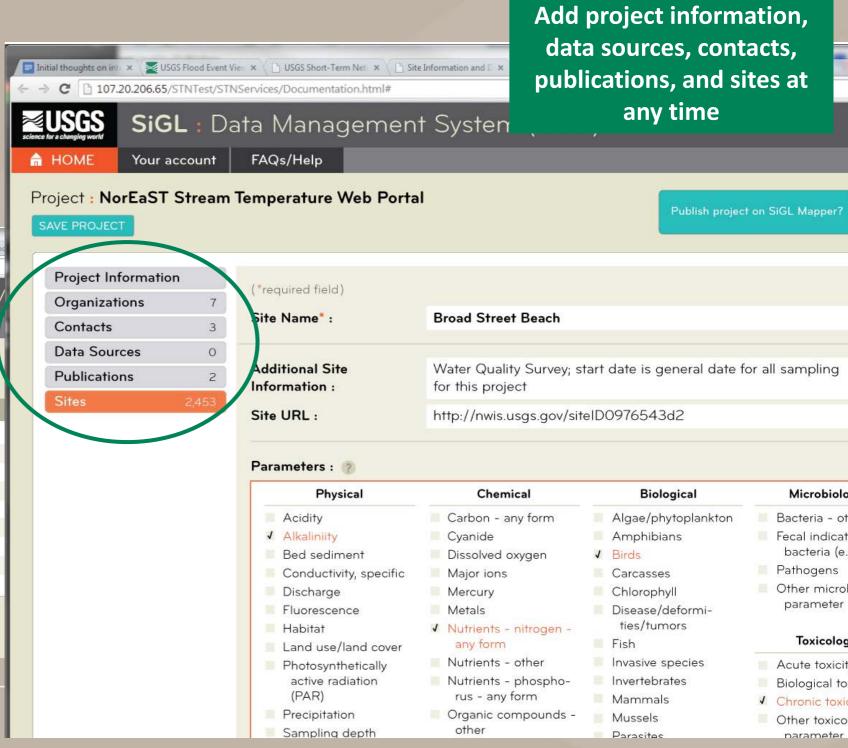


## How to submit data to SiGL

#### **OPTION 1 – SiGL Data Management System (DMS)**

- New online tool
- Add, edit, and update your projects
- You maintain control of your own data





## How to submit data to SiGL

## **OPTION 2 – submit site information via excel spreadsheet**

- Best for large numbers of sites
- Links to existing project in SiGL DMS
- •Optionally can be used to add sites to existing project information entered through SiGL DMS

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1	Project Name*		Site Name*	Latitude*	Longitude*	Country*	State/Province*	Lake Name*	Waterbody	Watershed (8-digit HUC)	Site Description
2	Example project 1 - Water Quality of Tributaries	UFOX-1		42.59444800	-87.60278100	United States	Wisconsin	Michigan	Upper Fox River	04030204	offshore of Wis. State line
3	Example project 1 - Water Quality of Tributaries	LFOX-1		42.49444800	-87.70278100	United States	Wisconsin	Michigan	Lower Fox River, Green Bay	04030204	half-mile upstream from Leo Frigo M
4	Michigan DEQ Cooperative Lakes Monitoring Program										
5	Michigan DEQ Wildlife Contaminant Monitoring Program										
6	Michigan DEQ Fish Contaminant Monitoring Program										
7	Michigan DEQ Non-wadeable rivers assessment										
8	Michigan DEQ Sediment Chemistry Monitoring Program										
9	Michigan DEQ Lake Water Quality Assessment Monitoring Program										
10	Assessment of Wadeable Streams and Rivers										
11	Michigan DEQ Beach Monitoring Program										
12											



# Progress since LSEMC Houghton meeting

- 1. Rebuilding SiGL DMS (online data management system) due to authentication system issues will be faster and easier to use
- 2. Added one new dataset from NPS
- 3. Added ceded territories and tribal reservation boundaries layers
- 4. Added citizen science as a project objective
- 5. Started technical discussions about mining STORET/WQP for metadata using technology developed by GLM.org
- 1. Launched SiGL User Group...



# SiGL Lake Superior User Group

- Formed after the March meeting in Houghton
  - Introductory call on April 16<sup>th</sup>
  - Follow up call on June 4<sup>th</sup>
- 22 members from a variety of federal, state, and tribal organizations, representing a variety of scientific disciplines
- Guide SiGL development, identify priorities, and keep system relevant and consistent
- Current actions:
  - Testing the mapper
  - Reviewing the information SiGL is collecting
  - Partner with one state or tribe for a pilot STORET import



# Upcoming efforts in the next few months

- 1. Relaunch SiGL DMS
- 2. SiGL User Group
  - Will beta test new DMS
  - More datasets coming
  - Group discussions about parameters lists (issues identified during last User Group call)
  - Create metadata dictionary
- 3. Work with GLM.org on a pilot STORET import
- 4. Continued development efforts to improve user experience:
  - Polygon/line database expansion
  - Overlapping site issue in mapper
  - Results return screen to allow access to projects without spatial data



# **Contact SiGL**

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# [SiGL Mapper demo]



# [unused slides]



# Future development plans

- Expand database to allow line and polygon spatial features
- Improve selection ability for overlaying sites
- Search results will display in list form, allowing projects without sites to be searchable
- Download a project's information and export your search results
- Improved integration with other Great Lakes data products, especially greatlakesmonitoring.org
- Enhance and expand additional data layers



# Integrating with GreatLakesMonitoring.org

#### **Currently:**

•Shared SiGL projects and sites individually link out to GreatLakesMonitoring.org

#### Potential integration options:

- •Crosswalk sites dynamically with *GreatLakesMonitoring.org* (mappers will sync simultaneously using web services)
- •Select multiple sites in SiGL, access data as a group at GreatLakesMonitoring.org
- •Select sites using geographical area and program areas in GreatLakesMonitoring.org and display metadata from SiGL.
- •Joint export function select a site in either application, and have the option to download both the *GreatLakesMonitoring.org* data and SiGL metadata at once

