

Lake St. Clair Small Fish Survey

Lake St. Clair Conference

November 9, 2021

Background

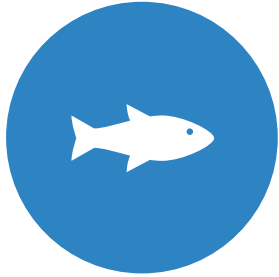
- ▶ ONDMNRF and MDNR have a history of working together on Lake St. Clair
 - ▶ Angler diaries
 - ▶ Angler creel surveys
 - ▶ Muskie acoustic telemetry
- ▶ Past fish community surveys have been complementary but not coordinated
 - ▶ MI spring trap net survey, ON fall trap net survey
 - ▶ MI trawl surveys, ON seine survey





Coordinating Surveys

- ▶ In 2018 ONDMNRF and MDNR met to discuss coordinating fish community assessment
- ▶ Recommendation for shared fishery assessment in LSC and connecting channels
- ▶ Proposed coordinated programs include
 - ▶ Nearshore small fish community fyke netting
 - ▶ Fish community assessment gill netting
 - ▶ Nearshore fall electrofishing Muskellunge assessment



The objective of the small fish assessment is to characterize the small fish community in Lake St. Clair



Focus on the presence/absence and distribution of species in the nearshore.



The data will be used to monitor community composition over time.



The survey will be repeated every 3 years

Nearshore Small Fish Survey



Nearshore Small Fish Survey

- ▶ Lake St. Clair Nearshore Small Fish Survey was completed in 2021
- ▶ Multiagency survey involving
 - ▶ Ontario Ministry of Northern Development, Mining, Natural Resources and Forestry (ONDMNRF)
 - ▶ Michigan Department of Natural Resources (MDNR)
 - ▶ United States Fish and Wildlife Services (USFWS)
- ▶ The survey used fyke nets to collect small fish in nearshore areas of Lake St. Clair during July
- ▶ Identified all fish to species, measured length of 20 fish per species/site

Survey123 used for data entry in the field

Internet based tool for creating forms for collection of data

Allows the collection of data in the field using tablets or phones

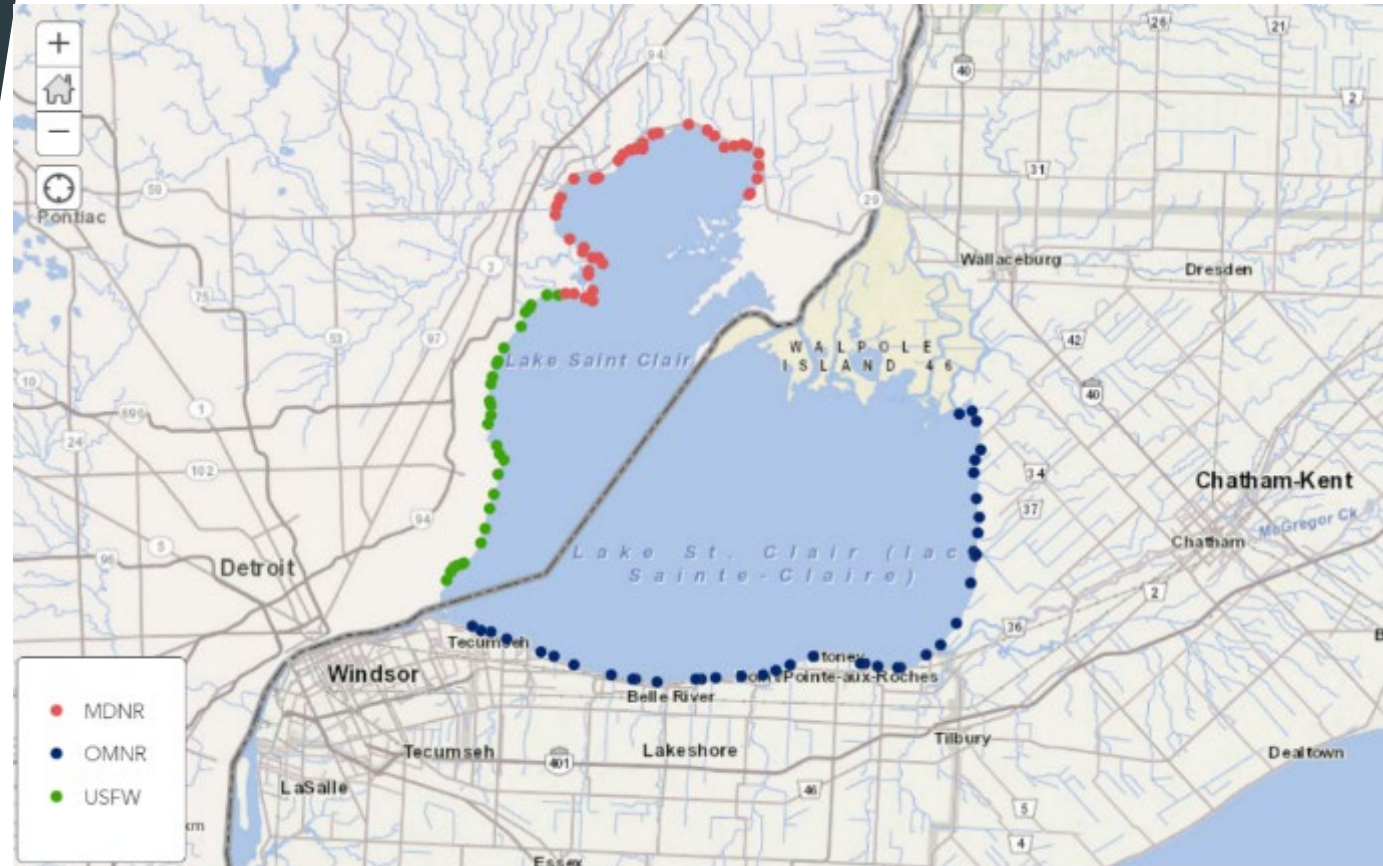
Data is uploaded to ArcGIS online

Data is collected in a single database

Accessible to everyone at the same time

Sample Locations

AGENCY	# OF SITES
ONDMNRF	40
MDNR	40
USFWS	30
Total	110



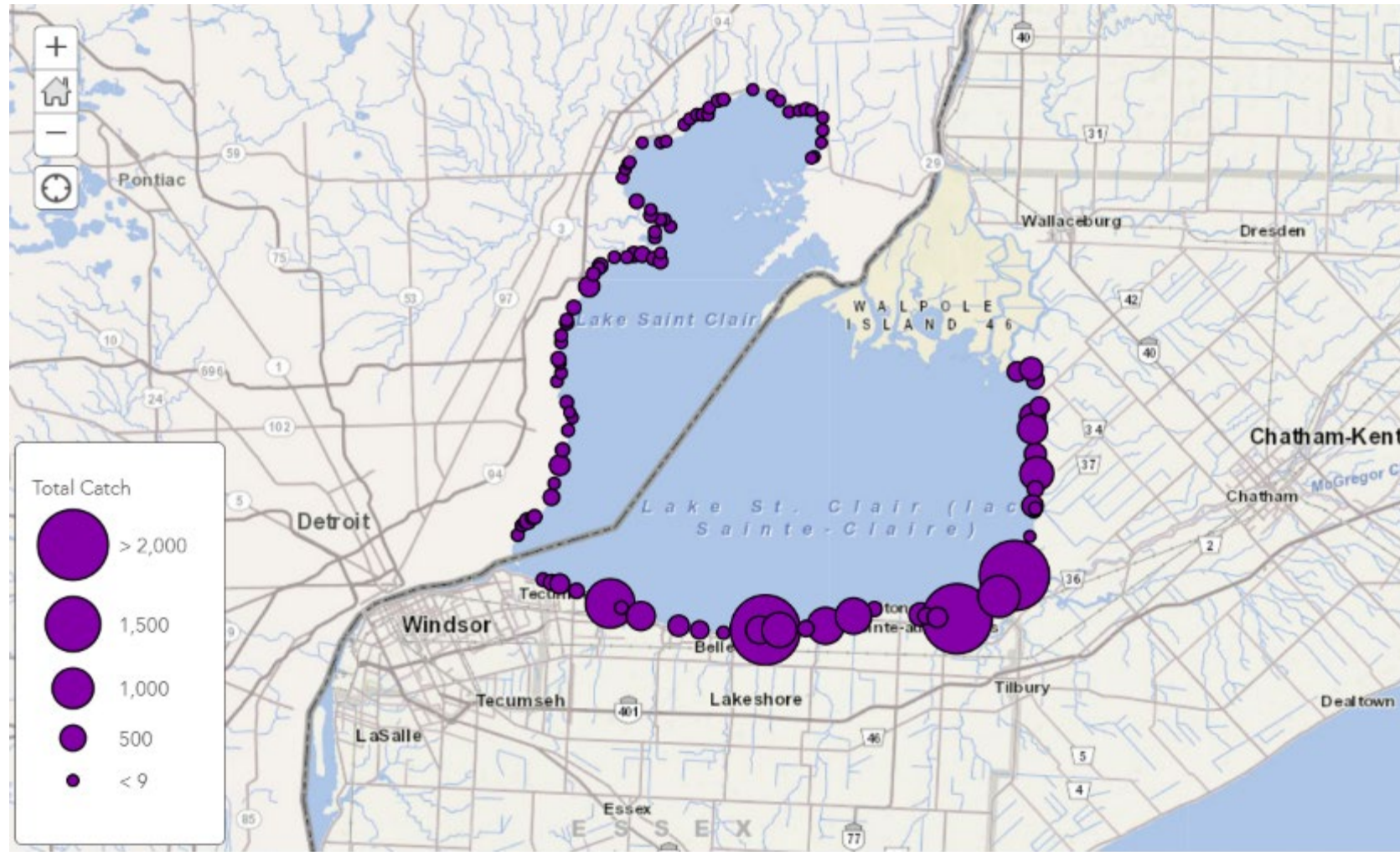


46 Species Caught

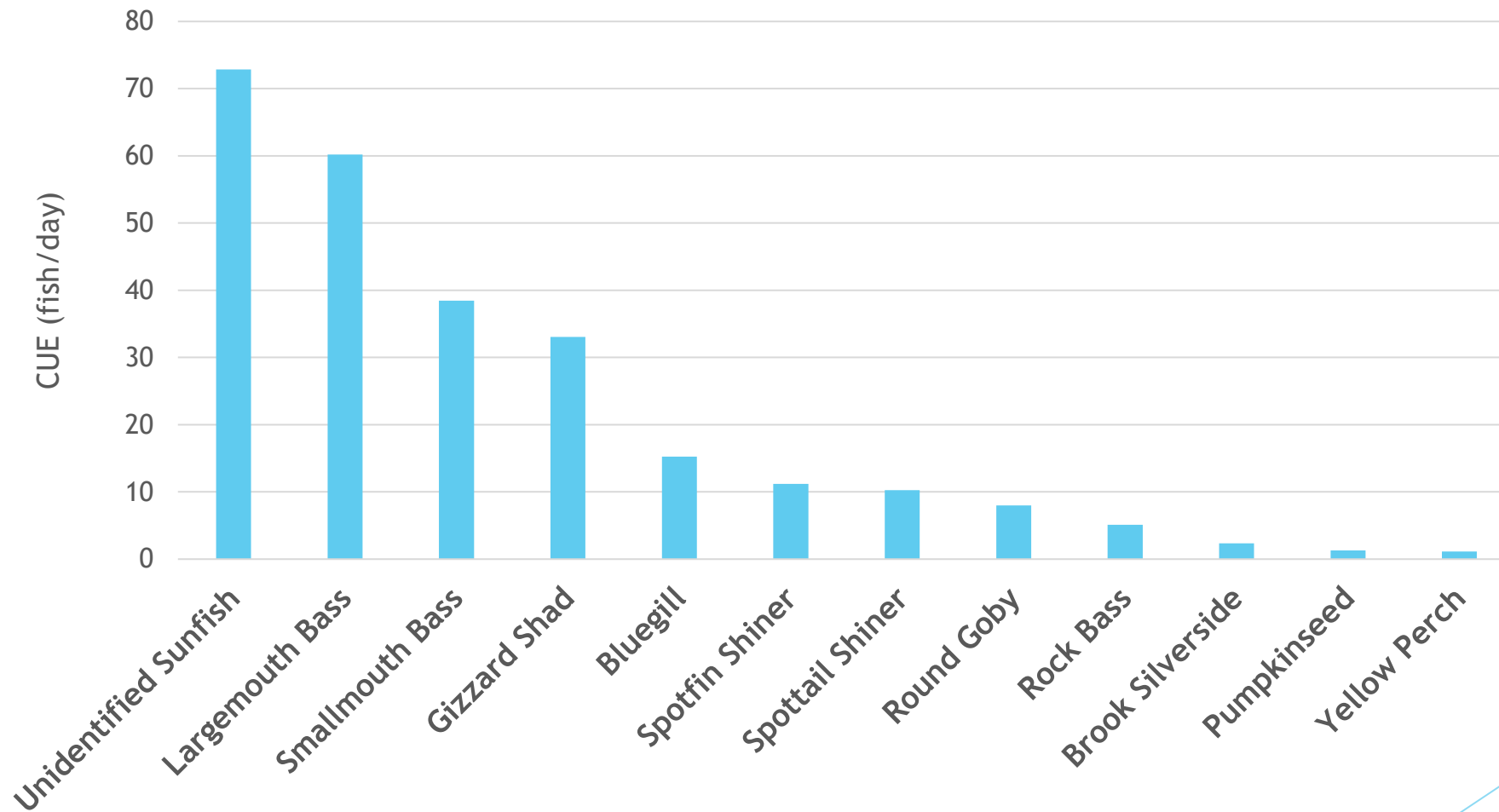
Agency	Number Fish Caught	CUE (fish/net day)
ONDMNRF	22,658	624.1
MDNR	1,763	46.4
USFWS	2,610	96.4
Total / Average	27,031	266.7

Total Catch

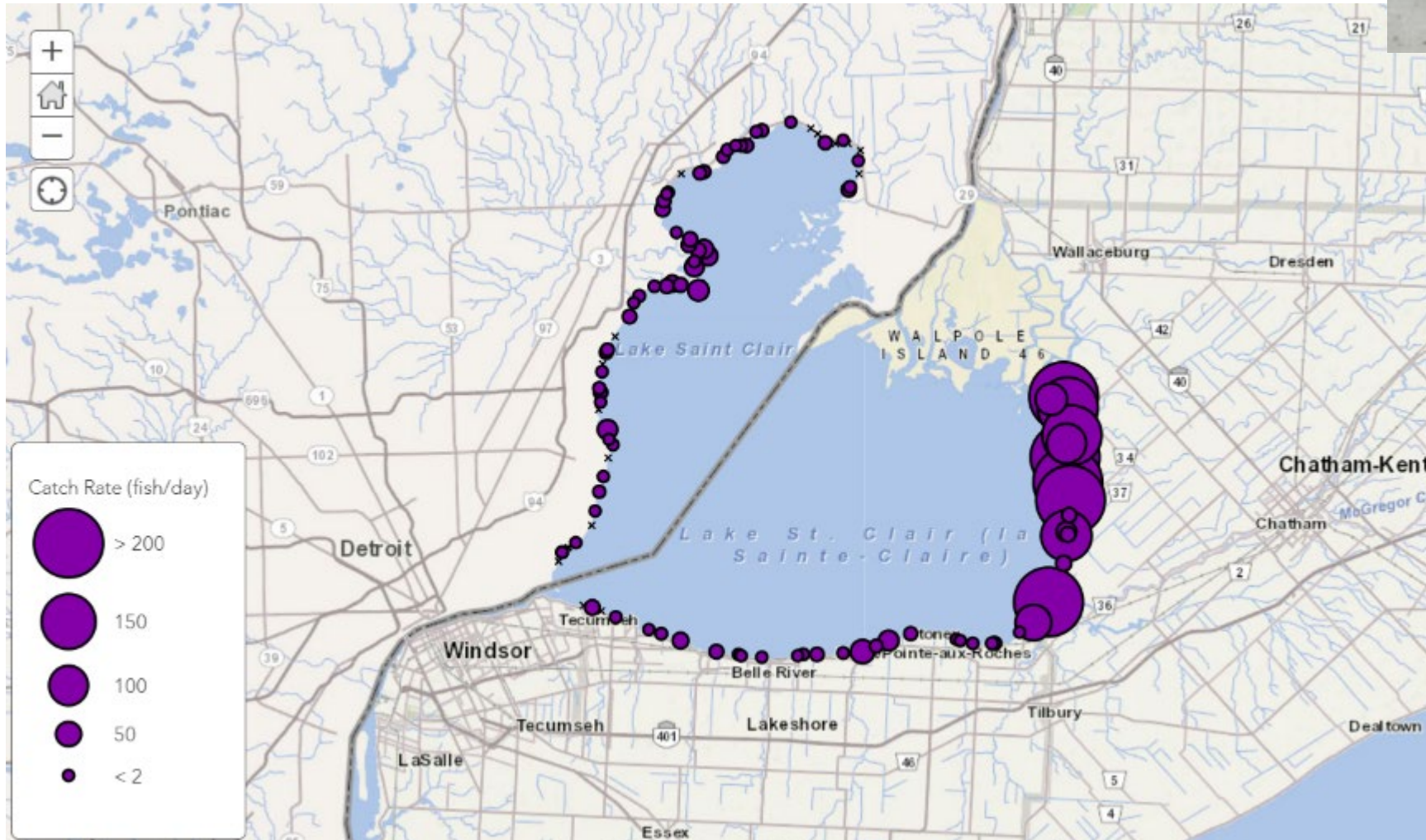
Total Catch Rate



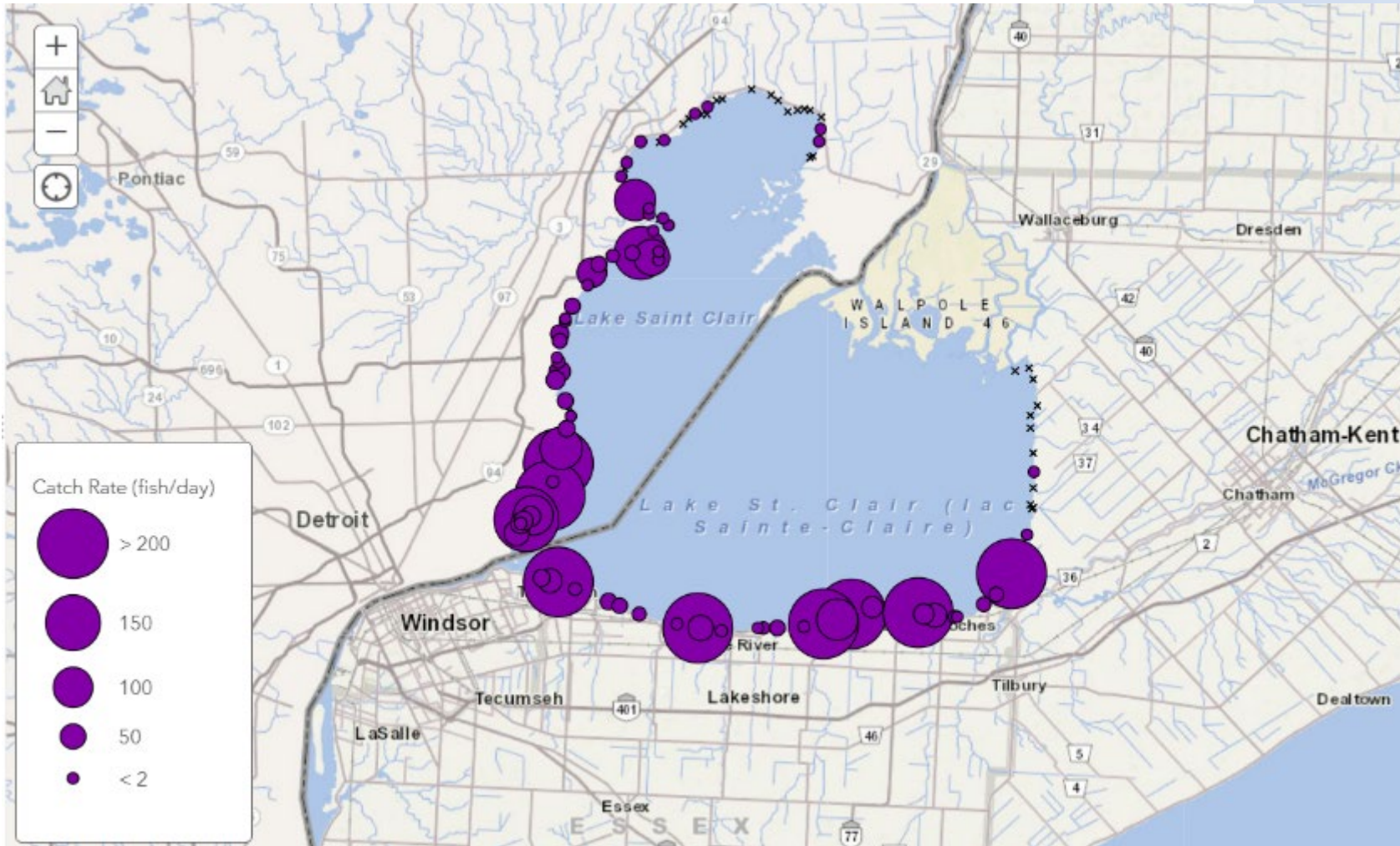
Catch Rate of Common Species



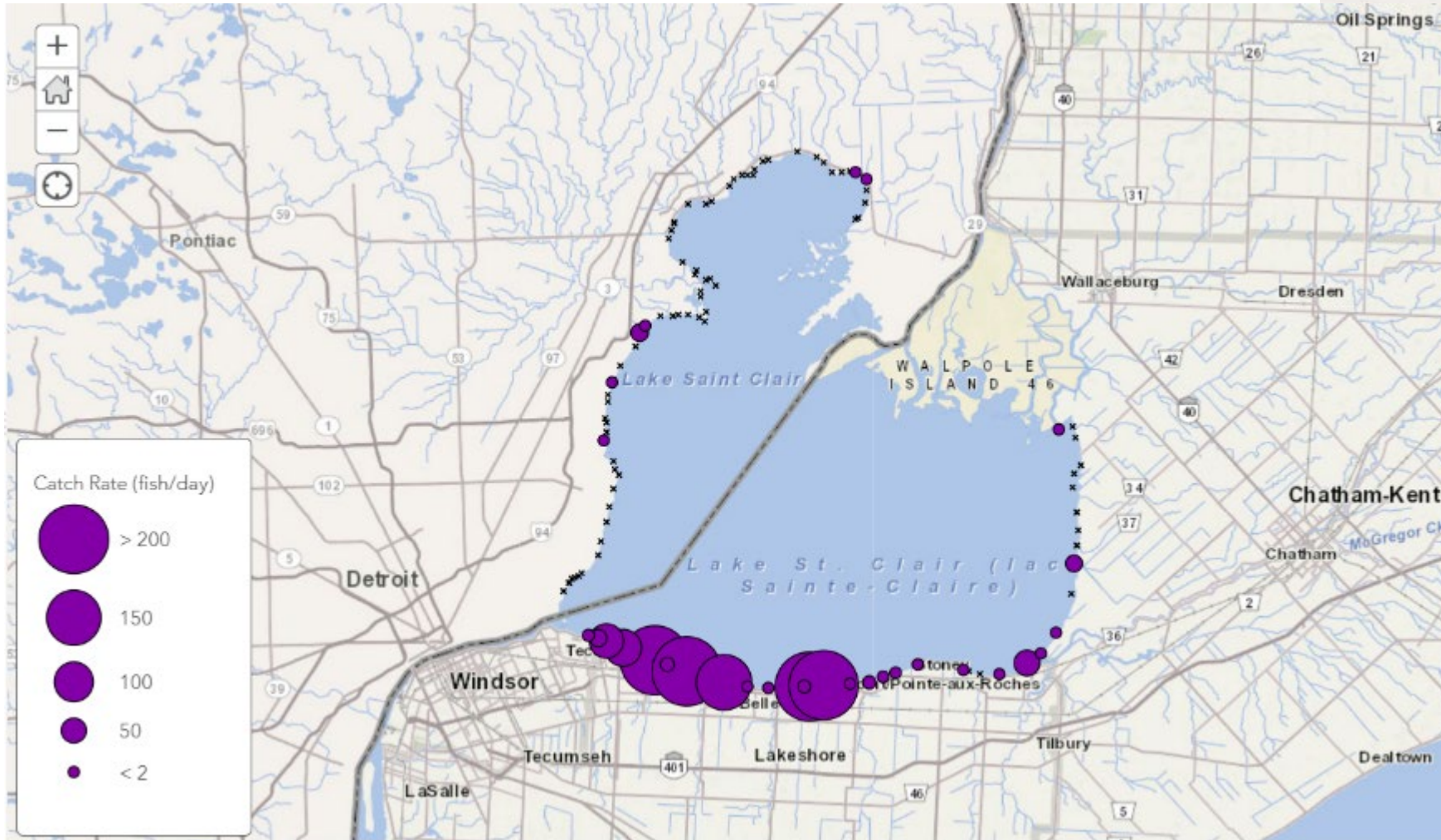
Largemouth Bass Catch Rate



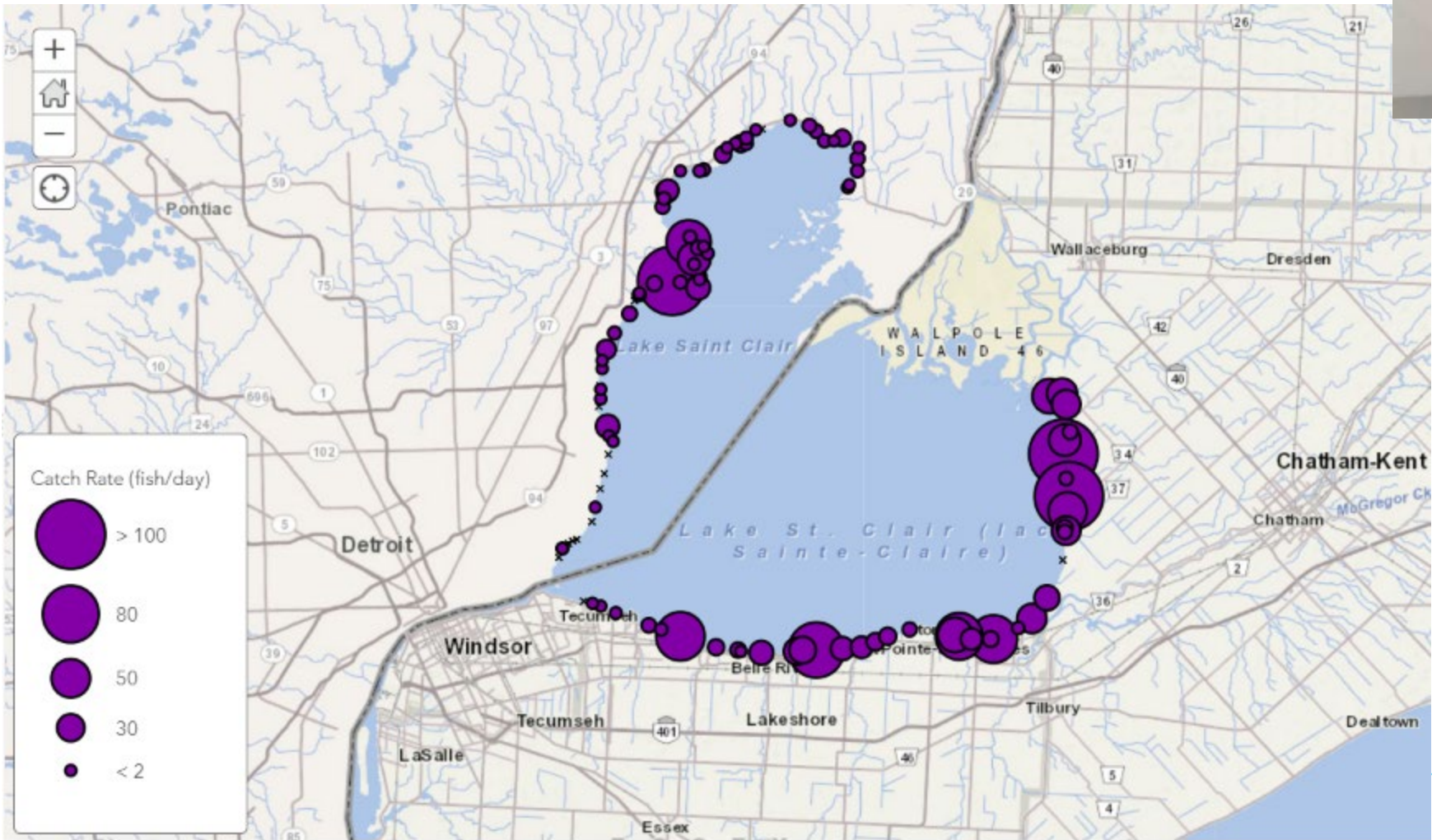
Smallmouth Bass Catch Rate



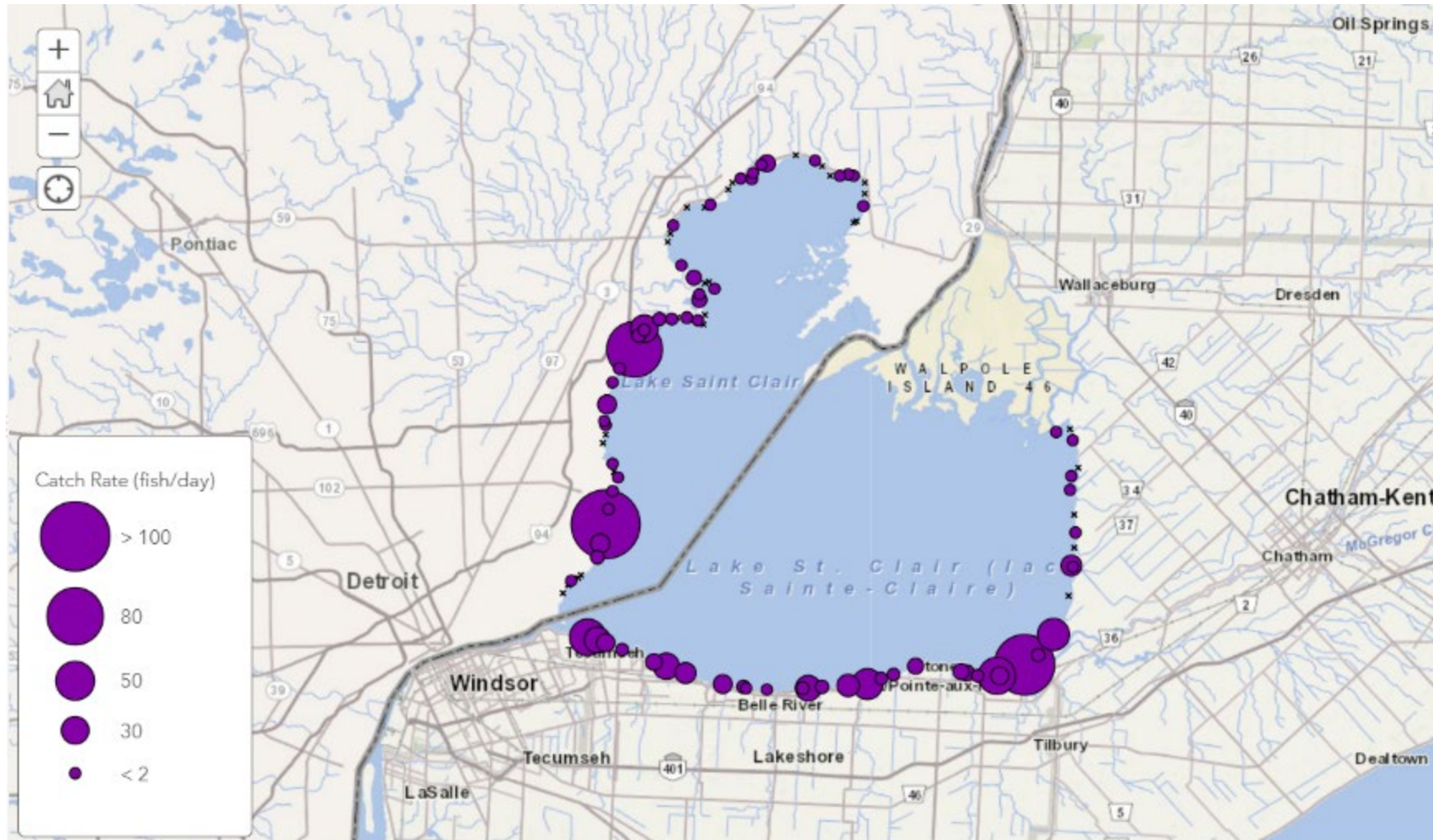
Gizzard Shad Catch Rate



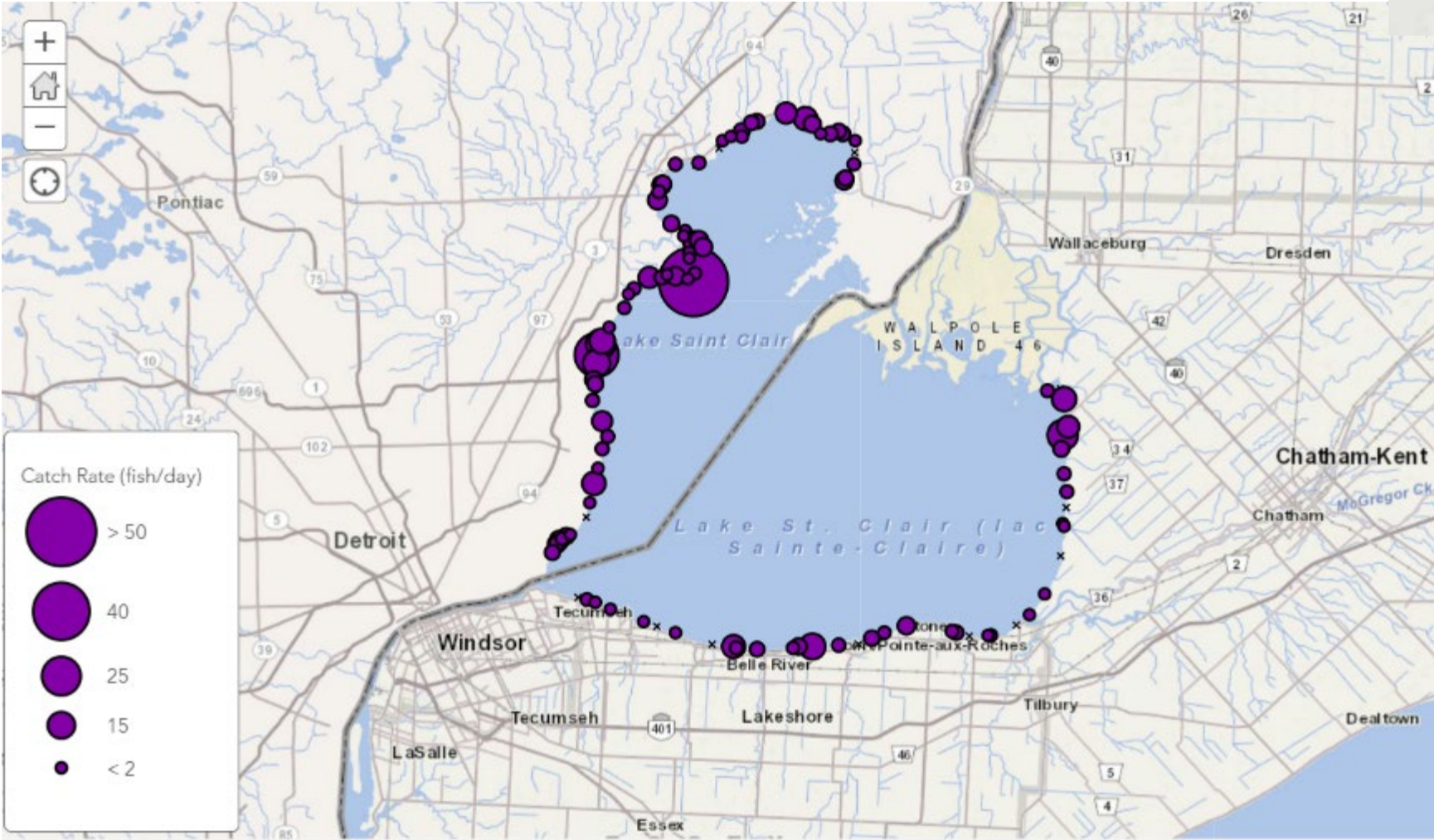
Bluegill Catch Rate



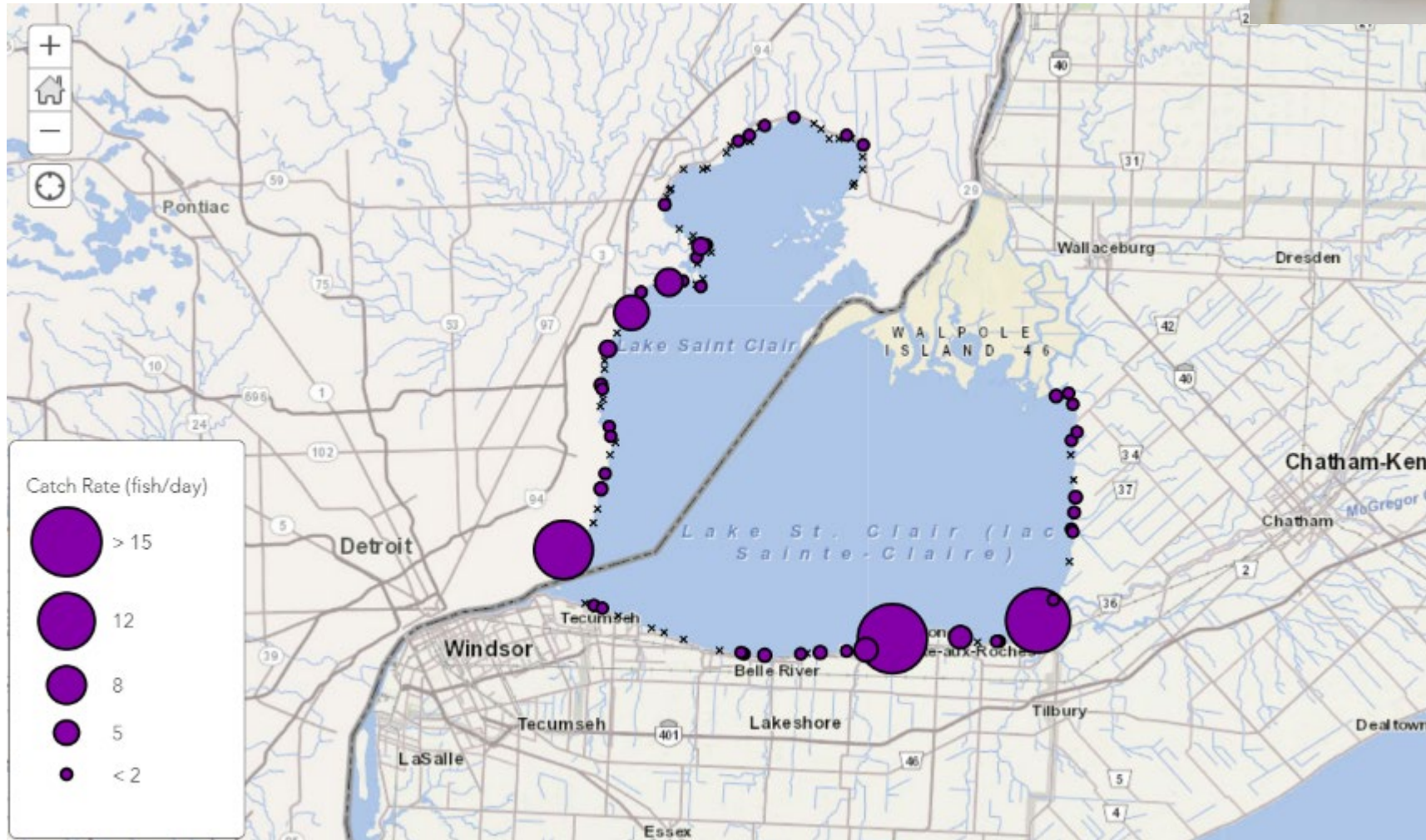
Round Goby Catch Rate



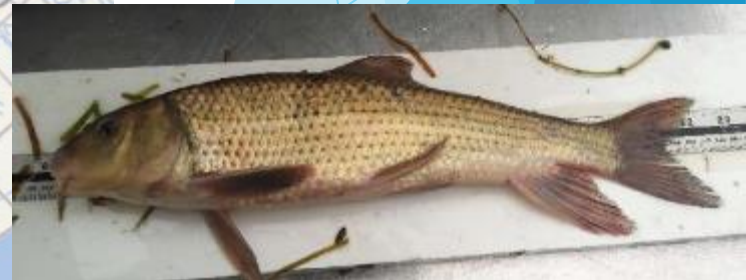
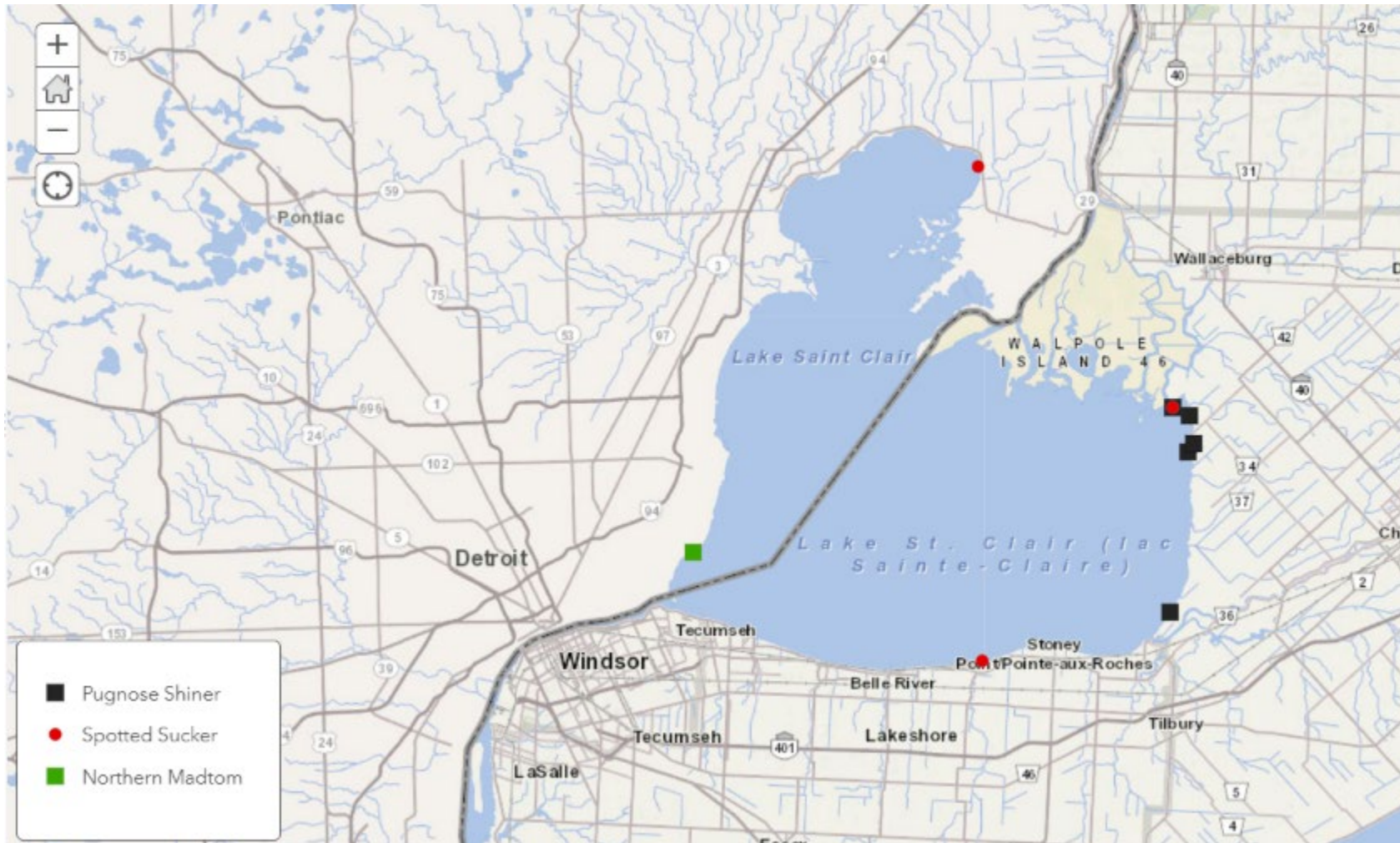
Rock Bass Catch Rate



Yellow Perch Catch Rate



Species at Risk Catch



Turtle bycatch

Species	ONDMNRF	MDNR	USFW	Total
Eastern Musk Turtle	2			2
Map Turtle	27	1	6	34
Painted Turtle	18			18
Snapping Turtle	16		2	18
Spiny Softshell Turtle	1			1



Future Coordinated Surveys

- ▶ Fish community assessment gill netting
 - ▶ Based on ONDMNRF protocol
 - ▶ Using large mesh gill nets to assess species catch rates
 - ▶ Tentatively scheduled for 2022
- ▶ Nearshore fall electrofishing Muskellunge assessment
 - ▶ Based on MDNR protocol
 - ▶ Using electrofishing to assess YOY muskellunge
 - ▶ Date TBD



Partners



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