

Didymo: a new ANS in Michigan



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St. Marys River



What is this “gross stuff”?



Photo A. Earl



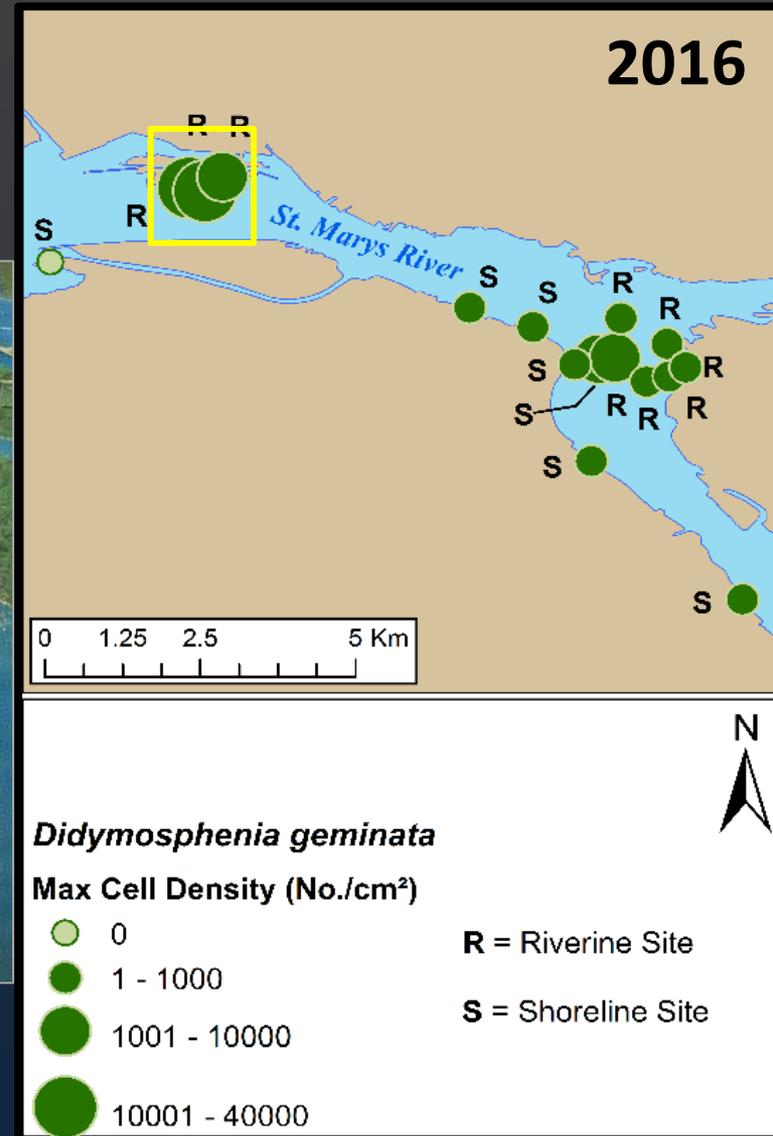
St. Marys River

- First reported in Main Rapids in June 2015
- First in Michigan waters



Rapid Spread to Critical Habitats

St. Marys River Rapids



Little Rapids Restoration Site



St. Marys River - 2020



Why is it blooming now?

Recently introduced by anglers?

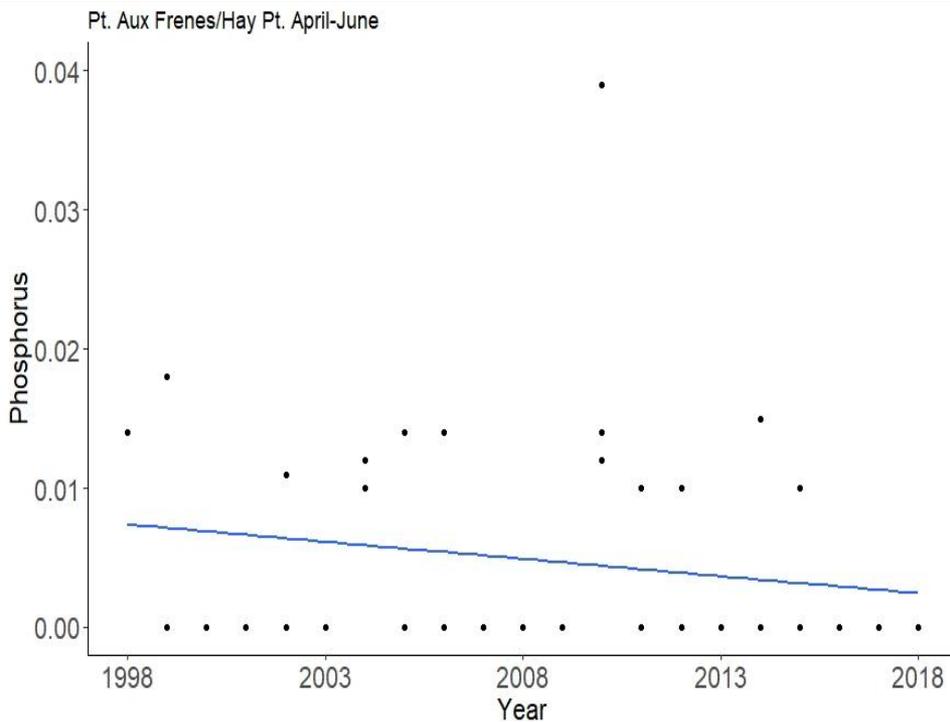


St. Marys River Rapids

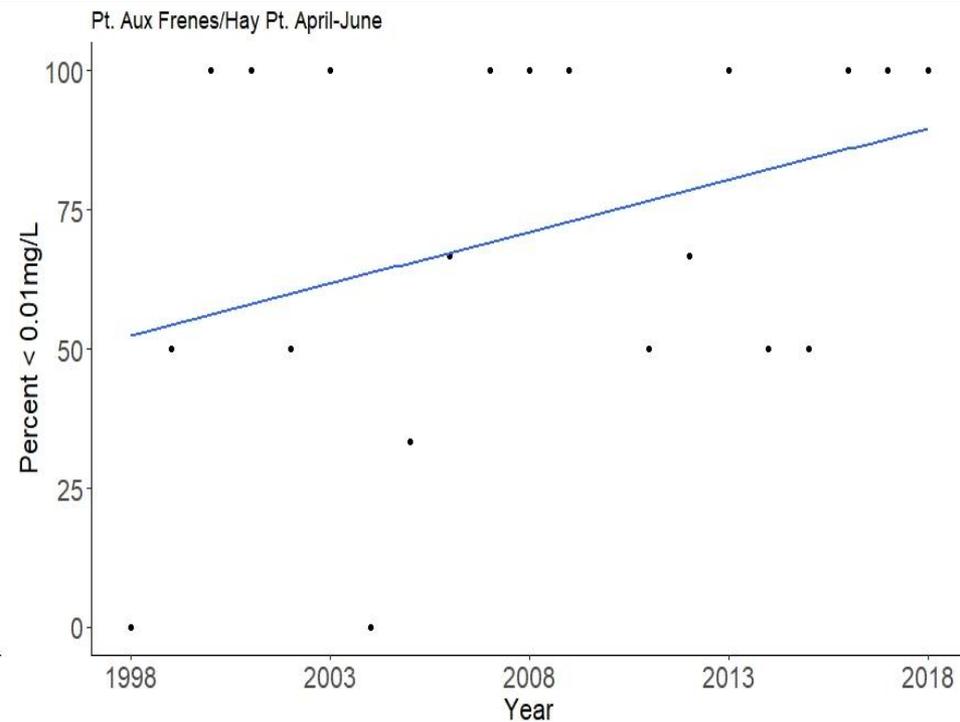
Why is it blooming now?

- Changing environment that lead to blooms?
 - Ultraoligotrophication?

Spring TP (mg/L)



% Samples Below Detection



How does it impact the river?



- Mat thickness 2-10 cm
- Likely effects on:
 - benthic macroinvertebrates
 - drifting insects – fish food
 - fish spawning and fry emergence



Didymo and Recreational Fisheries

- Didymo blooms continue in prime spawning habitat
- Need to understand effects on riverine fishes and consequences of further spread



Photo credit: Carole-Anne Gillis



Photo credit: Robert Michelson

Didymo peaks when fish eggs hatch

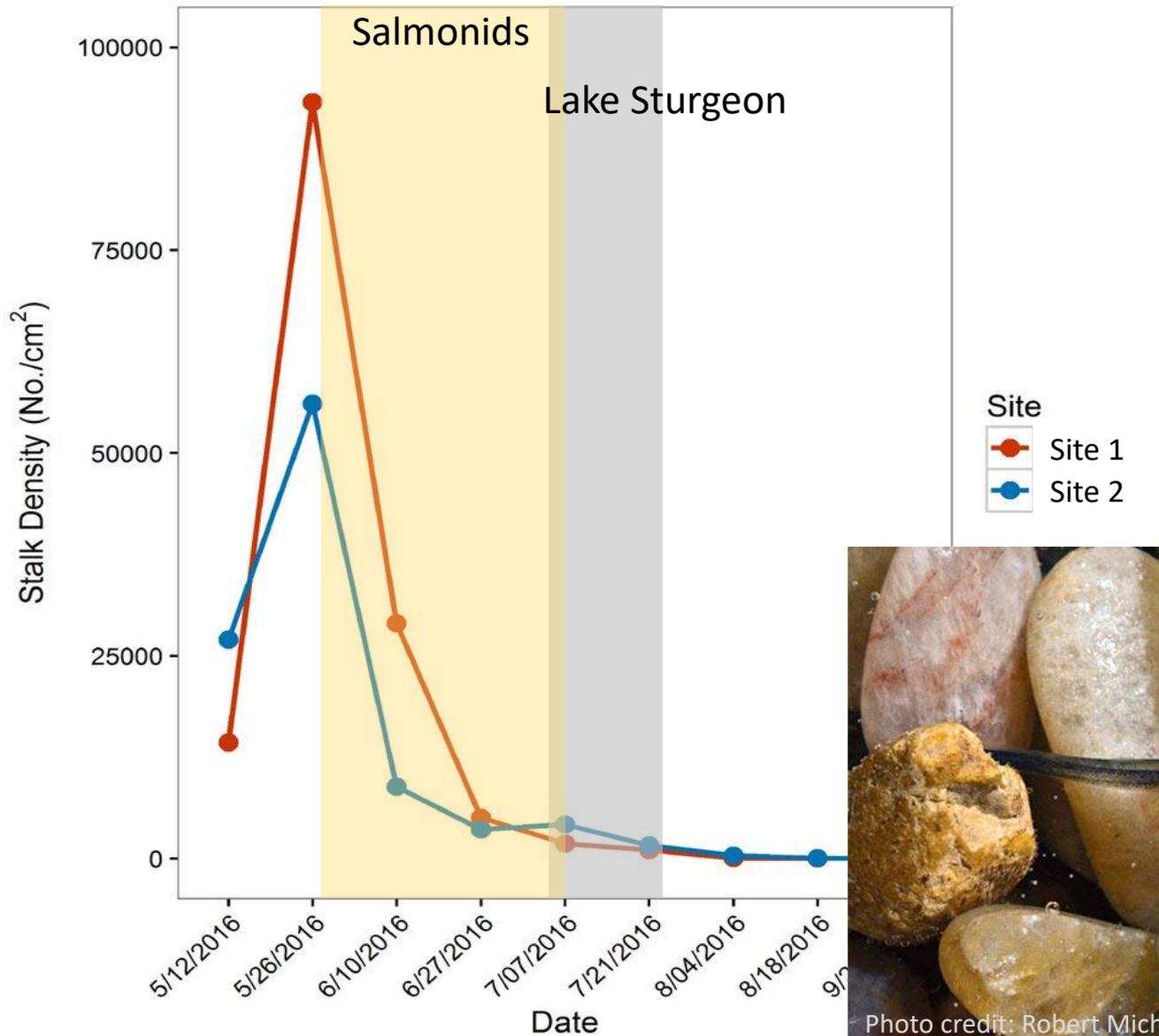


Photo credit: Robert Michelson

Future research in the SMR (2021-22)

- How is Didymo impacting spawning fishes?



Photo credit: Carole-Anne Gillis

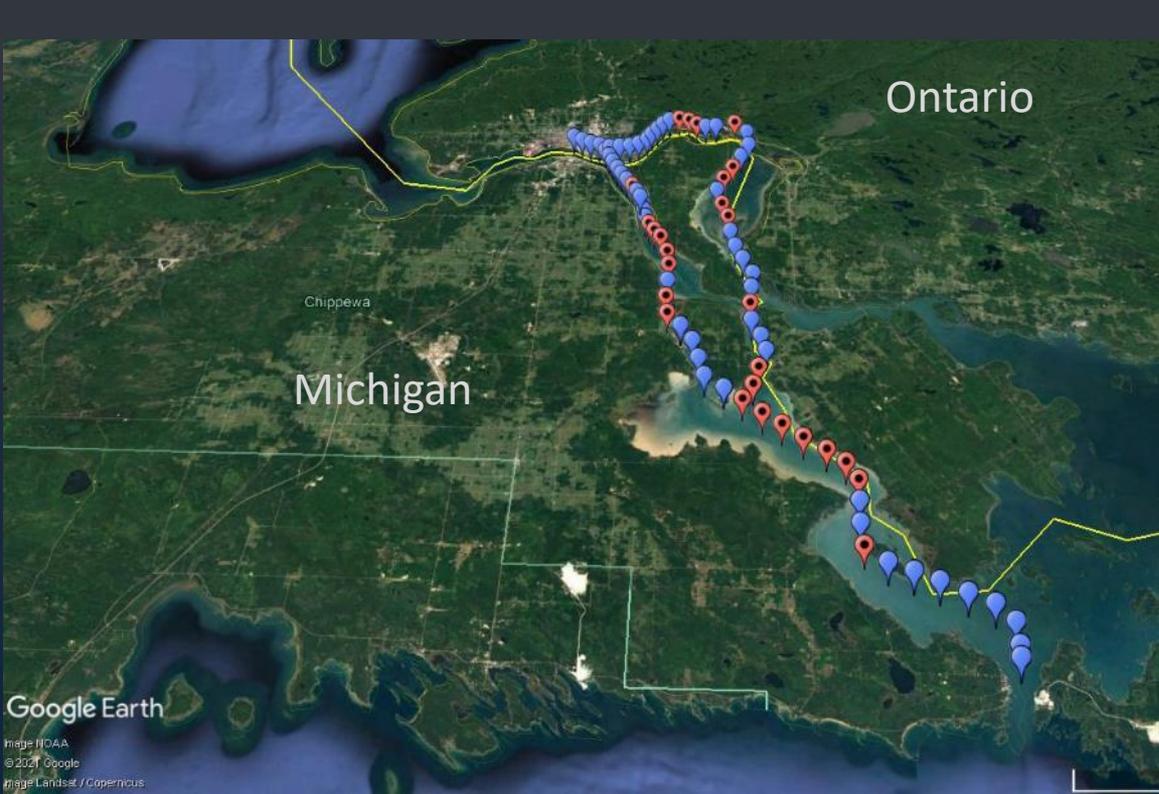
Spawning site selection



Fry emergence

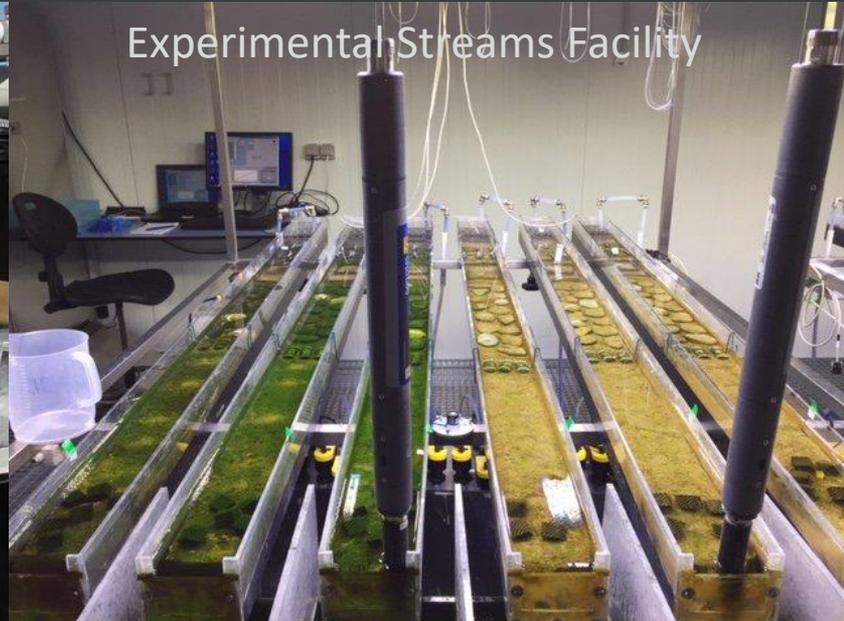
Future research in the SMR (2021-22)

- What is the geographic extent of Didymo in neighboring waters?
- Can we predict where Didymo could invade next?



Future research in the SMR (2022-23)

- What environmental conditions trigger blooms?



- Dissolved nutrients
- Flow
- Light (canopy and DOC concentrations)

Other Research Needs in the SMR

- Influence of compensating gate regulation on blooms
- Affects of blooms on benthos and drifting insects
- Influence of floating mats in late summer--nearshore hypoxia issues?



Thank you!

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