



Life of the Great Lakes Update 2024

17th Annual Freshwater Summit
Traverse City, Michigan
October 30, 2024

Mark Brederland

Notable “Periods” of Great Lakes Challenges

- 💧 1960s – 1970s Ecosystems out of Balance?
- 💧 1970s – mid 1980s Exploration and Conservation: think Jacques Cousteau!
- 💧 1986 – current Invasion – the Zebra Mussels are here!
- 💧 1991 – current Trouble with Toxics (Started WW II ?)
- 💧 2012-2023, 2024...
- current Reconnection – FishPass and the Boardman River

Credit: GLFC

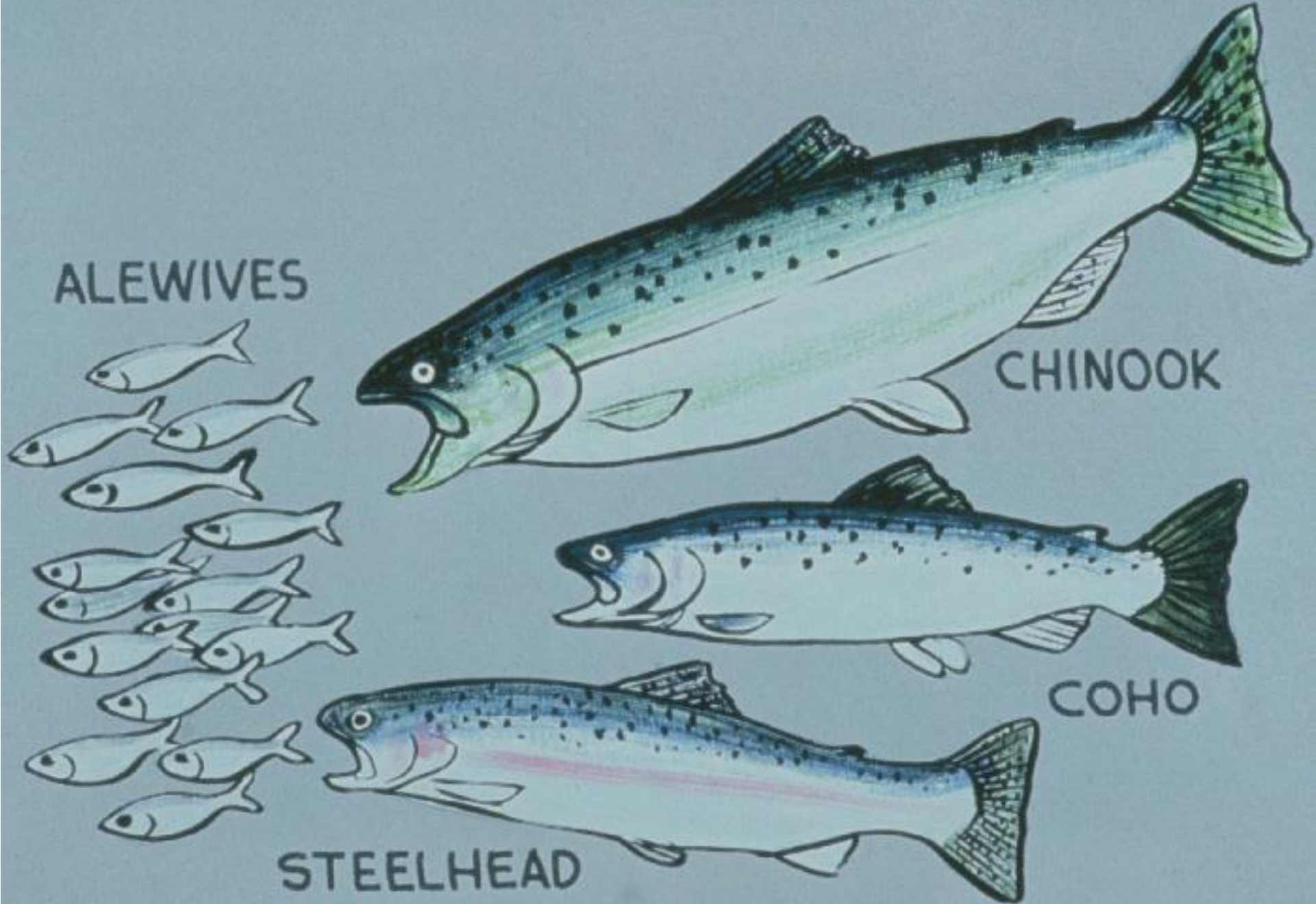


Sea Lamprey –
Lake MI 1936 - today



1960s Out of Balance







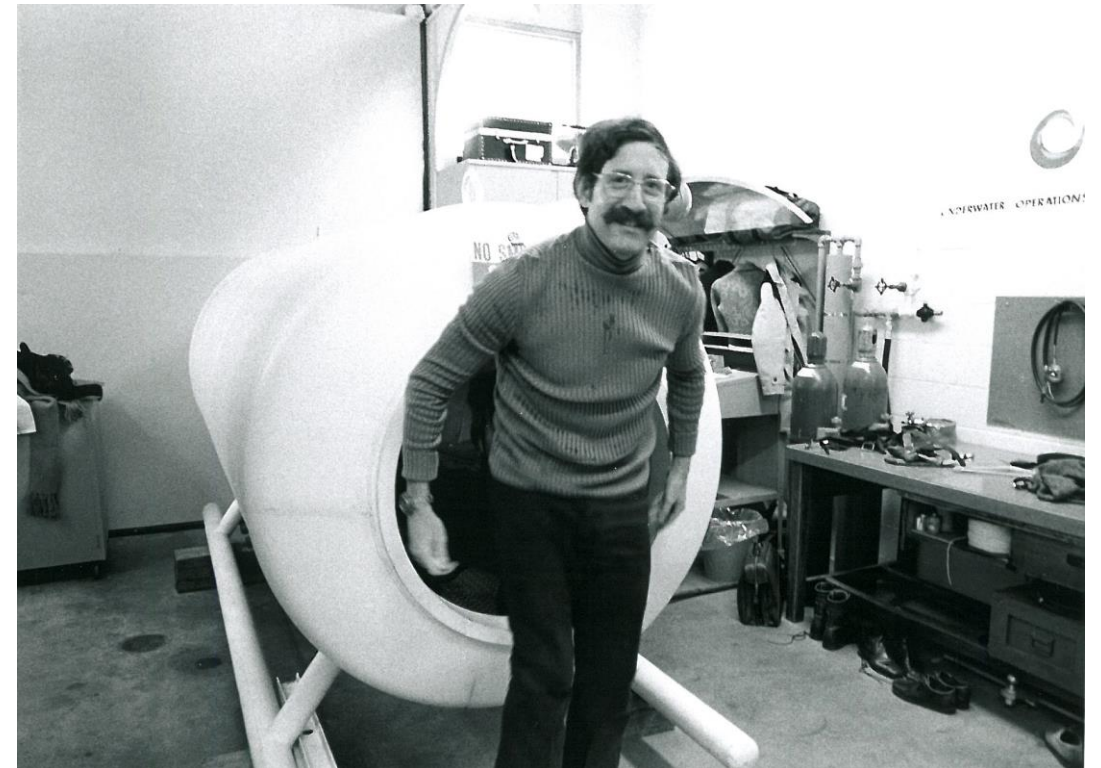


EXPLORATION AND CONSERVATION



LAKELAB

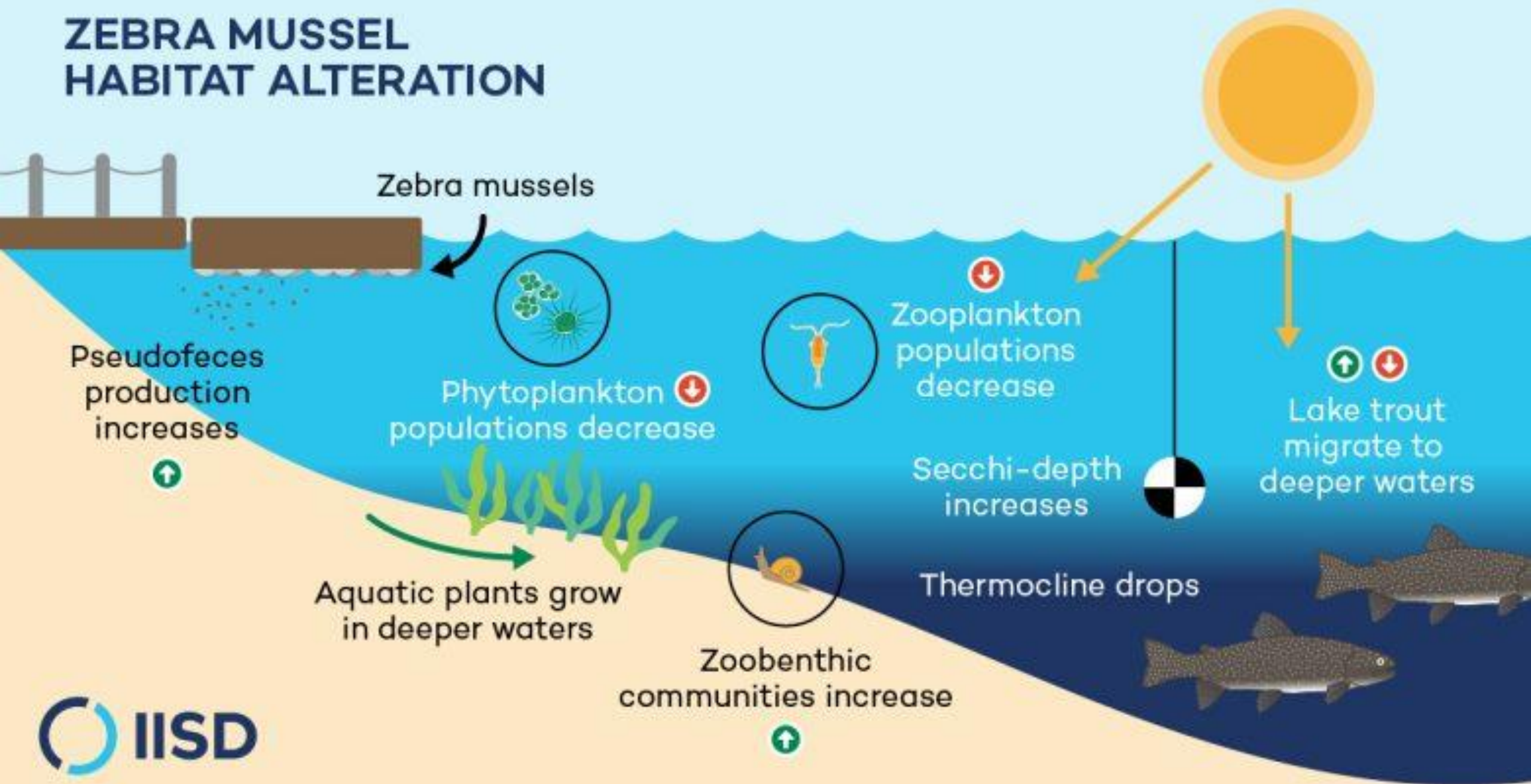
- Built spring 1972
- Placed in GT Bay in 30' water
- “field evaluations of habitat and support equipment”



1986 to now....

Invasion: The Zebra
Mussels are here... and
more

ZEBRA MUSSEL HABITAT ALTERATION

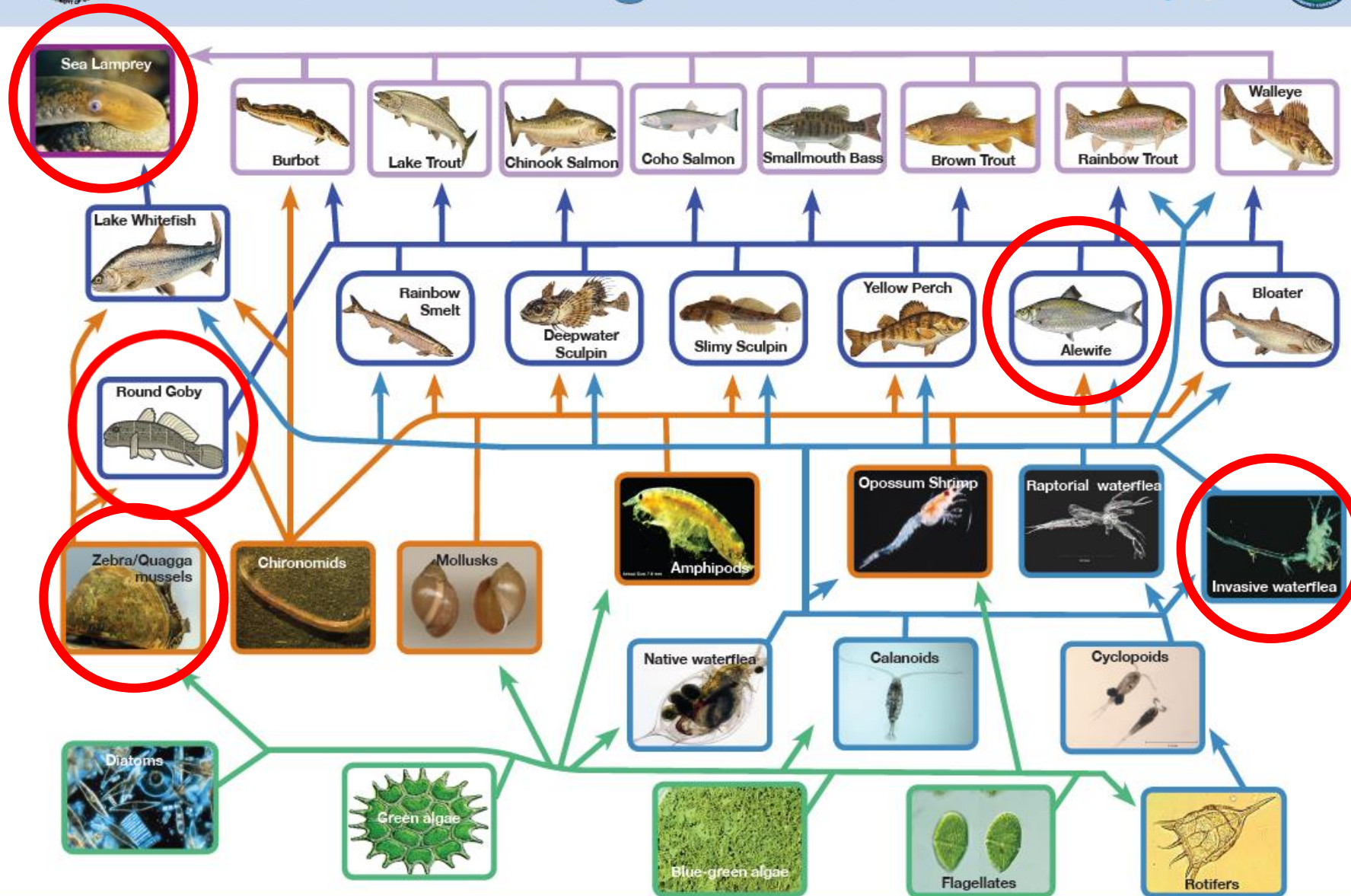




Lake Michigan Food Web



DOWN
UPSIDE



Round Goby



Invasive Species Centre



Invasive Carps

- Bighead
- Silver
- Black
- Grass

GREAT LAKES' **WORST:**

TOP **10** MOST HARMFUL AQUATIC INVASIVES

Zebra
Mussel

1



2

Quagga
Mussel



3

Alewife



4

Sea
Lamprey



Yikes!!! Hydrilla – Discovered Sept. 2024

Aquatic Invasive Species, Hydrilla, Found in Ontario and Canada for the First Time at Hillman Marsh Conservation Area

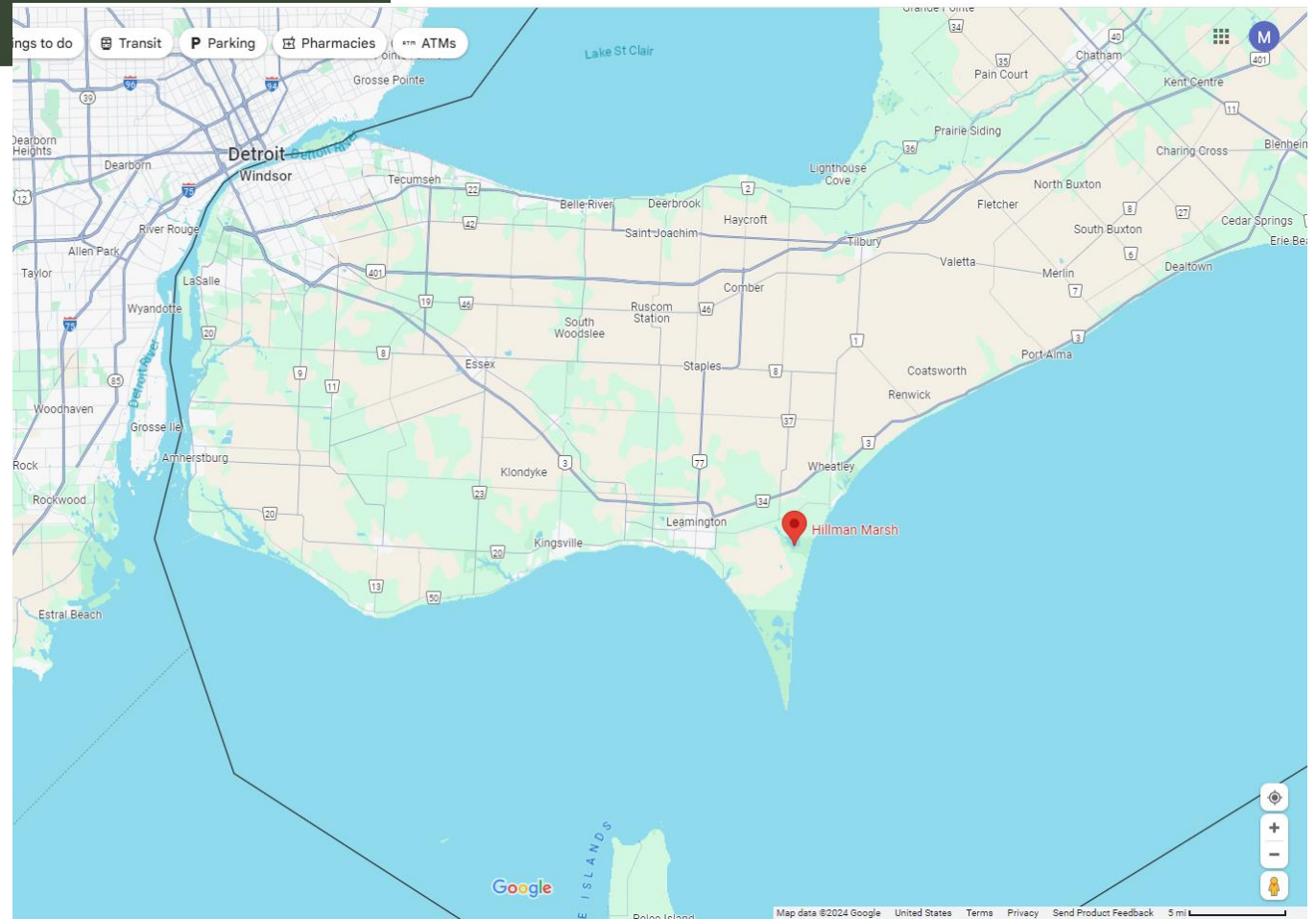
1st time ever in Canada



Posted on Sept. 5, 2024

The aquatic invasive plant, hydrilla, has been detected for the first time in Ontario and Canada in the West Cell at Hillman Marsh Conservation Area located in Leamington, Ontario.

Hydrilla (*Hydrilla verticillata*) can grow up to 2.5 centimeters per day and to lengths of 7.5 meters. This rapid growing invasive species can choke out native species and clog water intake pipes, boat motors



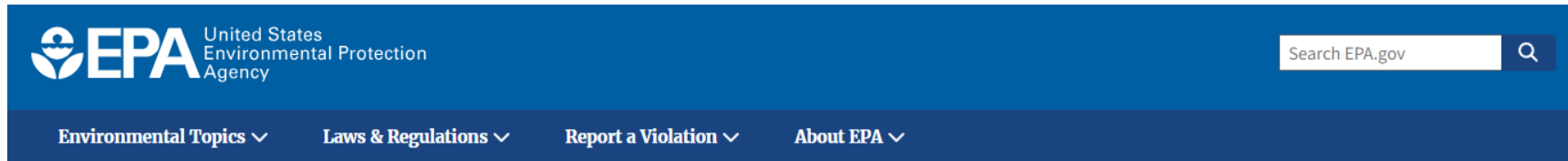
Trouble with Toxics

- Started in WWII; Arsenal of Democracy dumped toxics into the Rouge, Detroit Rivers, etc. Pulp & Paper waste; also mining waste issues in Upper Peninsula and Ontario...
- Dealing with/cleaning up Legacy Pollutants

Canadian and U.S. Areas of Concern in the Great Lakes–St. Lawrence River Basin



Celebrate!!! Rochester NY cleaned up 10/8/2024



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EPA Removes New York's Rochester Embayment from List of Most Polluted Areas in the Great Lakes

Nearly \$14 million in GLRI cleanup funding results in delisting New York's second area of concern

October 8, 2024

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CHICAGO (Oct. 8, 2024) –Today, U.S. Environmental Protection Agency Regional Administrator Lisa Garcia joined state and local partners in Rochester, New York, at an event to celebrate the cleanup and restoration of the Rochester Embayment, a 35-square-mile bay on Lake Ontario's south shore. After decades of work, the embayment has officially been removed from the binational list of "Areas of Concern," and is no longer considered one of the Great Lakes' most environmentally degraded areas.

"The Rochester Embayment has become a thriving ecosystem for wildlife and a valuable resource for Rochester area residents," said **EPA Region 2 Administrator Lisa F. Garcia**. "The delisting is a milestone for Rochester and the entire Great Lakes region. It demonstrates that we can reverse the environmental harm caused by decades of pollution if we collaborate across government, community, and business sectors and prioritize environmental stewardship."

Reconnection / Renewal 2010 - onward

- Boardman River example
- 1 City and 2 County owned Dams removed 2012-2018
- Dams were at end of lifecycle and not generating electricity and would have required \$Millions to keep generating small amount of electricity
- 1 City Dam under “reconstruction” with FishPass



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Thank you

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Form AD-415A--Assisted Poster Revised September 2019

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