




Water for All: The Future of Water in the Great Lakes Region

August 9, 2022

Liz Kirkwood - Executive Director

FLOW (For Love of Water) is located on lands historically occupied by the [Three Fires Confederacy](#)—the Anishinaabek Odawa, Ojibwe, and Bodewadmi nations. We are grateful to these sovereign nations for sustaining their sacred waters since time immemorial and are humbled to be a partner in protecting the Great Lakes watershed for future generations. We invite all to honor the first guardians of the water we love by incorporating the Anishinaabek's water ethic and traditional ecological knowledge into our individual and collective relationships with water.

- **About Us:** Great Lakes law and policy center based in Traverse City. Independent nonprofit. Founded in 2011.
- **Our Mission:** Ensuring the waters of the Great Lakes Basin are healthy, public, and protected for all.

A scenic view of a sandy beach leading to a large body of water under a cloudy sky. The beach is on the left, and the water extends to the horizon. The sky is filled with large, white and grey clouds. The water is a deep blue, with some lighter greenish-blue near the shore.

“By the law of nature these things are common to all mankind—the air, running water, the sea, and consequently the shores of the sea.”

INSTITUTES OF JUSTINIAN

- **The Amazing Great Lakes**
- **Threats to the Great Lakes**
- **FLOW's work to Keep Our Water Public**
 - **Water for All**
 - **Groundwater**
 - **Climate Change**
- **Your Role as a Water Protector**





20% Global Fresh Surface Water
90% of US Fresh Surface Water

The Great Lakes Provide Our Drinking Water.



Holding **1/5 of the world's surface freshwater**, the Great Lakes cover more than **94,000 square miles**.

The Great Lakes provide drinking water to a total of **40 million** people, including:



1 in 4 Canadians & **1 in 10** Americans



The Great Lakes hold the most freshwater in the world: **5,500 cubic miles**

Which is:



90% of U.S. supply



18% of world supply

The Great Lakes Stimulate and Sustain Our Economy.



About **65 million** pounds of fish per year are harvested from the lakes.

They are home to **250 species** of fish



and support the **\$4 billion** commercial and recreational fishing industry.



They supply **56 billion** gallons of water per day for municipal, agricultural and industrial use.



They allow the commercial shipping industry to move **125 million** tons of cargo annually.



They are directly connected to **1.5 million** jobs and **\$62 billion** in annual wages.





- Drinking Water
- Beach Quality
- Groundwater Contamination
- Invasive Species Prevention and Impacts
- Fish Consumption
- Toxic Chemicals
- Habitat and Species
- Nutrients and Algae
- Watershed Impacts
- Climate Change

Michigan's Water Infrastructure Crisis

Drinking Water

- 1,390 community water systems supply 75%
- Most systems built 50-100 years ago
- 10-50% of systems have leaks
- Decline in federal infrastructure investment

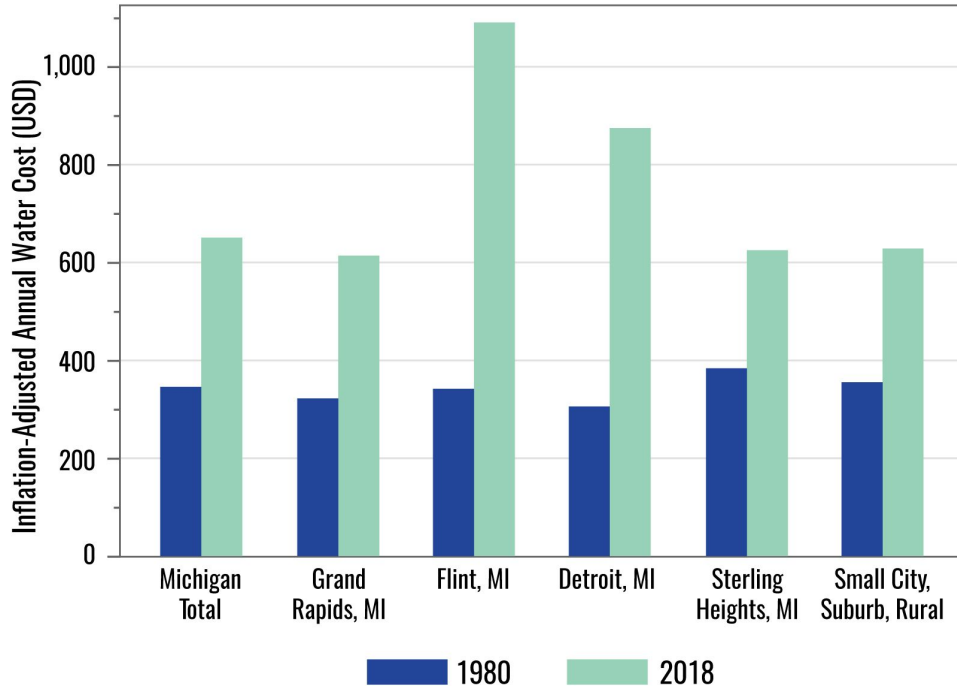
Septic Systems

- 1.3 million systems
- Serve 30% of residents
- 10-25% of all systems leaking
- Only U.S. state without a uniform septic code

Private Wells

- 1.25M wells (more than any other state)
- Groundwater and wellhead protection are critical

Fox47 News: Low income households in Michigan are struggling to pay water bills.



VOX: America has a water crisis no one is talking about.

By 2022, 41 million American households may struggle to pay for water



2014 monthly water bill

\$120



6 percent rate increase

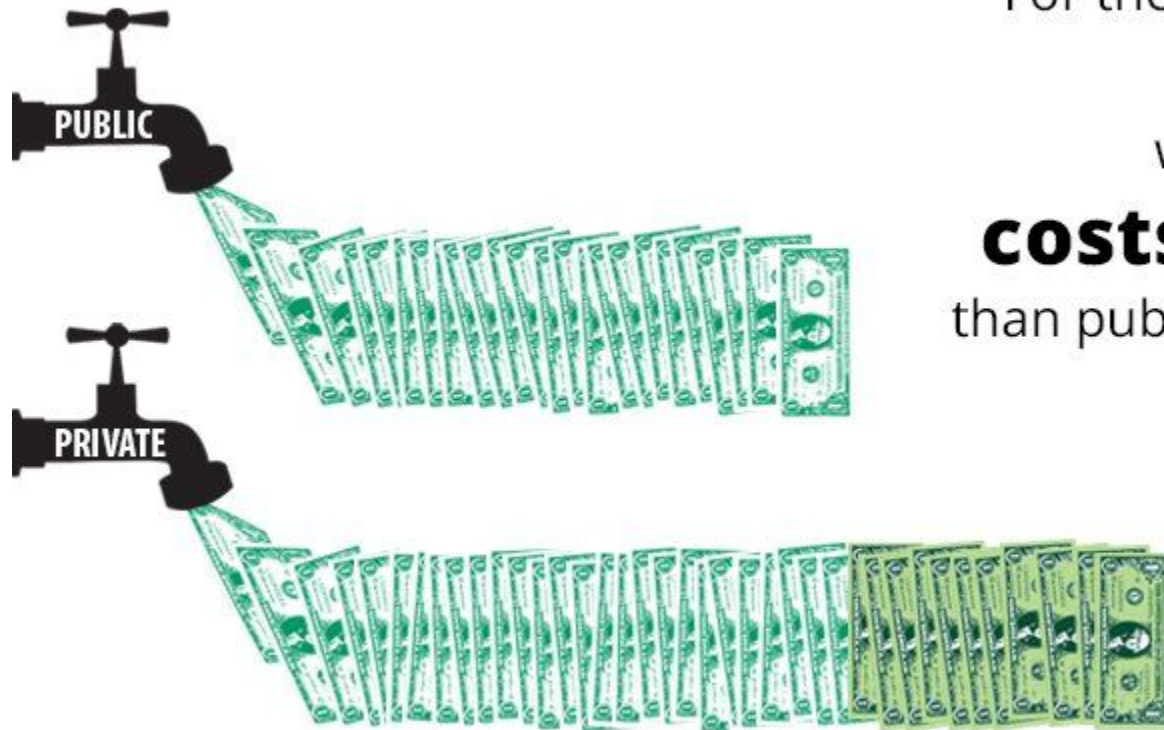
\$127



41 percent rate increase

\$169

Source: Elizabeth Mack, Michigan State University
Credit: Sarah Frostenson



For the typical household,
privately owned
water utility service
costs 59% more
than public water service —
about \$185
each year.

Clean Water for All

Water is a Human Right and Even More Vital during the COVID-19 Pandemic

FLOW and our allies are working to research, analyze, and advance funding and financing solutions to address Michigan's pressing water needs equitably and with the involvement of those people and communities most deeply impacted.

Michigan faces a water infrastructure funding gap—a need exceeding available resources—of approximately \$800 million per year to properly manage wastewater, drinking water, and stormwater. Closing this funding gap is imperative if Michigan is to continue meeting its responsibility to promote public health, protect the environment, and prevent household water shutoffs.



METROPOLITAN WATER RECLAMATION DISTRICT of GREATER CHICAGO RESOLUTION

SPONSORED by the BOARD of COMMISSIONERS RECOGNIZING

WATER and SANITATION as BASIC HUMAN RIGHTS and that WATER SHALL REMAIN in the PUBLIC TRUST

WHEREAS, water is a necessary component of human life and all known living beings and

WHEREAS, clean drinking water and sanitation is a human right essential for the full enjoyment of life and economic prosperity; and

WHEREAS, approximately 0.5% of the Earth's water is available freshwater, which is often compromised by pollution and excessive withdrawal from lakes, rivers, aquifers, and other water bodies that put those watersheds at risk; and

WHEREAS, the United Nations estimates that by 2025, 1.8 billion people will be living in countries or regions with absolute water scarcity, and two-thirds of the world's population could be living under water-stressed conditions; and

WHEREAS, on December 7, 2020, a water futures market was launched for California water, creating the world's first water futures market that allows traders, banks, hedge funds, and others to bet on future water prices and availability; and

WHEREAS, treating water as another tradable commodity, like gold and oil, benefits some but excludes other segments of society such as disproportionately impacted communities, small-scale farmers, and others without the financial ability to access such markets; and

WHEREAS, water futures markets represent the financialization of life itself and fail to distinguish the value of water beyond finances, such as between usage for non-essential swimming pools and essential sanitation; and

WHEREAS, privately-owned water utilities are not necessarily more cost-effective, nor are they saving residents money compared with publicly-owned utilities, as privately-owned water utility customers pay an average of 59% more for drinking water services and 63% more for sewer services, according to Food & Water Watch; and

WHEREAS, people deserve a voice and the opportunity to determine their water and sewage treatment services; and

WHEREAS, additionally, according to the United Nations, access to a robust and hygienic water supply can save approximately 360,000 infants worldwide from death each year. Currently, it is estimated that one out of every three people, approximately 2.2 billion people, live with contaminated drinking water, often containing feces and other harmful pollutants; and

WHEREAS, equal access to clean water is affected by many factors including climate, financial stability, and proximity to a water source; and

NOW, THEREFORE, BE IT RESOLVED, that we, the Board of Commissioners of the Metropolitan Water Reclamation District of Greater Chicago, do hereby oppose the commodification of water because the value of water is immeasurable, as water shapes every component of our lives. Commodifying water improperly leads to neglect of this valuable resource, which ultimately contributes to the degradation of the environment and is a dominant element in global illness and famine; and

BE IT FURTHER RESOLVED, that we, the Board of Commissioners of the Metropolitan Water Reclamation District of Greater Chicago, do hereby recognize water and sanitation as basic human rights; and

BE IT FURTHER RESOLVED, that we, the Board of Commissioners of the Metropolitan Water Reclamation District of Greater Chicago, do hereby affirm that the water of the Great Lakes, including the source of our drinking water in the Chicago metropolitan area, shall remain in the public trust for the people of the Great Lakes region; and

BE IT FURTHER RESOLVED, that this Resolution be spread upon the permanent Record of Proceedings of the Board of Commissioners of the Metropolitan Water Reclamation District of Greater Chicago.



DATED THIS 3rd DAY of JUNE, 2021.

BOARD of COMMISSIONERS

KARI K. STEELE
PRESIDENT
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BARBARA J. MCGOWAN
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City of Traverse City

GOVERNMENTAL CENTER
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Traverse City, MI 49684
(231) 922-4480
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Office of the City Clerk

Resolution Proclaiming Water and Sanitation as Basic Human Rights, and that Water Shall Remain in the Public Trust

BECAUSE, water is a necessary component of human life and all known living beings; and

BECAUSE, clean drinking water and sanitation is a human right essential for the full enjoyment of life and economic prosperity; and

BECAUSE, only a small percentage of the Earth's water is available freshwater, which is often compromised by pollution, and excessive withdrawal from lakes, rivers, aquifers, and other water bodies that put those watersheds at risk; and

BECAUSE, the United Nations estimates that by 2025, 1.8 billion people will be living in regions impacted by water scarcity, and two-thirds of the world's population could be living in water-stressed areas due to over-use of water, climate change, and population growth; and

BECAUSE, on December 7, 2020, a water futures market was launched for California water, creating the world's first water futures market that allows traders, banks, hedge funds, and others to bet on future water prices and availability; and

BECAUSE, treating water as another tradable commodity, like gold and oil, benefits some but disproportionately excludes other segments of society, such as low-income communities, small-scale farmers, and others without the financial ability to access such markets; and

BECAUSE, water futures markets represent the financialization of life itself, and fail to distinguish the value of water beyond finances, such as between usage for non-essential swimming pools and essential sanitation; and

BECAUSE, privately-owned water utilities are not necessarily more cost-effective, nor are they saving residents money compared with publicly-owned utilities, as privately-owned water utility customers pay an average of 59% more for drinking water services and 63% more for sewer services, according to Food & Water Watch; and

BECAUSE, additionally, according to the United Nations, access to a robust and hygienic water supply can save approximately 360,000 infants worldwide from death each year. Currently, it is estimated that one out of every three people, approximately 2.2 billion people, live with contaminated drinking water, often containing feces and other harmful pollutants; and

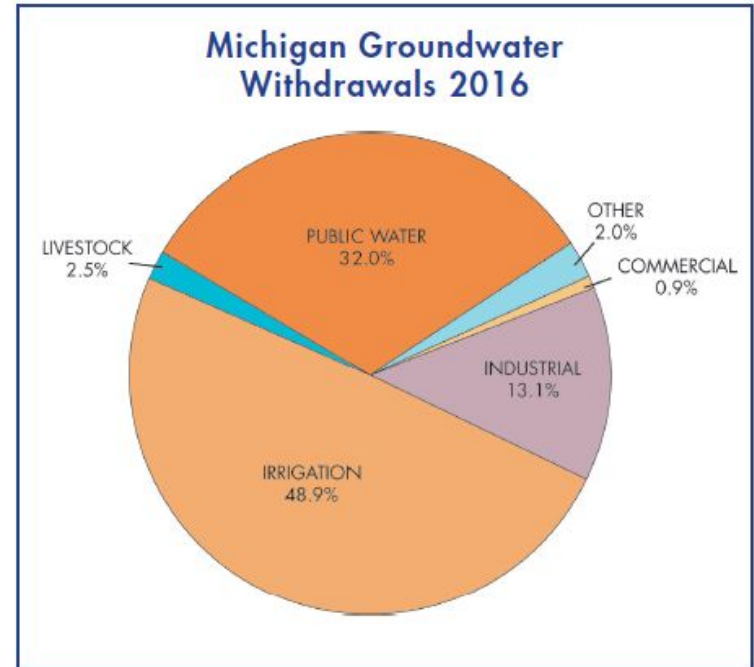
BECAUSE, equal access to clean water is affected by many factors including climate, financial stability, and proximity to a water source; and

Groundwater: The Sixth Great Lake

FLOW



- There is about as much groundwater in the Great Lakes watershed as in Lake Huron.
- About 45% of Michiganders rely on groundwater for their drinking water.
- Michigan has the most private water wells of any state (1.25 million).
- About 25% of the water in the Great Lakes originates from groundwater.



Source: MSU Extension
(http://msue.anr.msu.edu/resources/water_withdrawals_and_water_use_in_michigan_wq62)

SOURCES OF GROUNDWATER CONTAMINATION

Urban runoff



Agricultural runoff
(Nitrate contamination)



Legacy contamination
(closed sites)



Abandoned wells



Fracking



Leaking under-
ground storage
tanks, landfills



Failing septic
systems



Chemical
contamination
(eg. PFAS & TCE)

Scan to read more!



Building Consensus

Securing Protection of Michigan's Groundwater



A Report on the Proceedings and Recommendations
of the Michigan Groundwater Table

Mackinaw City

Line 5 oil Pipelines



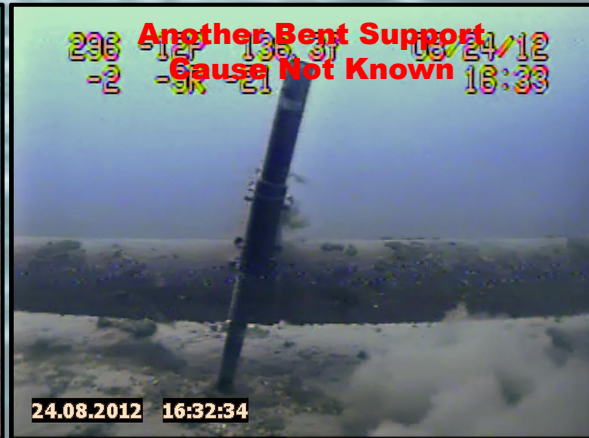
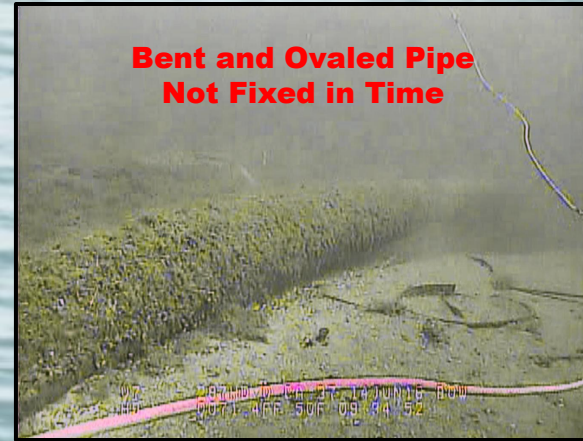
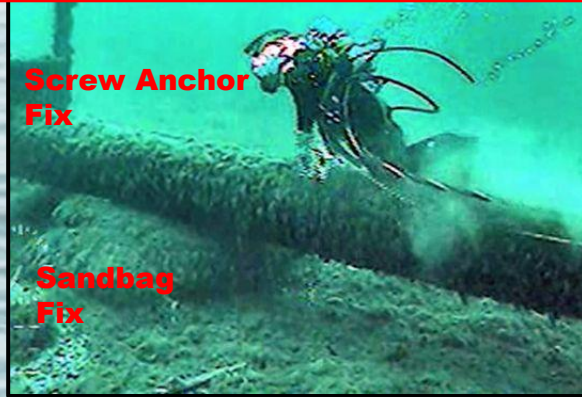
St. Ignace in U.P.

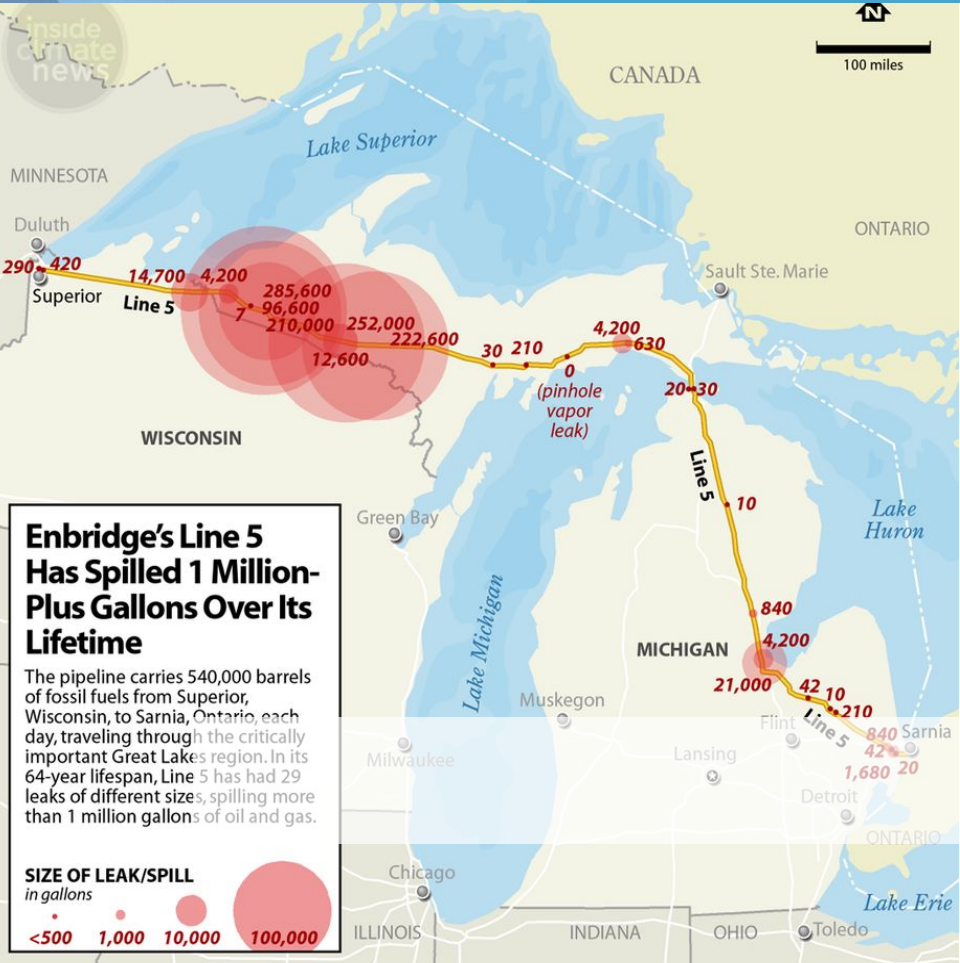


- Oil pipeline indicating principal direction of flow
- Proposed pipeline
- Natural gas pipeline slated for conversion to oil
- Storage or pumping facility
- Major aquifer
- Native American reservation



Enbridge Line 5 in the Straits





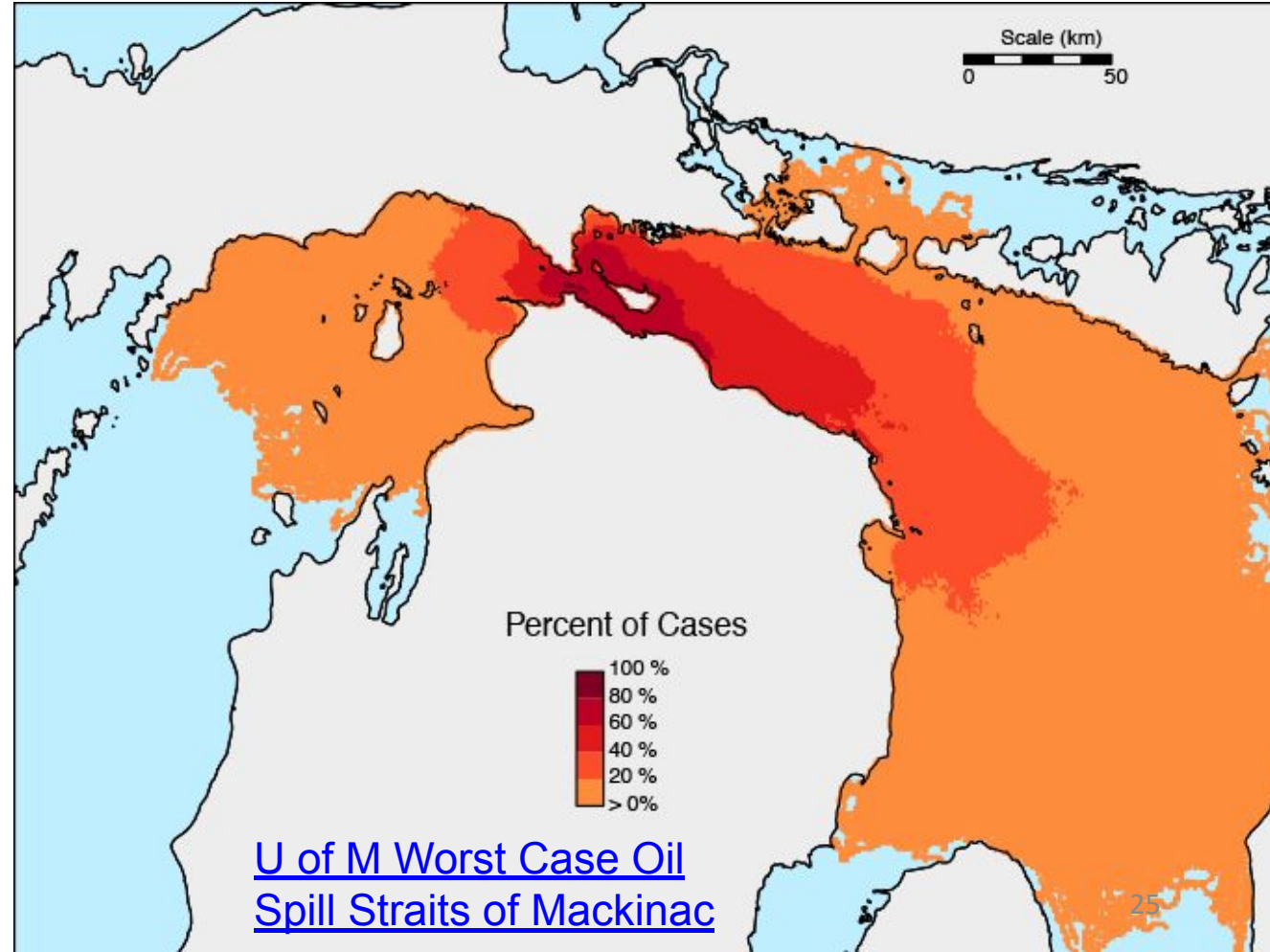
- **1.1 M gallons of oil with 34 incidents since 1968**
- **Majority of spills detected by humans – not Enbridge’s leak detection systems**
- **2020 - EPA fines Enbridge \$6.7M over failure to fix pipeline safety issues**



Statistical Analysis of Straits of Mackinac Line 5: Worst Case Spill Scenarios

UNIVERSITY OF MICHIGAN, ANN ARBOR

DAVID J. SCHWAB, PH.D
MARCH 2016





Line 5's Unacceptable Risks

\$6 billion economic blow to MI's economy & communities; \$45B to shipping & steelmaking

Proposed tunnel - explosion risk, groundwater contamination, wetland loss

Climate change impacts equal to almost 7 new coal-fired power plants per year

Safer, smarter alternatives exist

Whitmer orders Enbridge Line 5 shutdown, citing easement violations



November 13, 2020



[Kelly House, Jonathan Oosting](#)



[Michigan Environment Watch](#)

[Enbridge, Gov. Gretchen Whitmer](#)

Whitmer moves to close Line 5 pipeline

Michigan Gov. Gretchen Whitmer has ordered the shutdown of the dual-span Line 5 pipeline, which crosses the Straits of Mackinac as it transports petroleum products from Wisconsin to Ontario. Tunnel opponents have long called for a shutdown, warning that a rupture would cause a catastrophic oil spill in the straits.



Oil & Water Don't Mix
Keep Oil Out of the Great Lakes

**GREAT LAKES
BUSINESS NETWORK**

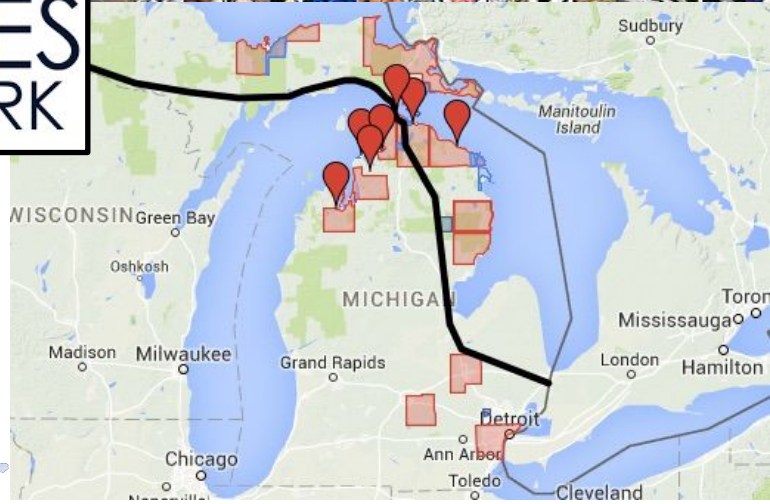


Michigan Citizens for Water Conservation



CONCERNED CITIZENS OF CHEBOYGAN & EMMET COUNTY

MN350



Your Role as a Water Protector



Visit our website for more resources!

Know your water footprint and where you get your water.

Write an LTE about your connection to water and septic issues on your lake.

Talk about water to unite across political lines.

Organize a beach clean up, educate on plastics pollution, pass human right to water resolution.

Advocate for more trees, rain gardens in your community or introduce a bill at local or state level.

FLOW

FOR LOVE OF WATER

“History teaches us that the societies that last longest are those that treat water with respect, as an elixir of life, a gift from the gods. We seem to have forgotten this compelling lesson.”

-Brian Fagan, Elixir: A History of Water

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