



PURE WATERS

A Citizens Agenda for Water Quality and Affordability in Michigan

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EXECUTIVE SUMMARY

Michigan residents want clean water in their household taps, local waterways and the Great Lakes.

Residents say state leaders should enforce stringent regulations improve the quality of the state's waterways and assure infrastructure provides safe, affordable drinking water.

Michiganders want this because they see our waters as key to the state's prosperity and way of life. Keeping the Great Lakes and other waterways clean provides a cherished source of recreation and economic power. Trustworthy drinking water provides residents a sense of security and protects public health.

Those are major messages from the more than 3,100 Michigan residents the Center for Michigan heard from during our Your Water, Your Voice campaign. Hosted from September to November of 2019, the campaign worked to identify resident priorities for managing Michigan's water from the Great Lakes to tap water. The Center gathered input through 22 community events, a statewide poll, and an online survey of Bridge Magazine readers. The results from the statistically representative statewide poll form the basis of this report, with supplementary anecdotes from the community events and reader surveys. (See methodology and demographics on pages 16 to 22.)

Key findings documented throughout this report:

- The public questions statewide drinking water quality and safety. Fewer than one in ten of those surveyed believe statewide drinking water is “always” safe. Closer to home, only one-third of respondents believe their local drinking water is “always” safe, though three-quarters believe local drinking water is at least “usually” safe.
- Michigan residents generally believe the Great Lakes are in fairly good shape. They have stronger concerns about the water quality of inland lakes and rivers.
- There is popular support for more preventative measures and stronger protections of statewide water quality, including moving away from Great Lakes pipelines, building a barrier to keep Asian carp out of the Great Lakes, increasing regulatory oversight of and fees for commercial withdrawals for bottled water, intensifying the fight against PFAS pollution, increased oversight of private wells and septic tanks, and implementing stronger safeguards against lead in school drinking water.
- There is strong public support for statewide water infrastructure upgrades. Nine out of every ten respondents across all survey methods (including 87 percent of poll respondents) supported fully funding an estimated \$1 billion unmet need in annual water infrastructure investment across the state. A slim majority of statewide poll respondents favored paying for those investments through water system user fees.

About the Center for Michigan and this Campaign:

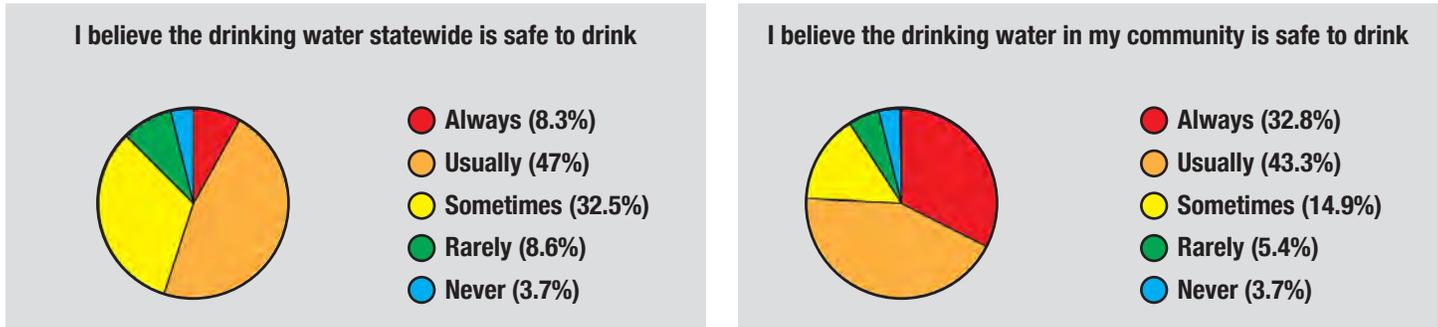
The Center for Michigan is a nonpartisan, nonprofit “think-and-do” tank that hosts statewide public engagement campaigns to identify resident policy priorities and amplify those views to state leaders. This is the Center's tenth campaign. Over the last ten years, we have engaged more than 75,000 Michigan residents.

The Center selected “water” as the topic for the fall of 2019 due to the increasing number of high-profile water concerns, and at the urging of past Community Conversation participants. In the Center for Michigan's 2018 public engagement campaign, the Michigan Truth Tour, ‘water’ was one of the top recommendations from participants as a topic for future engagement campaigns. Residents who participated in that campaign also identified water as a unifying priority across party lines that state leaders could rally around to cut through hyper partisanship, delivering results.¹

CHECKERED TRUST IN DRINKING WATER, DESIRE FOR MORE PROTECTIONS

“How do I know what’s going on when I go to other places? When I go out of town, I usually use bottled water because I don’t know what’s coming out of that tap. How can we have faith and trust when you’ve heard so many bad stories?” - Your Water, Your Voice campaign participant

Across the state, Michiganders do not completely trust water is safe to drink. One-third of statewide poll respondents said they believe the drinking water in their community is always safe to drink. Fewer than one in ten said they believe the drinking water statewide is always safe to drink.



Community meeting participants commonly cited high-profile water contamination issues like the Flint Water Crisis and PFAS as primary drivers of concern about Michigan’s drinking water. Others pointed to the significant number of communities finding lead in their drinking water systems.

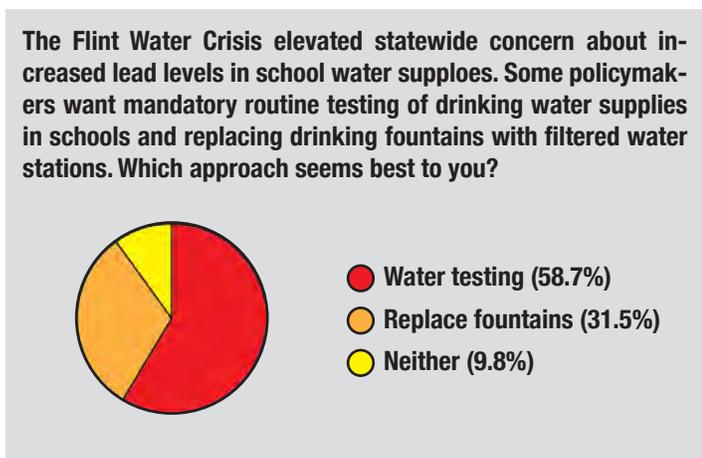
“We don’t really know what’s in our water,” explained a participant. “There’s so much we don’t test for. We aren’t testing for everything, only what is required by the EPA. Cities [with a population] below 10,000 don’t test for as many things. It’s like they don’t matter.”

“In looking at [Michigan Department of Health and Human Services] data I find that a lot of sections where a lot of human and environmental health data should be says “no data available. The fact that there is not a lot of data available is a large problem....” - Your Water, Your Voice campaign participant

Public Support for More Lead Testing

Lead in school water supplies is another concern given the intense neurological damage lead poisoning inflicts upon developing brains. One example: in late 2018, Detroit Public Schools elected to test its supplies and found lead in several schools’ systems, prompting the district to turn off drinking fountains across the district.²

Mandatory testing of school and childcare water supplies and/or installing “hydration stations” in schools statewide are two options some policymakers have proposed to address this rising concern. Statewide poll respondents generally supported such additional proactive approaches.



Michigan’s 2017 budget included nearly \$4.3 million to reimburse schools (up to \$950 per building) for lead testing or installing new fixtures. However by January 2019, only four percent of those funds had been used.³ Many districts did not apply for the funds, claiming the grant amount was insufficient to cover the full cost of testing and/or fixture replacement.⁴ The program has since ended.

Some community meeting participants pushed for the state to handle lead contamination concerns comprehensively rather than only in schools. “It would be better to look at the community source rather than directing money to a specific population,” urged one resident. This topic was not broached in campaign polling, so there is no statistically significant data regarding how popular this

sentiment is, but it arose across several town halls.

Clear Call for Intensified PFAS response

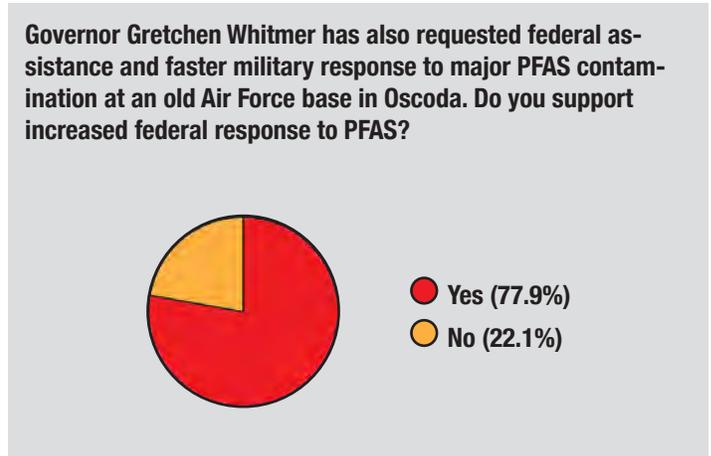
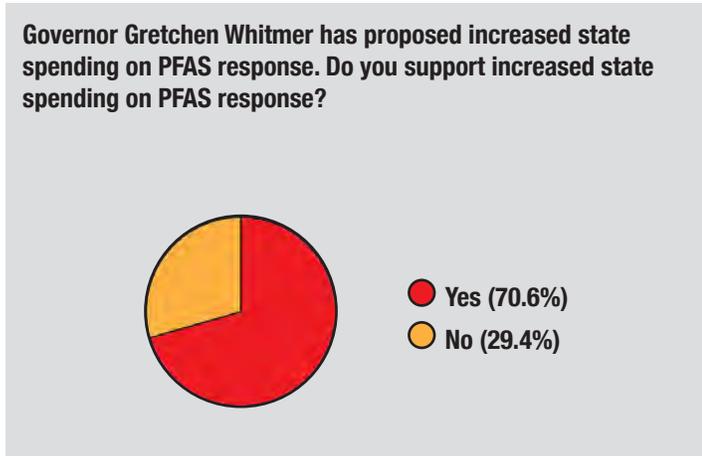
“The federal government should set the example. We are the Great Lakes state, we rely on water for more than just drinking.” - Your Water, Your Voice campaign participant

Michigan has identified more locations contaminated with PFAS than any other state in the country.⁵ In Parchment, near Kalamazoo, residents struggle with the nation’s highest recorded levels of PFAS in drinking water and children’s blood.⁶ Across the state in Oscoda, residents have spent the last decade hoping the federal government will clean up the PFAS contamination from the Airforce base, to no avail.

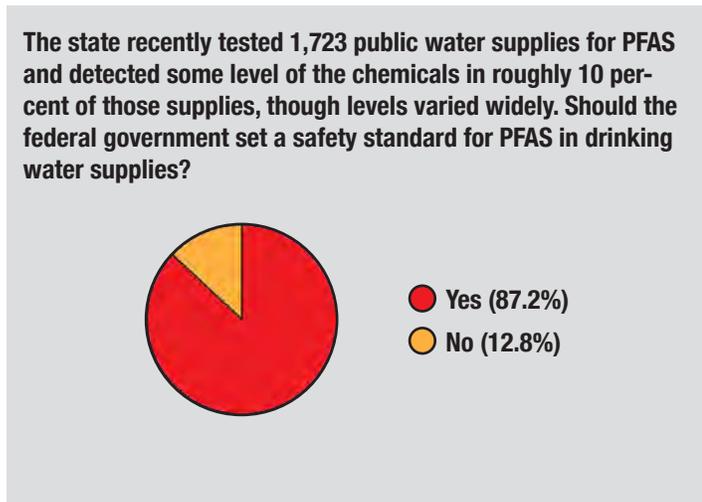
Michiganders want PFAS out of the water - and think both state and the federal government should do more to make that happen.

Across the state, there is strong public support for the state government to increase spending to battle PFAS. This was a campaign promise of Governor Gretchen Whitmer, and an additional \$120 million was allocated in Michigan’s FY2020 budget for new drinking water protection and innovation initiatives, which includes \$25 million for PFAS response.⁷

The overwhelming majority of statewide poll respondents said they also want the federal government to pick up the pace in addressing this growing crisis.



“I think that situation in Oscoda has gone on for too long. It should have been addressed a long time ago.” - Your Water, Your Voice campaign participant



“The harm was done by the federal government and there are residents that are being impacted by this,” said one participant about the PFAS contamination in Oscoda. Michigan “is not pushing very hard for federal action and I would love to see that state push harder for that.” Currently there is no state or federal limit on the amount of PFAS legally permitted in drinking water supplies.

Michigan’s PFAS Action Response Team (MPART) has recently proposed contamination limits for implementation at the state level for seven PFAS compounds of the thousands that exist, which have opened for public comment.^{8/9} There is an ongoing debate about whether Michigan has the right to pass a PFAS limit given state’s “no stricter than federal” law passed in 2018.



How the PBB crisis can help Michigan battle PFAS¹⁰

PFAS chemicals commonly used in household and industrial products increasingly are contaminating waters in Michigan and nationwide. From ignored warnings to costly cleanups, the chemical crisis parallels that of the PBB poisoning of Michigan cattle in the 1970s. Bridge Magazine, a publication of the Center for Michigan, examined how the lessons from that catastrophe could have averted the PFAS crisis and what can be done to prevent the next one. Bridge found:

- Neither the federal nor state governments have robust systems to prevent contamination, allowing manufacturers to make and distribute chemicals until they are proven harmful, rather than assuring safety beforehand. That increases the risk of exposure to dangerous chemicals for decades before detection.
- Government bureaucracy remains painfully slow to launch investigations. Michigan regulators took years to search for contamination in both the PBB and PFAS crises, despite ample warnings from citizens and government officials.
- Taxpayers often suffer the costs of cleanup due to bureaucratic delays and litigation that can take years to determine culpability. In St. Louis, that bill has eclipsed \$180 million and will likely climb to \$500 million because Michigan failed to secure long-term funding and the owner of a chemical plant declared bankruptcy. Similar costs are likely for the PFAS crisis.
- Most action only comes when residents – not regulators – call for change. Nearly a half-century after the PBB crisis began, St. Louis residents are still watchdogging the cleanup around the shuttered chemical plant that triggered the PBB crisis. Government action has often come because residents made discoveries or went to court themselves. St. Louis residents say today's PFAS victims must prepare for years of activism if they hope to see their communities fully cleaned up.

For more on Bridge Magazine's "Poisoned Michigan" investigation, visit www.bridgemi.com/special-reports/poisoned-michigan

WATER QUALITY AND PUBLIC PRIORITIES FOR PROTECTING IT

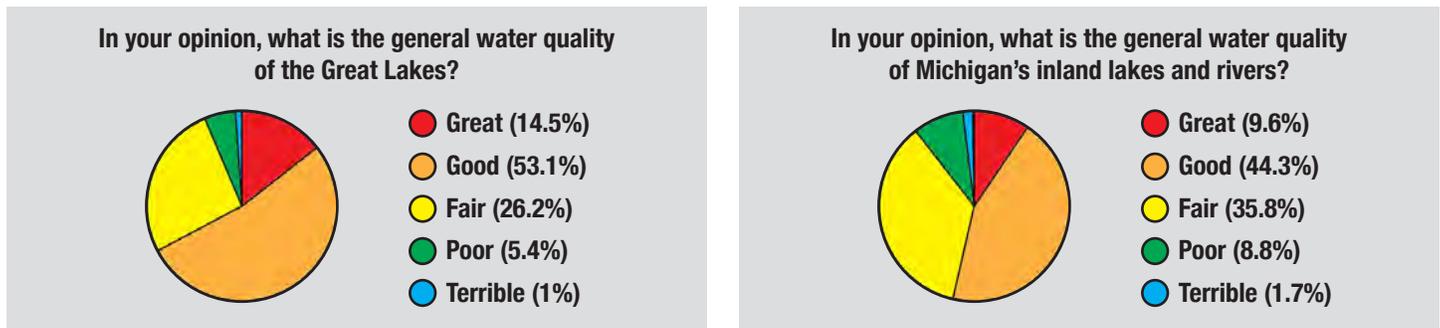
“In general, Michigan’s greatest resources is access to fresh water, and we should prioritize protecting it from contamination and diversion.” - Your Water, Your Voice campaign participant

“Just earlier this week I think they were remembering the river fires that happened 50 years ago and we’ve made a lot of progress. So. if you asked us 50 years ago, I think it would have been ‘terrible,’ but we’re heading in the right direction, but we still have work to do.” - Your Water, Your Voice campaign participant

Michigan residents generally believe the state’s surface waters – especially the Great Lakes – are in decent condition, but favor strengthening water quality protections and believe it is economically advantageous to do so.

Michigan residents generally believe the Great Lakes are in good shape. Two-thirds of poll respondents judged Great Lakes water quality to be “good” or “great.” Majorities of online and community meeting survey respondents agreed.

State residents have more concerns about the water quality of inland lakes and rivers. A slight majority of poll respondents judged water quality of statewide inland lakes and rivers to be “good” or “great.” But nearly half of poll respondents and more than two-thirds of online and community survey respondents judged inland waterway quality as “fair” or worse.



In community meetings, participants said they think the Great Lakes and inland waters face similar threats: algal blooms, agricultural runoff, invasive species, industrial pollution, and E. coli bacteria from combined sewage overflow or leaking septic systems.

Typically, participants said they believe inland lakes and rivers are in worse shape because of water body size (pollution is seen as easier to dilute in the Great Lakes) and a sense of historical pollution of rivers “I see lakes as much cleaner than rivers, because rivers are used as a dumping ground. It’s been part of civilization for a long time to settle near rivers and put our waste in it,” a resident explained.

Among the Great Lakes, Lake Erie is a public concern due to persistent algal blooms. “In general, Lake Erie is worse than Lake Michigan. I still said the lakes were good overall because I was thinking more about the other four lakes and not Lake Erie,” said one participant.

Public Support for Stronger Protections

“Michigan depends on clean water for our safety, our economy, and our recreation. Our standards for clean water must be the most advanced and stringent. We are guardians of twenty percent of the world’s clean water.” - Your Water, Your Voice campaign participant

Michigan residents are not settling for “good” or “fair.” They want the quality of the Great Lakes to live up to their name. A strong majority of poll respondents said the state should strengthen water quality protections.

Typical rationale offered in community meeting discussions:

- To protect public health: “What the hell good is economic development if we are going to spend billions treating the health problems?”

- Encouraging economic well-being: “What we’ve found locally is that there’s strong economic incentives to be ahead of the curve on those preservation plans.”
- A sense of responsibility to care for the Great Lakes as an irreplaceable global resource: “We boast about the Great Lakes Compact – we’re going to be the stewards, trust us. And when we see contamination, wells dry up, we’re being pretty lax stewards it seems.”

Public Prefers Michigan Control its Own Water Regulations

In December 2018, Michigan prohibited state regulations to be more stringent than those set by the federal government, unless the state shows a “clear and convincing” need due to “exceptional circumstances.”

Proponents argue the law protects Michigan’s economy from over-regulation.

“We have unelected bureaucrats that place rules that have the power of law that circumvent elected officials like myself and the rest of my colleagues,” said Representative Tristan Cole (R-Mancelona), the law’s sponsor, around the time of its passage. “This offers some transparency into why they’re making these rules.”¹³

Environmental groups and other opponents maintain it will hinder Michigan in addressing the state’s particular water quality and environmental threats and expose the state to possible litigation.

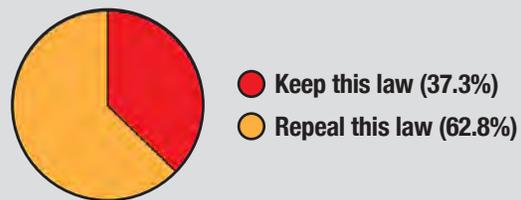
Nearly two-thirds of poll respondents said this law should be repealed.

“We always hear from politicians about state’s rights - what we have as a state is unique,” said one community meeting participant. “With eighty percent of the [nation’s] freshwater, we should have stricter protections than other states to protect it.”

Great Lakes and surface water quality are managed through government regulations. Water quality regulations can be a balancing act between environmental protection, public health, and various business interests. Some prioritize the environment and argue for more stringent regulations. Some prioritize various business interests and argue against more stringent and costly regulations. From your perspective, Michigan should:



Last year Michigan passed a law that does not allow state regulations to be more stringent than those set by the federal government, unless an agency shows a “clear and convincing” need due to “exceptional circumstances.” Proponents argue the law protects Michigan’s economy from over-regulation. Opponents argue it will hinder Michigan in addressing the state’s particular water quality/environmental threats and expose the state to possible litigation. What’s your position?





Anecdotal Insight: “We cannot separate environment and economics.”

The Center for Michigan’s polling question about regulations framed water quality regulations as a “balancing act between environmental protection, public health, and various business interests.” A sizeable number of campaign participants took issue with approaching Michigan’s environment and economy dichotomously.

“Posing that question and suggesting it to people that their environmental interests are opposite of their environmental interests just sets you up for not getting great information,” critiqued a campaign participant.

Many urged state leaders to use environmental preservation as a catalyst for economic development rather than viewing it as an inhibitor. They felt that since “water is part of the economy,” “bad water is bad for business” because “once water becomes polluted, the commercial value will disappear.”

Indeed, Michigan’s economy is extremely dependent on the state’s water resources. One in five Michigan jobs are in water-reliant industries, the fourth-highest rate in the nation.¹¹ Water-reliant industries encompass a broad cross-section of the state’s economy such as shipping, fishing, agriculture, energy production, tourism, and new technology development.¹²

“We should be thinking about both the environment and the economy,” urged a Michigan resident, “since a clean environment means a booming economy.”

PUBLIC PRIORITIES FOR BOLSTERING GREAT LAKES PROTECTIONS

In line with participant support for stronger regulations, wide-ranging policies aimed at decreasing threats to Great Lakes water quality received strong majority support throughout this public engagement campaign.

Public Supports Moving Away From Great Lakes Pipelines

“Natural resources are the foundation of the economy. To have one natural resource (oil) put another important natural resource (water) in danger is not smart.” - Your Water, Your Voice campaign participant

One of Michigan’s highest-profile environmental issues is Line 5.

A pipeline that transports oil from Superior, Wisconsin, to Sarnia, Ontario, Line 5 cuts through Michigan’s upper and lower peninsulas, spanning the gap between the two along the lakebed of the Straits of Mackinac. The state of Michigan granted Enbridge an easement to build the pipe along the lakebed in 1953 for a one-time payment of \$2,450.¹⁴

A separate Enbridge Line 6 pipeline through southwest Michigan leaked into the Kalamazoo River in 2010, drawing the company’s operations to public attention. As public awareness of Line 5 grew, so did the debate about pipeline safety in the Mackinac straits.

In December 2018, then-Governor Rick Snyder made an agreement with Enbridge to build a tunnel under the straits to run a new, bedrock-encased pipeline.

This accord did not end the controversy but added a new topic to the debate: was a tunnel a good solution?

A majority of poll respondents in this campaign said it is not.

Common Line 5 tunnel objections included:

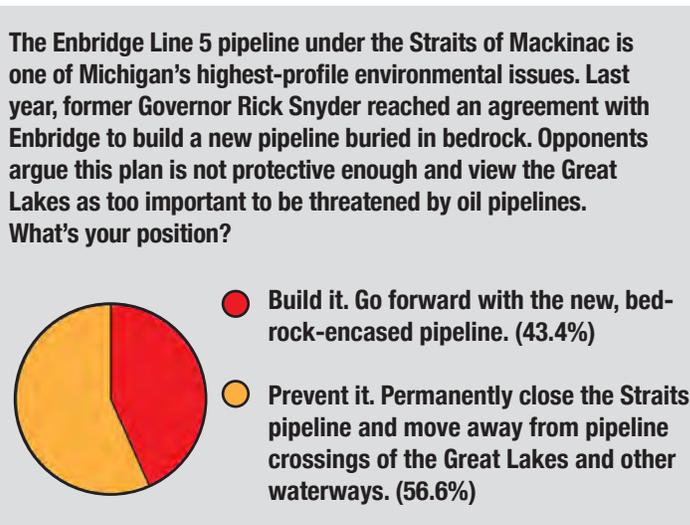
- Lingering distrust toward Enbridge emanating from the past Kalamazoo River spill: “We saw what happened with the Kalamazoo spill and it could happen again.”
- A sense that Michigan is shouldering a massive risk with little benefit: “Our willingness to endanger the Great Lakes doesn’t make sense for a little bit of profit.”
- A preference the state invest its time and resources in driving forward renewable energy rather than funneling additional capital into fossil fuel infrastructure: “Climate change is a big concern and this pipeline is allowing us to stay on this old technology rather than focusing on the future.”

Common Line 5 support reasoning included:

- A sense that a pipeline is the most environmentally friendly option to transport oil; transporting oil by train or truck requires burning additional fossil fuels and they are perceived as more likely to leak: “I’m concerned if we completely shut down the tunnel it will lead to trucking or training all of that. Not only the increased chances of spills, though those spills may be smaller than a pipeline rupture, but with the carbon footprint of all those trucks and trains moving that product, I’m not sure we’re actually making the environment any better.”
- Residents in the Upper Peninsula rely on the pipeline to heat their homes: “No one has provided viable alternatives to provide lower rates to the U.P., many of whose citizens live in poverty. So until somewhat does that, I support the pipeline.”
- Technological advances since the 1950s give confidence the tunnel will adequately protect the lakes: “There is great technology for tunneling that didn’t exist in the 1950s when that pipeline was first laid in the lakebed.”

Vast Majority of Michiganders Want Congress’ Asian Carp Barrier

Nearly nine out of every ten of our statewide poll respondents want Congress to approve the Army Corps of Engineer’s proposed \$778 million dollar Asian carp barrier in the Illinois River.

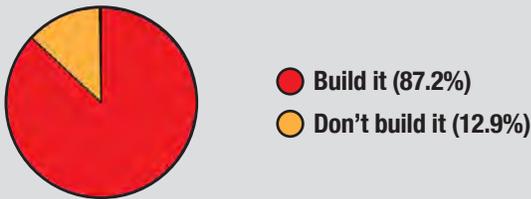


“Once they get in, you can’t get them out. We need to prevent it,” implored one resident.

“If we are getting \$8 million from the state of Michigan to leverage almost a billion from the federal government and on top of that we are protecting a \$10 billion industry in the state of Michigan, it shouldn’t be a question,” said another participant of Michigan’s \$8 million pledged contribution to the project.

Residents who expressed concern about the plan supported the goal, but were unconvinced that any barrier will be completely effective. They feared the project would become massive public expenditure that failed to actually protect the lakes.

Invasive species in the Great Lakes can disrupt sensitive ecosystems and the state’s economy. The state of Michigan currently spends millions of dollars every year managing established invasive populations. Asian carp, though not currently in the Great Lakes, are among the most high-profile threats. Congress is considering a \$778 million barrier to block Asian carp from infesting Lake Michigan, and Michigan has pledged to contribute \$8 million if they do. In your opinion, what should Congress do?



“It’s like bed bugs—this feels like it might just be a losing battle. The barrier seems like it will be permeable,” worried a Community Conversation participant.

Reducing Runoff a Priority

“I think farmers generally want to be good environmentalists but are struggling and need help and support to make these changes.” - Your Water, Your Voice participant

In July of 2018, Michigan’s Governor Gretchen Whitmer and other Great Lakes governors set a goal to reduce runoff from farms and other sources by forty percent by 2025 to fight algal blooms in Lake Erie. They propose doing so through “federal funding, resources, and new technologies while continuing to monitor, report, and reduce nutrient pollution.”¹⁵

This proposal caused concern for some who worry that additional regulations could hamper Michigan’s major agricultural sector, which has lately been buffeted by excess rainfall and global trade disputes.

A strong majority of statewide poll respondents prioritized reducing runoff pollution to protect surface water quality.

“I don’t think that the global trade wars and impacts on the harvest from weather should be considered here since those are short-term problems,” said one resident. “Nutrient runoff is a much larger, and longer-term, issue and we should be focused on increasing regulation that will protect our waters and better monitor farming practices.”

Anecdotally, some community meeting participants residents favored the federal and state government pair support for farmers with any new regulations, such as education on water management best-practices or financial incentives to reduce water consumption.

Governor Whitmer and other Great Lakes governors want to fight Lake Erie algae blooms by reducing runoff by 40 percent from farms and other sources by 2025. They propose to do so through “federal funding, resources, and new technologies while continuing to monitor, report, and reduce nutrient pollution.” Some worry increased regulation could strain Michigan’s large agricultural sector as it is already under stress from weather-related crop damage and global trade disputes. With that information, what would you prioritize?



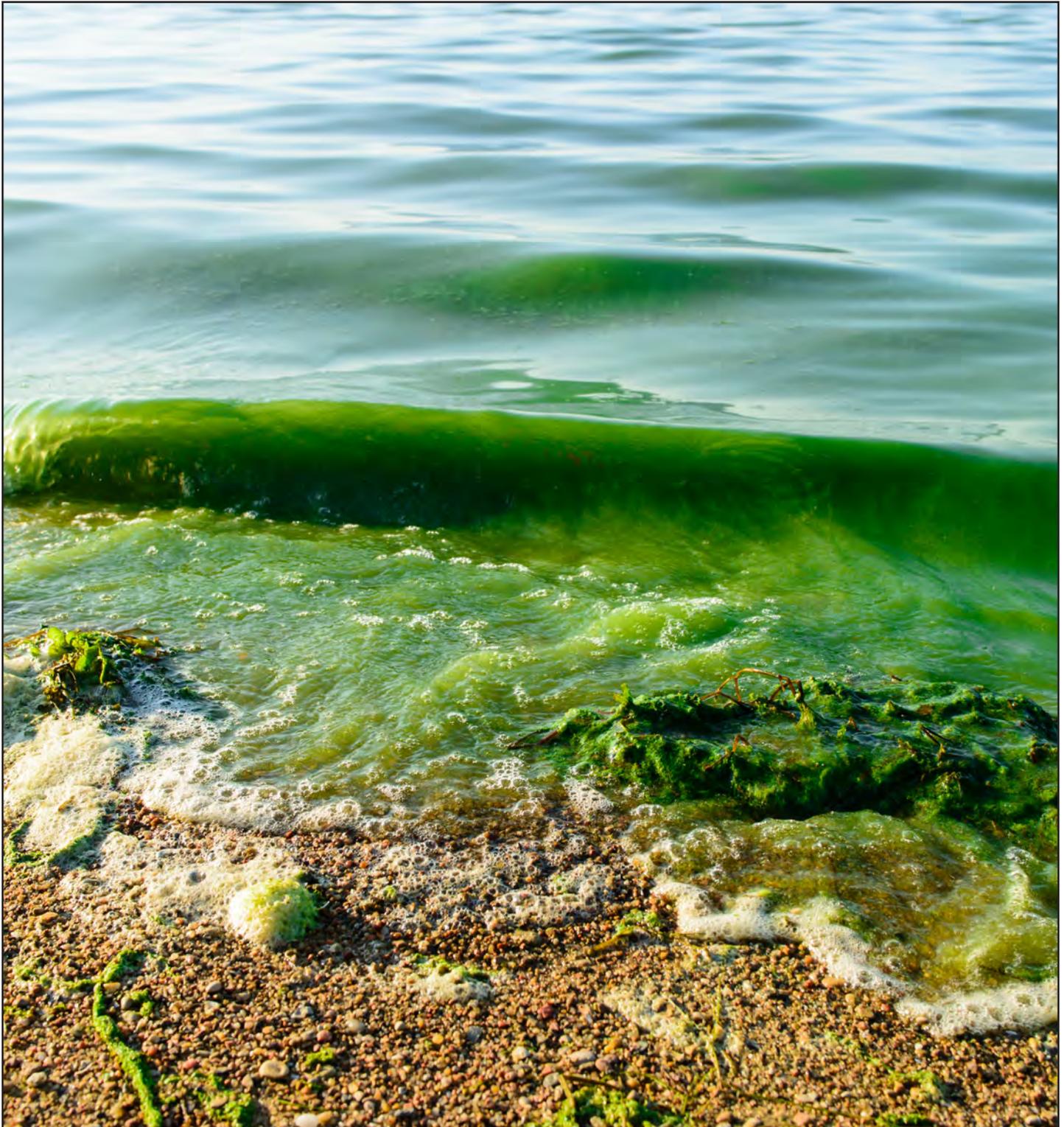
“Make sure that the federal programs keep providing education to the farmers to help them with best practices in their environmental impact and dealing with regulations,” encouraged one participant.

Research shows that many farmers are already reducing their phosphorus intake and assisting farmers in implementing additional best-practices can effectively reduce nutrient pollution in agriculture runoff.¹⁶

At the time of writing, the Michigan Department of Environmental Quality is evaluating possible changes to its pollution discharge permit for concentrated animal feeding operations that may address some resident concerns. These include a ban on spreading manure from CAFOs on farms in January through March and replacing soil sam-

pling for phosphorous levels with a tool called Michigan Phosphorus Risk Assessment (MPRA). MPRA “would account for erosion, runoff potential, distance to surface water or a field edge, subsurface drainage and vegetative buffers.”¹⁷

The Farm Bureau says several revisions are cause for “serious, grave concerns” and oppose the use of MPRA for regulatory use as “the screening tool doesn’t take into account existing voluntary efforts that farmers may be using to prevent nutrient runoff and is likely to grade many farm acres as too risky for manure application, which could put some farms out of business.”¹⁸



PUBLIC CONCERNS OVER BOTTLED WATER

“Nestlé gets a significant benefit from the water. They should be paying more. It is irresponsible of the state not to ask for more compensation.” - Your Water, Your Voice campaign participant

Michigan citizens are not in favor of maintaining the state’s commercial bottled water status quo. A strong majority of statewide poll respondents said they would rather ban bottled water withdrawals than see them grow.

There is, however, nuanced ground between “growth” and “banishment.” Anecdotally, many participants said the state could pursue a middle ground, allowing the industry to continue operating under stricter regulations that give residents confidence local water supplies are not harmed.

“I feel that there could be a compromise and that regulations just need to catch up so that bottled water companies are paying their fair share and to be more environmentally conscious,” suggested one community meeting participant.

Currently, Michigan charges a one-time fee of \$5,000 and a \$200 annual renewal fee for water-pumping rights. In the case of Nestlé, the company also pays the city of Ewart \$3.50 per thousand gallons for tapping the city’s supply, the same as all other business or residential customers.

One participant, a self-described manufacturer, said Nestlé “is getting free raw material and that just strikes me as wrong. Everybody else has a supplier and buys their raw material, and they just get it essentially for free.”

The Question of Intent with Bottled Water Withdrawals

“I think it just goes back to the intent of bottling—Nestlé pays the same as any user but are sending it all over the world. This is not the same as the intent of the regular user.” - Your Water, Your Voice campaign

Other industries pump far more groundwater than commercial water bottlers such as Nestlé’. But, while the impact on local aquifers was a concern voiced in Community Conversations, many participants took issue with how the water is used, not the amount pumped.

“We need to distinguish between users and takers,” said one campaign participant. “Agricultural people are using the water for beneficial gain and returning some of it to system. Companies bottling the water just take the water and sell it for financial gain.”

Participants expressed concern over the amount of water drawn to be bottled in Michigan, and then sold out of state.

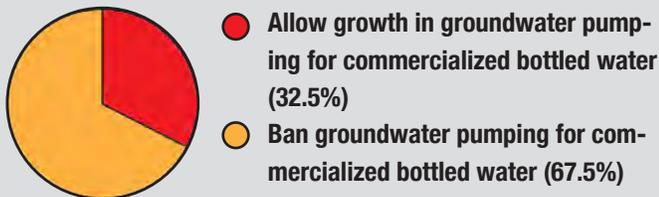
“On the Nestlé’ question, the thing that got to me is what Nestlé does is they take a resource, put it in a bottle, and ship it out of state. They are not really a Michigan company even though they employ a certain amount of Michigan people. They’re not the same as golf courses or agriculture in that those two groups are local and the revenue stays in the community,” a Michigan resident said.

A bill was introduced in December, 2019 into Michigan’s House of Representatives that would restrict bottled water pumped within Michigan from leaving the Great Lakes basin.¹⁹

Environmentalists support the legislation; Nestlé says the bill “unjustly targets the bottled water industry. It is unfair to single out one industry, one type of water user, for such restrictions.”²⁰

At the time of publication, the legislature has not taken any action on this bill.

Michigan allows companies to pump and sell groundwater as bottled water. Proponents argue this is responsible economic development and that Michigan has enough groundwater, (enough to fill Lake Huron), that there is no danger to private wells or the environment. Opponents argue groundwater is a public resource that shouldn't be sold for private profit, state withdrawal standards aren't stringent enough, and groundwater commercialization threatens the environment and private water supplies. Going forward, what do you think Michigan should do?



Companies who bottle water in Michigan pay the state a one-time fee of \$5,000 and \$200 annually for water-pumping rights. In the case of Nestlé, the company also the city of Ewart \$3.50 per thousand gallons for tapping the city's supply, the same as all other business or residential customers. Critics argue Michigan is essentially giving away public water for private profit. Some say that if Michigan is going to allow groundwater to be used for commercial profit, water bottlers should pay far more, with the proceeds used for environmental protection or other public purposes. Proponents argue what water bottling companies pay is fair as it is no different than other water customers and less than other industries such as agriculture and golf courses which have groundwater rights. Going forward, what should Michigan do?



Anecdotal Insight: Plastic Bottles a Water Pollution Concern

“Look at all the plastic in the oceans. Will the Great Lakes look like this also?” - Your Water, Your Voice campaign participant

The fact bottles themselves can cause water pollution was a common anxiety. Despite neither polling or dialogue questions broaching the subject, plastic pollution arose as a concern at every drinking water town hall and in a number of online poll responses. Campaign participants expressed frustration over the waste produced by plastic water bottles and the risks such plastics pose to Michigan's waters.

“We talk about water withdrawals and never look at the containers we put it in, and it's making an incredible amount of trash,” said one participant.

Consumption of bottled water is on the rise in the U.S. with the average American consuming 42 gallons of bottled water in 2018 - a six percent increase over the previous year.²¹ Much of that plastic is not recycled, and more than 22 million pounds of plastic pollution ends up in the Great Lakes every year.²²

“We need a solution for the plastic. That is a bigger question environmentally” than bottled water withdrawals, said one resident.

PUBLIC SUPPORT FOR INFRASTRUCTURE UPGRADES

“We aren’t considering the externalities. We aren’t considering the health impacts and long-term legacy issues that aren’t factored into these costs.” - Your Water, Your Voice campaign participant

When it comes to infrastructure, Michiganders want more than the roads fixed. A vast majority of statewide poll respondents increased investment in statewide water infrastructure.

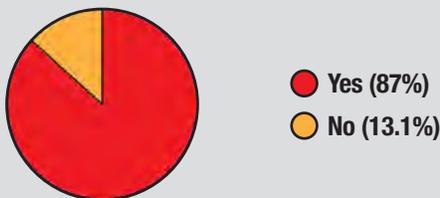
The state’s water infrastructure receives a C to D- grade from the American Society of Civil Engineers, depending on what part of the system is evaluated.²³ That means, on average, the state’s water infrastructure is similar shape to our D-rated roads.²⁴

Community meeting participants frequently cited public health concerns and cost-saving down the line as reasons for the state to increase spending now.

“There is a cost of not doing things. There is an economic cost for brain damage from lead in water,” said one campaign participant. “Pay now or pay later.”

A slim majority of statewide poll respondents said increased state funding should come from raising water system user fees, noting the “fairness” of the method. “I think people who use the water should pay for their water,” one resident said.

The Flint Water Crisis and other drinking water threats are often due in part to old and failing infrastructure. Experts project it would cost about \$1 billion more per year to fully maintain Michigan’s water and sewer systems and safeguard drinking water and surface water. Should Michigan make this investment?



If Michigan were to upgrade water infrastructure, how should it be paid for?



“I think you can judge a society on how strong their septic and water is. It’s a very non-sexy, invisible thing, but it’s so critical.” - Your Water, Your Voice campaign participant

A majority of statewide poll respondents also supported intensified oversight of private wells and septic tanks. Michigan has more than one million wells, the most of any state in the nation.²⁵ More than a third of statewide residents and businesses rely on septic tanks, and Michigan is the only state in the country without a statewide septic code.²⁶ The state does regulate wells and septic tanks when they are installed and when a property is sold, but there is no regulatory structure to mandate maintenance during the infrastructure lifespan under one owner.

Residents want change: sixty-three percent of residents say Michigan should implement additional oversight of this private water infrastructure.

Without more oversight, there is concern that property owners with septic systems won’t properly assess and maintain their systems.

“If you don’t make people maintain these systems, they won’t,” suggested a conversation participant. “People will get sick. Increase regulations to keep everyone safe.”

The concern is not baseless - a study conducted by Michigan State University estimated ten to twenty-five percent of septic tanks are failing.²⁷ Leaking septic tanks can contaminate nearby surface water and wells with e. Coli, threatening public and environmental health.

“What can we do for those who can’t afford to pay?”

There is concern about increased water infrastructure investment creating burdens for low-income Michigan residents. As one community meeting participant put it, “Water can’t be free and it can’t be cheap or else we don’t do anything about it until there’s a major problem. You have to charge so people pay attention, but you have to do something for those that can’t pay.”

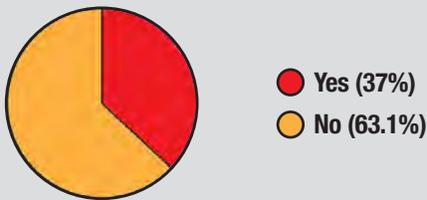
Even though water system user fees were the most popular way to fund infrastructure improvements, a strong majority of statewide poll respondents say Michigan should create programs to help low-income residents afford water bills.

In Community Conversations, residential concern about infrastructure affordability extended to private infrastructure. Repairing or replacing wells and septic tanks can cost thousands of dollars, and several campaign participants expressed concern about the ability of an individual family to pick up the tab. Government support for private infrastructure maintenance was not included in the Center for Michigan’s polling, so there is no statistically significant data regarding how widely held such opinions are, but it is a concern that surfaced repeatedly during campaign town halls.

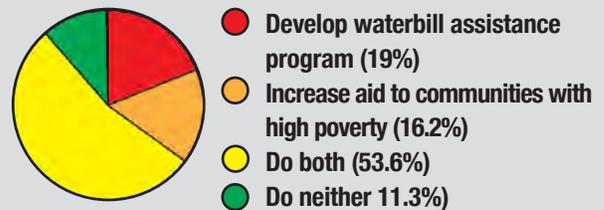
“I think it should be the responsibility of the owners, but there should be some assistance from the state, especially because owners of wells may be more likely to be low-income,” explained one participant.

If a septic tank fails now, “people are on their own to replace it or repair it, and it is very expensive,” added another resident. “I would like to see some sort of incentive program to help people monitor and maintain their septic systems” and “help people with these expensive replacements when they need to happen.”

The state does not currently regulate the maintenance of private wells and septic tanks, Michigan has more than 1 million wells, and thirty percent of residents and businesses use private septic tanks. Leaking septic tanks can contaminate surface and groundwater, contributing to contaminated wells and algal blooms. Should the state increase regulations on private wells and septic tanks?



Older cities face some of the most complex and expensive water infrastructure challenges. Residential water bills provide revenue to pay for water system upkeep, yet older cities tend to have larger populations of low-income residents who may have difficulty paying bills. Given this information, how should Michigan address water affordability?



METHODOLOGY

Between September 18 and November 14, 2019, the Center for Michigan surveyed 3,136 Michigan residents during the Your Water, Your Voice campaign to identify resident priorities for managing the state's waters from the Great Lakes to drinking water. Methods of engagement included town halls hosted in partnership with community groups across the state; a formal, demographically representative poll administered online by Public Sector Consultants; and an informal online survey of Bridge Magazine readers. This report conveys their water priorities at a momentous time for Michigan's waters; Michigan's water-based tourism is growing, yet PFAS contamination is a growing issue in Michigan and across the country. State universities are working together to learn more about using and protecting the state's water while distrust in drinking water remains in Flint and statewide. All the while, state water infrastructure in need of repair, and underwater pipelines and commercial bottled water withdrawals are hotly debated.

Campaign Scheduling

Our public engagement team partnered with local community partners to determine the locations, dates, and times of each Your Water, Your Voice Community Conversation. These local "hosts" also invited their network to participate in their scheduled town hall meeting.

Community Conversation Methodology

Community conversation hosts selected one of two topics for their meetings: Great Waters, Great Economy, which focused on how to balance environmental and economic interests, or Drinking Water, which focused on trust in municipal water supplies, infrastructure, and affordability. In these sixty-minute discussions, participants had the opportunity to share their thoughts on each topic quantitatively by voting on several multiple-choice questions as well as qualitatively in open-ended, moderated discussion. Where common themes emerged in both the quantitative and qualitative data, we shared the findings in this report.

Great Waters, Great Economy Community Conversations

The fourteen drinking water conversations we held included 331 participants. This round of discussions included ten questions related to balancing environmental and economic imperatives, preventing Asian Carp from entering Lake Michigan, commercial groundwater withdrawals, agricultural runoff, infrastructure, Enbridge's Line 5 underneath the Straits of Mackinac, and six demographic questions. Moderators guided participants through thirteen discussion prompts.

Drinking Water Community Conversations

The six drinking water conversations we held included 108 participants. This round of discussions included ten questions related to trust in drinking water, drinking water infrastructure and affordability, and drinking water quality and six demographic questions. Moderators guided participants through thirteen discussion prompts.

Solutions Summits Methodology

The Center hosted two conferences during the campaign, both of which were two-and-a-half-hour evening events featuring two expert panels and an audience input session.

- A Great Water, Great Economy Summit in Lansing, Michigan at Lansing Community College on the evening of October 3rd. Forty-nine participants heard from experts and community leaders during the evening's two panels, "Strike a Balance: Harnessing and preserving water to grow our economy" and "Toeing the Line: Weighing Line 5's benefits and risks for Michigan," which were moderated by Center for Michigan staffers. Attendees then participated in a half-hour audience input session where they answered the same polling questions as the Great Water, Great Economy Community Conversation participants, and a shortened list of open dialogue questions, moderated by a Center for Michigan facilitator.
- A Drinking Water Summit at the L.V. Eberhard Center in Grand Rapids, Michigan on the evening of October 24th, 2019. Fifty-six participants heard from experts and community leaders during the evening's two panels, "Preparing our Water Infrastructure for the Next Century" and "Straight to the Source: How do we protect our waters from PFAS and other contaminants?," which were moderated by Center for Michigan staffers. Attendees then participated in a half-hour audience input session where they answered the same polling questions as the Drinking Water Community Conversation participants, and a shortened list of open dialogue questions, moderated by a Center for Michigan facilitator.

Polling Methodology

The Center for Michigan hired Public Sector Consultants, a nonpartisan policy consulting firm, to administer an online poll to gather Michigan residents' water management priorities from the Great Lakes to drinking water. The poll consisted of twenty-six questions: twenty-one related to water issues and five demographic questions. These 20 water-related

questions constituted of the ten water-related questions asked in the Great Waters, Great Economy Community Conversations and eleven water-related questions asked in the Drinking Water Community Conversations. This poll was administered from late October to early November 2019, to 2,000 demographically representative Michigan adults. The poll has an overall margin of error of +/- 2.19 percent at a 95 percent confidence level.

Aggregate responses from each platform for every polling question is provided below (percentages may not equal 100 due to rounding).

In your opinion, what is the general water quality of the Great Lakes?

	Formal Polling	Online Polling	Community Conversations
Great	15%	4%	6%
Good	53%	48%	49%
Fair	26%	42%	35%
Poor	5%	6%	8%
Terrible	1%	1%	2%
<i>Number of respondents</i>	2000	720	357

In your opinion, what is the general water quality of Michigan’s inland lakes and rivers?

	Formal Polling	Online Polling	Community Conversations
Great	10%	1%	1%
Good	44%	30%	24%
Fair	36%	53%	47%
Poor	9%	16%	24%
Terrible	2%	1%	3%
<i>Number of respondents</i>	2000	720	358

Great Lakes and surface water quality are managed through government regulations. Water quality regulations can be a balancing act between environmental protection, public health, and various business interests. Some prioritize the environment and argue for more stringent regulations. Some prioritize various business interests and argue against more stringent and costly regulations. From your perspective, Michigan should:

	Formal Polling	Online Polling	Community Conversations
Strengthen regulations to protect water quality	77%	89%	86%
Keep regulations generally the same	21%	10%	12%
Loosen regulations if needed to promote economic growth	3%	1%	2%
<i>Number of respondents</i>	2000	720	368

The Enbridge Line 5 pipeline under the Straits of Mackinac is one of Michigan’s highest-profile environmental issues. Last year, former Governor Rick Snyder reached an agreement with Enbridge to build a new pipeline buried in bedrock. Opponents argue this plan is not protective enough and view the Great Lakes as too important to be threatened by oil pipelines. What’s your position?

	Formal Polling	Online Polling	Community Conversations
Build it – go forward the new, bedrock-encased pipeline	43%	22%	38%
Prevent it – Prevent it. Permanently close the Straits pipeline and move away from pipeline crossings of the Great Lakes and waterways.	57%	78%	62%
<i>Number of respondents</i>	2000	720	346

Michigan Governor Gretchen Whitmer and other Great Lakes governors want to fight Lake Erie algae blooms by reducing runoff by 40 percent from farms and other sources by 2025. They propose to do so through “federal funding, resources, and new technologies while continuing to monitor, report, and reduce nutrient pollution.” Some worry increased regulation could strain Michigan’s large agricultural sector as it is already under stress from weather-related crop damage and global trade disputes. With that information, what would you prioritize?

	Formal Polling	Online Polling	Community Conversations
I would prioritize reducing farm runoff to protect surface water quality	69%	91%	86%
I would prioritize agriculture above additional regulations/requirements on farms	32%	9%	14%
<i>Number of respondents</i>	<i>2000</i>	<i>720</i>	<i>365</i>

Michigan allows companies to pump and sell groundwater as bottled water. Proponents argue this is responsible economic development and that Michigan has enough groundwater, (enough to fill Lake Huron), that there is no danger to private wells or the environment. Opponents argue groundwater is a public resource that shouldn’t be sold for private profit, state withdrawal standards aren’t stringent enough, and groundwater commercialization threatens the environment and private water supplies. Going forward, what do you think Michigan should do?

	Formal Polling	Online Polling	Community Conversations
Allow growth in groundwater pumping for commercialized bottled water	33%	11%	16%
Ban groundwater pumping for commercialized bottled water	68%	89%	84%
<i>Number of respondents</i>	<i>2000</i>	<i>720</i>	<i>354</i>

Companies who bottle water in Michigan pay the state a one-time fee of \$5,000 and \$200 annually for water-pumping rights. In the case of Nestlé, the company also pays the city of Ewart \$3.50 per thousand gallons for tapping the city’s supply, the same as all other business or residential customers. Critics argue Michigan is essentially giving away public water for private profit. Some say that if Michigan is going to allow groundwater to be used for commercial profit, water bottlers should pay far more, with the proceeds used for environmental protection or other public purposes. Proponents argue what water bottling companies pay is fair as it is no different than other water customers and less than other industries such as agriculture and golf courses which have groundwater rights. Going forward, what should Michigan do?

	Formal Polling	Online Polling	Community Conversations
Greatly increase groundwater costs for commercial water bottlers	49%	82%	77%
Moderately increase groundwaters costs for commercial water bottlers	39%	16%	19%
Keep groundwater costs the same for commercial water bottlers	12%	2%	4%
<i>Number of respondents</i>	<i>2000</i>	<i>720</i>	<i>358</i>

Invasive species in the Great Lakes can disrupt sensitive ecosystems and the state’s economy. The state of Michigan currently spends millions of dollars every year managing established invasive populations. Asian carp, though not currently in the Great Lakes, are among the most high-profile threats. Congress is considering a \$778 million barrier to block Asian carp from infesting Lake Michigan, and Michigan has pledged to contribute \$8 million if they do. In your opinion, what should Congress do?

	Formal Polling	Online Polling	Community Conversations
Build it – protecting the Great Lakes from Asian Carp is worth our tax dollars	87%	97%	96%
Don’t build it – protecting the Great Lakes from Asian Carp is not worth the public expense	13%	3%	4%
<i>Number of respondents</i>	<i>2000</i>	<i>720</i>	<i>347</i>

Polluted runoff and sewage overflows cause major algae blooms in places like Lake Erie, public health threats, beach closures, threats to ecosystems and fish populations, and related economic damage. Experts project it would cost approximately \$1 billion more per year to fully maintain Michigan’s water and sewer systems and safeguard surface water and drinking water. Should Michigan taxpayers make this investment?

	Formal Polling	Online Polling	Community Conversations
Yes	77%	93%	90%
No	23%	7%	10%
<i>Number of respondents</i>	2000	720	348

The state does not currently regulate the maintenance of private wells and septic tanks, Michigan has more than 1 million wells, and thirty percent of residents and businesses use private septic tanks. Leaking septic tanks can contaminate surface and groundwater, contributing to contaminated wells and algal blooms. Should the state increase regulations on private wells and septic tanks?

	Formal Polling	Online Polling	Community Conversations
No – oversight and care of wells septic tanks should remain the responsibility of the system owners	37%	23%	15%
Yes – Michigan should implement additional oversight of wells and septic tanks	63%	77%	85%
<i>Number of respondents</i>	2000	720	342

I believe the drinking water in my community is safe to drink...

	Formal Polling	Online Polling	Community Conversations
Always	33%	31%	27%
Usually	43%	52%	50%
Sometimes	15%	11%	12%
Rarely	5%	4%	6%
Never	4%	2%	4%
<i>Number of respondents</i>	2000	720	113

I believe the drinking water statewide is safe to drink...

	Formal Polling	Online Polling	Community Conversations
Always	8%	2%	2%
Usually	47%	48%	32%
Sometimes	33%	42%	50%
Rarely	9%	6%	14%
Never	4%	2%	3%
<i>Number of respondents</i>	2000	720	123

The Flint Water Crisis and other drinking water threats are often due in part to old and failing infrastructure. Experts project it would cost about \$1 billion more per year to fully maintain Michigan’s water and sewer systems and safeguard drinking water and surface water. Should Michigan make this investment?

	Formal Polling	Online Polling	Community Conversations
Yes	87%	94%	94%
No	13%	6%	6%
<i>Number of respondents</i>	2000	720	118

Older cities face some of the most complex and expensive water infrastructure challenges. Residential water bills provide revenue to pay for water system upkeep, yet older cities tend to have larger populations of low-income residents who may have difficulty paying bills. Given this information, how should Michigan address water affordability?

	Formal Polling	Online Polling	Community Conversations
Developing a water-bill assistance program for low-income families	19%	9%	9%
Increasing state infrastructure aid to communities with high-poverty populations	16%	14%	12%
Do both	54%	71%	68%
Do neither	11%	6%	12%
<i>Number of respondents</i>	<i>2000</i>	<i>720</i>	<i>111</i>

The Flint Water Crisis elevated statewide concern about increased lead levels in school water supplies. Some policymakers want mandatory routine testing of drinking water supplies in schools and childcare centers, which is estimated to cost at least \$4.5 million. Governor Gretchen Whitmer wants to replace school drinking fountains with filtered drinking water stations at a cost of \$60 million (as proposed in her 2019 state budget). Which approach seems best to you?

	Formal Polling	Online Polling	Community Conversations
Mandatory testing	59%	62%	57%
Replacing fountains with filtered drinking water stations	32%	32%	30%
Neither is necessary	10%	6%	13%
<i>Number of respondents</i>	<i>2000</i>	<i>720</i>	<i>105</i>

If Michigan were to upgrade water infrastructure, how should it be paid for?

	Formal Polling	Online Polling	Community Conversations
Property tax increase	15%	18%	16%
Sales tax increase	23%	29%	25%
Water system user fees	52%	50%	59%
Don't do it, it's not worth the cost	10%	3%	1%
<i>Number of respondents</i>	<i>2000</i>	<i>720</i>	<i>147</i>

Last year Michigan passed a law that does not allow state regulations to be more stringent than those set by the federal government, unless an agency shows a “clear and convincing” need due to “exceptional circumstances.” Proponents argue the law protects Michigan’s economy from over-regulation. Opponents argue it will hinder Michigan in addressing the state’s particular water quality/environmental threats and expose the state to possible litigation. What’s your position?

	Formal Polling	Online Polling	Community Conversations
Keep this law – business/markets should be free from undue interference from state-specific environmental regulations	37%	13%	12%
Repeal this law – Michigan should be free to adopt its own environmental regulations to adapt to the state’s own circumstances	63%	87%	88%
<i>Number of respondents</i>	<i>2000</i>	<i>720</i>	<i>112</i>

The state recently tested 1,723 public water supplies for PFAS and detected some level of the chemicals in roughly 10 percent of those supplies, though levels varied widely. Should the federal government set a safety standard for PFAS in drinking water supplies?

	Formal Polling	Online Polling	Community Conversations
Yes	87%	94%	86%
No	13%	6%	14%
<i>Number of respondents</i>	<i>2000</i>	<i>720</i>	<i>114</i>

Governor Gretchen Whitmer has proposed increased state spending on PFAS response. Do you support increased state spending on PFAS response?

	Formal Polling	Online Polling	Community Conversations
Yes	71%	89%	86%
No	29%	11%	14%
<i>Number of respondents</i>	<i>2000</i>	<i>720</i>	<i>114</i>

Governor Gretchen Whitmer has also requested federal assistance and faster military response to major PFAS contamination at an old Air Force base in Oscoda. Do you support increased federal response to PFAS?

	Formal Polling	Online Polling	Community Conversations
Yes	78%	97%	95%
No	22%	3%	5%
<i>Number of respondents</i>	<i>2000</i>	<i>720</i>	<i>111</i>



DEMOGRAPHICS

REGION	FORMAL POLLING	ONLINE POLLING	COMMUNITY CONVERSATIONS
1	3%	7%	15%
2	8%	21%	1%
3	12%	10%	11%
4	9%	6%	23%
5	8%	9%	1%
6	9%	9%	11%
7	47%	36%	34%
8	4%	2%	4%



AGE	FORMAL POLLING	ONLINE POLLING	COMMUNITY CONVERSATIONS
18-24	8%	<1%	7%
25-34	13%	4%	8%
35-44	12%	3%	8%
45-54	13%	8%	14%
55-64	22%	25%	21%
65-75	26%	45%	27%
75+	6%	15%	15%

GENDER	FORMAL POLLING	ONLINE POLLING	COMMUNITY CONVERSATIONS
Male	49%	39%	47%
Female	51%	60%	51%
Non-binary/third gender	NA	<1%	1%
Other	<1%	2%	1%

RACE/ETHNICITY	FORMAL POLLING	ONLINE POLLING	COMMUNITY CONVOS
American Indian or Alaskan Native	<1%	1%	2%
Native Hawaiian or other Pacific Islander	<1%	0%	<1%
Middle Eastern or North African	<1%	<1%	2%
Hispanic, Latino or Spanish origin	<1%	<1%	2%
Black or African American	2%	2%	5%
Asian	9%	<1%	2%
Caucasian or white	82%	91%	84%
Other	2%	5%	2%

INCOME	FORMAL POLLING	ONLINE POLLING	COMMUNITY CONVOS
<\$10,000	8%	2%	6%
\$10,000 - \$14,999	4%	2%	3%
\$15,000 - \$24,999	8%	5%	3%
\$25,000 - \$34,999	11%	6%	6%
\$35,000 - \$49,999	17%	13%	9%
\$50,000 - \$74,999	19%	23%	19%
\$75,000 - \$99,999	14%	21%	19%
\$100,000 +	19%	30%	36%

WHAT YOU CAN DO

Contact Your Leaders

Make your voice heard! Call or write your legislators and urge them to act on the priorities you shared with us, as well as your additional ideas for improving our state.

To find the name and contact information for your state representative, visit www.house.mi.gov.

To find the name and contact information for your state senator, visit www.senate.michigan.gov.

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The Center for Michigan is a 501(c)(3) nonprofit and nonpartisan think-and-do tank, founded in 2006.

We are Michigan's leading practitioner of nonpartisan public engagement. We make citizenship interesting, convenient, and meaningful though interactive, small-group Community Conversations, large town hall conferences, phone polling, and online engagement tools. More than 75,000 residents have engaged with us to date. This bottom-up public engagement can, and does, lead to actual policy change.

We also publish Bridge, our free online news publication bridgemi.com. Launched in 2011, Bridge focuses on the "how" and "why" of Michigan current events. Our differentiated, in-depth, data-driven public affairs reporting and watchdogging of the state capitol, education, state economy, environment, urban affairs and other policy issues has earned more than 150 state and national journalism awards. Nearly 2 million people have read Bridge to date in 2019.

Governance & Staff

The Center for Michigan was founded by retired newspaper publisher Philip Power and is governed by a 6-member board of directors. The Center is counselled by a venerable bipartisan steering committee of nearly two dozen Michigan leaders. A similarly experienced and respected statewide steering committee provides key journalistic guidance to Bridge.

The Center for Michigan employs 18 professionals with backgrounds in journalism, public engagement, and public policy. Staff bios are available at bridgemi.com/about. Lists of our board and steering committee members are available in this section.

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NOTES

1. DeLind, A. & Schmidt, A. (2019, January 29). Michigan's Moment of Truth: What Michigan residents want now from elected leaders. PG 2. Retrieved December, 2019, from https://centerformich.files.wordpress.com/2019/08/moment_truth.pdf
2. Fortin, J. (2018, August 30). Detroit Schools Turn Off Drinking Water, Citing Elevated Lead and Copper (The New York Times). Retrieved December, 2019, from <https://www.nytimes.com/2018/08/30/us/detroit-schools-water-copper-lead.html>
3. McVicar, B. (2019, January 19). Less than 4% of \$4M in school lead testing funds have been used (MLive Media Group). Retrieved December, 2019, from https://www.mlive.com/news/2017/09/less_than_4_of_4m_state_lead_t.html
4. Pratt, C. (2018, June 6). Preschool works wonders for Flint water crisis kids. But funding is running out. (Bridge Magazine). Retrieved December, 2019, from <https://www.bridgemi.com/children-families/preschool-works-wonders-flint-water-crisis-kids-funding-running-out>
5. Garder, P. (2019, August 26). Michigan has more PFAS sites than other states. There's a reason. (MLive Media Group). Retrieved December, 2019, from <https://www.mlive.com/news/2019/08/michigan-has-more-pfas-sites-than-other-states-theres-a-reason.html>
6. Ritter, K. (2018, February 2). The Stream, February 2: Drinking Water in Rockford, Michigan May Have Highest PFAS Levels in the U.S. (Circle of Blue). Retrieved December, 2019, from <https://www.circleofblue.org/2018/daily-stream/stream-february-2-drinking-water-rockford-michigan-may-highest-pfas-levels-u-s/>
7. Scott, A. (2019, October 4). FY 2019-20: Department of Environment, Great Lakes, and Energy Summary: Enacted with Vetoes and Ad Board Transfers Public Act 57 of 2019, Senate Bill 137 (House Fiscal Agency). Retrieved December, 2019, from <http://www.legislature.mi.gov/documents/2019-2020/billanalysis/House/pdf/2019-HLA-0137-FEE8A-CAB.pdf>
8. Beggin, R. & Malewitz, J. (2019, November 18). Poisoned Michigan: How weak laws and ignored history enabled PFAS crisis (Bridge Magazine). Retrieved December, 2019, from <https://www.bridgemi.com/michigan-environment-watch/poisoned-michigan-how-weak-laws-and-ignored-history-enabled-pfas-crisis>
9. Schmidt, A. (2020, January 7). How to weigh in on Michigan's proposed limits on PFAS in drinking water (Bridge Magazine). Retrieved January, 2020, from <https://www.bridgemi.com/michigan-environment-watch/how-weigh-michigans-proposed-limits-pfas-drinking-water>
10. Beggin, R. & Malewitz, J. (2019, November 18). Poisoned Michigan: How weak laws and ignored history enabled PFAS crisis (Bridge Magazine). Retrieved December, 2019, from <https://www.bridgemi.com/michigan-environment-watch/poisoned-michigan-how-weak-laws-and-ignored-history-enabled-pfas-crisis>
11. Rosean, A. (2014, May 29). Innovating for the Blue Economy: Water Research at the URC (Anderson Economic Group). PG 5. Retrieved November, 2019, from https://urcmich.org/wp-content/uploads/2015/03/URC_Water-Industry-Sector.pdf
12. Schmidt, A. & Dugal, K. (2019, September). Lake to Tap: A citizen's guide to Michigan's water systems and issues (The Center for Michigan). PG 4-5. Retrieved December, 2019, from https://www.bridgemi.com/sites/default/files/water_issue_guide.pdf
13. Roth, C. (2018, December 11). Bill preventing rules that are stricter than federal rules heads to Snyder's desk (Michigan Radio). Retrieved December, 2019, from <https://www.michiganradio.org/post/bill-preventing-rules-are-stricter-federal-rules-heads-snyder-s-desk>
14. Malewitz, J. (2019, June 27). Michigan AG Dana Nessel files lawsuit to shut down Line 5 in Mackinac Straits (Bridge Magazine). Retrieved December, 2019, from <https://www.bridgemi.com/michigan-environment-watch/michigan-ag-dana-nessel-files-lawsuit-shut-down-line-5-mackinac-straits>
15. Malewitz, J. (2019, July 29). Before debates, Gretchen Whitmer urges Democrats to protect Great Lakes (Bridge Magazine). Retrieved from December, 2019, from <https://www.bridgemi.com/michigan-environment-watch/debates-gretchen-whitmer-urges-democrats-protect-great-lakes>
16. Burger, B. (2019, November 27). StudyL Farmer Participation Key to Reducing Algae Blooms (The Columbus Dispatch). Retrieved December, 2019, from (<https://www.dispatch.com/news/20191127/study-farmer-participation-key-to-reducing-algae-blooms>)
17. Ellison, G. (2019, December 6). Michigan proposes new controls on farm animal waste (MLive Media Group). Retrieved December, 2019, from <https://www.mlive.com/news/2019/12/michigan-proposes-new-controls-on-farm-animal-waste.html>
18. Ellison, G. (2019, December 6). Michigan proposes new controls on farm animal waste (MLive Media Group). Retrieved December, 2019, from <https://www.mlive.com/news/2019/12/michigan-proposes-new-controls-on-farm-animal-waste.html>
19. Schmidt, A. (2019, December 17). Michigan Democrats take aim at Nestlé. Farmers urge caution. (Bridge Magazine). Retrieved December, 2019, from <https://www.bridgemi.com/michigan-environment-watch/michigan-demo>

crats-take-aim-nestle-farmers-urge-caution

20. Schmidt, A. (2019, December 17). Michigan Democrats take aim at Nestlé. Farmers urge caution. (Bridge Magazine). Retrieved December, 2019, from <https://www.bridgemi.com/michigan-environment-watch/michigan-democrats-take-aim-nestle-farmers-urge-caution>
21. International Water Bottle Association. (2018, May 31). Consumers Reaffirm Bottled Water is America's Favorite Drink. Retrieved December, 2019, from <https://www.bottledwater.org/consumers-reaffirm-bottled-water-america%E2%80%99s-favorite-drink>
22. Alliance for the Great Lakes. Great Lakes Plastic Pollution. Retrieved December, 2019, from <https://greatlakes.org/great-lakes-plastic-pollution-fighting-for-plastic-free-water/>
23. American Society of Civil Engineers. (2018). 2018 Michigan Infrastructure Report Card. Retrieved December, 2019, from <https://www.infrastructurereportcard.org/state-item/michigan/>
24. American Society of Civil Engineers. (2018). 2018 Michigan Infrastructure Report Card. Retrieved December, 2019, from <https://www.infrastructurereportcard.org/state-item/michigan/>
25. Weiner, S.E., et al (2016, November). 21st Century Infrastructure Commission Report (United States, State of Michigan, Office of the Governor). PG 95. Retrieved December, 2019, from https://www.michigan.gov/documents/snyder/21st_Century_Infrastructure_Commission_Final_Report_1_544276_7.pdf
26. Weiner, S.E., et al (2016, November). 21st Century Infrastructure Commission Report (United States, State of Michigan, Office of the Governor). PG 95. Retrieved December, 2019, from https://www.michigan.gov/documents/snyder/21st_Century_Infrastructure_Commission_Final_Report_1_544276_7.pdf
27. Weiner, S.E., et al (2016, November). 21st Century Infrastructure Commission Report (United States, State of Michigan, Office of the Governor). PG 95. Retrieved May, 2019, from https://www.michigan.gov/documents/snyder/21st_Century_Infrastructure_Commission_Final_Report_1_544276_7.pdf



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