

From: [Thomas Stephens](#)
To: [mi-waterstrategy](#)
Cc: [D-REM Communications List](#); [D-REM](#); [PMA Group](#); [Detroit Warriors](#)
Subject: Final Comments on Draft State Water Strategy
Date: Sunday, August 23, 2015 9:44:13 AM
Attachments: [FINAL TWS Comments on State Water Strategy.docx](#)

“... access to safe drinkable water is a basic and universal human right, since it is essential to human survival and, as such, is a condition for the exercise of other human rights.”
–Pope Francis, *Laudato Si'* (P. 23 ¶ 30)

The State of Michigan’s attempt to formulate a water strategy suitable for the times we live in – and the context of water riches that define our state^[1] – must reckon with some brutal realities. Broadly, these include the following conditions and obstacles to water justice:

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2. Innovative policies **undermining democracy** – especially in Michigan’s urban communities – like Governor Snyder’s “**emergency management**” statutes
3. Our evil heritage of **racism**, as well as other forms of unjust **domination**
4. Our planetary **climate emergency**, and our related contemporary **energy crisis**
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The existing draft strategy’s minimalist treatment – or rather avoidance – of such realities leads it to pin hopes for reasonable access to affordable water on a “communication strategy”.^[2] This undermines any confidence that might otherwise be placed in this draft policy document. We need strategies that face the real world, not disengaged rhetorical guides to management best practices.

As noted above, the document begins with the words: “*Water defines Michigan.*” **Tragically what currently defines water issues in southeastern Michigan’s predominantly People of Color cities is lack of reasonable access to safe and affordable water.** No state water strategy worthy of its stated intent to “*support a healthy environment, healthy citizens, vibrant communities and sustainable economies*” can ignore either this unjust situation, or its deep systemic roots in the brutal realities of our times and leading institutions.

The draft document aspires to “*leveraging the power and presence of*” water. (P. 1) Its crucial test will be reconciling that intent with “*providing water to financially distressed customers to ensure all citizens have affordable access to water for drinking and sanitation.*” (P. 44) To date the state has failed this test. Indeed, the separation in the draft document between Chapter 5 (“*Promote Water-Based Economies*”) and Chapter 6 (“*Invest in Water Infrastructure*”), with the former emphasizing leverage via entrepreneurial and management perspectives, and the latter focused on funding – particularly its repeated, bizarre references to “free” water – is troubling. Among other concerns, it seems to reinforce the decidedly non-holistic, non-transparent, biased and unaccountable policies that have done so much to create the current problems with water access and affordability.

In Detroit tens of thousands of poor families have been cut off from water, regardless of their

inability to pay constantly rising rates. In Flint, people have been forced to drink and bathe with polluted water from the Flint River because the Governor's appointee doesn't want to buy clean water from Detroit. In Highland Park, the city's very existence is threatened because of water bills that are far too high. One would think this crisis, calls for new thinking and new policies. The draft document's communication, pricing, funding and evaluation placeholders for real strategies fall far short of the mark.

Speaking in Detroit on May 22, 2014, leading global water rights activist Maude Barlow of the Council of Canadians said ***"If we pay attention to what's really happening with our water, and deal with it appropriately, it will show us how to solve all our other problems."*** In that spirit, these comments focus on the investment chapter of the draft document, toward a more realistic, up-to-date and comprehensive integration of the social, ecological, cultural, economic and even spiritual aspects of Michigan's water, as well as its profound impacts on our lives.

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Under Snyder's unprecedented "emergency management" powers, the accountability of local government to those most affected by its policies and decisions has been destroyed, in favor of the very kinds of management- best-practices fake "solutions" lurking behind the new state water strategy. The ability of corporate media apologists to use communications strategies and layer lipstick on the pig of racist social austerity, banker bailouts and insider-rigged public policy scams^[3] will not protect our water or equitable access to it. A high-sounding *"strategic, collaborative ecosystem-based plan"* (P. 1) is no substitute for meaningful action!

In this connection, the complete absence of even one representative or contribution of either the Detroit Water and Sewerage Department (DWSD) or the nascent Great Lakes Water Authority (GLWA), at the July 8 Detroit public meeting on the state's draft water strategy, spoke volumes. While the Office of the Great Lakes offers comforting but ultimately meaningless discussion forums, and publishes written propaganda proclaiming holistic and integrated social/ecological visions, the real powers determining the condition of our water and infrastructure are busy monetizing it for their own benefit, without even pretending to care about the state's pious strategic proclamations. This glaring disconnect occurred in the midst of a mass shut off campaign against our most vulnerable People that has drawn the attention and ire of much of the world! We are neither amused nor fooled.

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We know the reasons for this obtuse refusal to grasp the depth and seriousness of our current water crisis: The same hidden realities omitted from the current draft, like: economic inequality; undermining democracy; racism and other forms of domination; the climate emergency linked to energy crisis; and our country's embroilment in the ultimate "pricing and funding strategies" for distribution of resources and power: a seemingly endless series of pointless, unwinnable foreign wars of aggression. These systemic realities ultimately connect in decisive ways to the potential implementation of a successful water strategy in Michigan.[\[4\]](#)

Pope Francis summarizes our current crossroads: "*A certain way of understanding human life and activity has gone awry, to the serious detriment of the world around us. Should we not pause and consider this?*" (P. 75 ¶ 101) The draft document, by omission, answers "no". Depending on how one evaluates its real intent, that is either a grave error or an attempted evasion. Either way, the need to go well beyond "pricing and funding strategies" in order to even begin to formulate an adequate state water strategy is clear.

"Ensuring Affordable Water for All"

The primary obstacle to a state water strategy that could serve communities' health, sustainability and quality of life is an entrenched and dominant, Wall Street-driven politics of austerity that on principle negates the public trust, the commons and the fundamental human right to water, in favor of wars of aggression, racist austerity and other products of corporate corruption and domination. The current draft document's total silence regarding this 21st century elephant in the Great Lakes - a system run amok - is absolutely unacceptable.

In her path breaking book on the pernicious policy results of four decades of modern environmental statutory law and regulation, "Nature's Trust", Professor Mary Christina Wood observes that "...[E]nvironmental law has failed in its basic purpose to safeguard natural resources. The situation has worsened dramatically over the last two decades. ... The agencies implementing the environmental laws have become perpetrators of legalized destruction, using permit provisions contained in nearly every [environmental] statute to subvert the purposes Congress and state legislatures intended." (Preface, P. xvi) The draft document's willful ignorance of this catastrophic reality and its deep systemic roots is a fatal flaw that, if not corrected, will doom it to – at best - irrelevance.

The social, legal and political economic significance of our world's contemporary water crises go far beyond the issue of affordability. Professor Wood in "Nature's Trust" says "*Recognizing its role of vindicating basic human rights, Maude Barlow and Tony Clarke urge a new global water "ethic" premised on trust principles: Water must be declared and understood for all time to be the common property of all.*" (P. 267)

One can hope that the "water ethic" (Pp. 1, 4) referenced briefly in the draft document could become a step toward this necessary transformation. But that is only a hope at this time. As the disruptive impacts of global climate change manifest everywhere via our relationships to water – its unavailability, its pollution and its potentially immense destructive power – the feeble miscommunication, market pricing and evaluation "strategies" proposed in the current draft document should be seen for what they are: yet another attempt by the powerful forces behind Snyder and his ilk at "*leveraging power*", or rather usurping the resources and human rights necessary for the rest of us to thrive, or even survive, in our imperiled state.

The draft document's repeated references to "free" water (P. 42) are not only contradictory, in the context of Detroit's mass water shut offs they are disturbingly bizarre. The draft seems to want to have it both ways: mangling the concept of water as "*a free, shared resource*" available only to those who can pay the substantial costs of the infrastructure necessary to make it available and keep it clean. In this upside-down paradigm, the higher relative cost of water for poor People subsidizes the wealthy, large-volume corporate users who "*pay less as volumes rise*"! (P. 42) If there has ever been a public policy framework in need of radical rethinking, this is it!

The intention to develop and "*optimize*" (P. 44) a state water strategy should offer a tremendous opportunity for beneficial change in the ways we see our relationships to ecology and each other. One of Pope Francis' deepest insights applies: A "*true ecological approach always becomes a social approach; it must integrate questions of justice in debates on the environment, so as to hear both the cry of the earth and the cry of the poor.*" (P. 35 ¶ 49) If the implications of that powerful statement for water affordability and justice in Michigan cities are not clear to the reader of these comments, then they have been wasted. The state water strategy would benefit enormously from a return to the drawing board, and reboot from this profound and timely premise: social and ecological approaches are not only both necessary, they are in fact the same.

In conclusion, we demand as an absolute minimum first step that the state's water strategy must include an adequate, mandatory water affordability plan, which provides reasonable access to all People based on their income and ability to pay for it.

"In the present condition of global society, where injustices abound and growing numbers of people are deprived of basic human rights and considered expendable, the principle of the common good immediately becomes, logically and inevitably, a summons to solidarity and a preferential option for the poorest of our brothers and sisters. ... We need only look around us to see that, today, this option is in fact an ethical imperative essential for effectively attaining the common good."

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Tom Stephens
4595 Hereford
Detroit 48224
586.419-9230
thomasstephens2043@sbcglobal.net

August 23, 2015

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[2] See P. 44. In addition to 1) implementing such a communication strategy, the draft document calls for 2) "*pricing and funding strategies*" and 3) evaluating "*current community practices regarding providing water to financially distressed customers to ensure all citizens have affordable access to water for drinking and sanitation.*" While that third recommendation at least accurately names the specific problem and narrow policy objective,

“evaluation” is merely a prelude to strategy; it is not a strategy at all. “Pricing and funding strategies” of those who have the power to make and implement them are at the root of the very brutal realities that plague our relationships to our water; they are not serious solutions.

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Tom Stephens
jail4banksters@yahoo.com

"Hopefully, we can learn from the sixties that we cannot afford to do our enemies' work by destroying each other." - Audre Lorde <http://www.blackpast.org/1982-audre-lorde-learning-60s>

"Society cannot be changed by people who live in a state of fear, but only by those who have the courage to take the risks that are always involved when you challenge the status quo or seek alternatives." - Matt Carr <http://infernalmachine.co.uk/the-uses-of-fear/>

COMMENTS ON DRAFT STATE WATER STRATEGY

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Tom Stephens



August 23, 2015

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From: [Jim Olson](#)
To: [mi-waterstrategy](#); [Allan Jon \(DEQ\)](#)
Subject: FLOW Submission of Comments on Michigan Water Strategy Plan
Date: Friday, August 28, 2015 10:33:31 PM
Attachments: [Scanned from a Xerox Multifunction Device \(5\).pdf](#)

Mr. John Allan
Director
Michigan Office of the Great Lakes

Dear John and Staff,

Attached please find FLOW's comments on the Michigan Water Strategy Plan per public notice.

These comments are filed by email attachment per instructions, and are filed on or about 10:30 p.m., Friday, August 28, 2015.

Thank you for opportunity to submit these comments. Look forward to a good discussion.

Great job on guiding this tremendous effort.

Yours,

Jim Olson
President and Founder
FLOW

Mr. Jon Allan, Director
Office of the Great Lakes
P.O. Box 30473
Lansing, MI 48909

August 27, 2015

Re: Comment on Draft Michigan Water Strategy

Dear Mr. Allan,

Thank you for the opportunity to provide comments on the Draft Water Strategy. The amount of time, effort, and thought that clearly went into the development of this document is appreciated.

Friends of the Rouge has been leading restoration and stewardship efforts in the Rouge River Watershed for nearly 30 years, engaging tens of thousands of volunteers over the years in the most urbanized watershed in the state of Michigan. As a result of our work – from river clean up events and place-based K 12 education to volunteer monitoring – we submit the following comments for your review and consideration.

Combined Sewer Systems

The Rouge River continues to be impacted by combined sewer overflows which impede restoration efforts as well as the development and promotion of the river as a recreational asset. We encourage adding language to the Strategy that will address grey infrastructure issues with the goal of controlling overflows and accelerating the timetable to address these issues.

Green Infrastructure

Friends of the Rouge is increasingly involved in green infrastructure projects that include both hands on installation and educational opportunities for residents and municipal employees. One of the areas of opportunity for us, as we implement more green infrastructure projects, is to better understand the long term measurable impact of each project from both a storm water management and cost savings perspective. We urge that the final Strategy outline a goal/recommendation specific to green infrastructure research as well as the development of tools to guide organizations and communities.

Stewardship

For the last 28 years, Friends of the Rouge has facilitated the Rouge Education Project, a K 12 hands on science education program that takes place in the classroom and along the banks of the Rouge River. Over the years, this program has evolved and emphasizes service learning, fosters a stronger sense of place, and develops skills that promote life long stewardship. We support the identification and/or development of a mechanism to provide financial support for programs such as the Rouge Education Project. We also heartily support the inclusion of water literacy in the state curriculum and would be happy to be a resource and partner in that process.

Interdepartmental Water Team

We are pleased to see that an Interdepartmental Water Team will be created as a result of the Strategy and encourage that team to organize soon, meet regularly, and establish a plan for the ongoing evaluation of programs and funding opportunities as well as highlighting regional efforts. Being an Area of Concern, the Rouge River is often targeted for specific opportunities (i.e. protection of the Johnson and Tonquish Creeks) and overlooked for others (i.e. Coastal Zone Management water trail planning). We believe that an Interdepartmental Water Team that is more broadly aware of efforts taking place in the various watersheds will be invaluable in making progress toward the goals outlined in the Strategy.

Communication Strategy

We look forward to this Strategy being a "living document" that serves as a guide and measure in our work for years to come. The communications strategy is of utmost importance as it will be critical to identify and empower champions at the local level by providing them with clear and consistent goal-oriented and actionable messaging to share with residents of our great state. We suggest developing basic marketing tools, talking points, and a synopsis of the Strategy that can be shared with and customized by lead actors engaged in this work. Familiar with our diverse population and community needs, we would be happy to work with you in developing these tools for dissemination throughout Southeast Michigan.

Thank you again for the opportunity to provide comments and for your commitment to considering our comments in drafting the final Strategy. We welcome your questions and look forward to working together to achieve the goals outlined in the Michigan Water Strategy.

Sincerely,



Aimee LaLonde-Norman
Executive Director

From: [Finnell, Emily \(DEQ\)](#)
To: [mi-waterstrategy](#)
Subject: FW: Draft Water Strategy
Date: Thursday, August 20, 2015 8:54:12 AM
Attachments: [Cargo Ports 2014.pdf](#)

Emily Finnell
Office of the Great Lakes | MI Department of Environmental Quality
PO Box 30473
Lansing, MI 48909
finnelle@michigan.gov
517-284-5036

From: Karnes, Larry (MDOT)
Sent: Tuesday, August 18, 2015 11:14 AM
To: Finnell, Emily (DEQ)
Cc: DeFrain, Elisha (MDOT)
Subject: Draft Water Strategy

Hi Emily,

I have reviewed the Draft Water Strategy and offer the following comments:

1. Create Sustainable Commercial Ports and Harbors (pp. 28-29) – It seems there should be a general introduction (1-2 paragraphs) to our commercial ports which describes the number of ports, types and volumes of cargo handled, and public vs. private responsibilities. We also have concerns with the final paragraph on p. 29, and would like to discuss them with you.
2. Figure 1: Cargo ports and tonnage (p. 29) – the attached map provides more current information and should replace the existing map. The source should be identified as MDOT.
3. Table 2. Water Strategy Implementation Plan; Goal 3, No. 4: Prioritize investments... (p. 64) – The Implementation Metric is “By 2020, increase the percentage of commercial traffic...over a baseline established in 2015.” Percentage of what? Do you mean simply increase the tonnage handled? While this could be a metric, volumes of commercial port traffic are determined by the market place and private shippers and are not under the control of (or significantly influenced by) government. An argument could be made that because of government environmental regulations, there may be a significant *decrease* in port traffic in future years.
4. *Ibid.*, Goal 4. No. 3: Prioritize infrastructure needs for repair and upgrade of public recreational harbors and their landside access. (p. 64) – MDOT is listed as a lead actor, but has no responsibility for recreational harbors. Landside access to a few of the harbors may be via state trunklines, but most often is provided by local road agencies (cities, villages, counties). Local governments should at least be added as an actor.

Recommendations regarding stormwater management related to roads have been forwarded to other parts of MDOT for review and comment.

Please let me know if you would like to meet to discuss these comments.

Thanks.

Larry Karnes
Freight Policy Specialist
Michigan Department of Transportation

517-373-9058

From: [Finnell, Emily \(DEQ\)](#)
To: [mi-waterstrategy](#)
Subject: FW: Follow-Up: Water Usage outside and Inside the home
Date: Wednesday, August 26, 2015 1:39:49 PM

Emily Finnell
Office of the Great Lakes | MI Department of Environmental Quality
PO Box 30473
Lansing, MI 48909
finnelle@michigan.gov
517-284-5036

From: Regina Young [mailto:RYOUNG@bedhd.org]
Sent: Monday, July 13, 2015 12:51 PM
To: Pezza, Gil (MEDC)
Cc: Allan, Jon (DEQ); Finnell, Emily (DEQ)
Subject: RE: Follow-Up: Water Usage outside and Inside the home

Gil,

Thank you for the information. I have ordered this book and look forward to reading it.

I mean no disrespect when I say that I am both intrigued and a bit concerned by your statement of a “flawed system”. I will seek to understand the basis and merits behind it. I’m interpreting that the “system” you mean is the public drinking water (community utility water) system more so than the million plus residences served by individual water wells.

In terms of human wellbeing, exposure pathways include multiple human exposure points -- inhalation, dermal absorption, and consumption. From that standpoint, all water used (or re-used) inside the home is of interest to those in Public Health. Safe and protected sources of water is one of the pillars of public health -- prevention. While the prevention of illnesses in the form of “safe” water has a cost, prevention also has great “value”. As you pointed out, “we have plenty” has shaped our (past) mindset. I can see a future where Michigan shows, through action, that “we value our water”!

Thank you again!

Regina Young, R.S.
Environmental Health Director

Barry-Eaton District Health Department
Environmental Health Division
e-mail: ryoung@bedhd.org
269-798-4103

We are now on Facebook. Join us today!

From: Gil Pezza (MEDC) [mailto:pezzag@michigan.org]
Sent: Tuesday, July 07, 2015 9:49 PM
To: Regina Young
Cc: allanj@michigan.gov; Finnell, Emily (DEQ) (Finnelle@michigan.gov)
Subject: Follow-Up: Water Usage outside and Inside the home

Regina:

I'm following up on the home water usage statistics we briefly touched upon today at the meeting in St. Johns.

With respect to Home Water usage, this topic is discussed in the book ***The Future of Water*** by Steve Maxwell with Scott Yates. A great read! You can download it on Kindle.

<http://www.amazon.com/Future-Water-The-Steve-Maxwell/dp/1583218912>

It appears that (Chapter 3 – The Future of water use inside the home) 70% of water (treated to drinking standards) is used outside the home. Inside the home, the breakdown of the 30% of indoor water usage is as follows:

Shower 17%

Toilet: 26%

Bath 2%

Dishwater 2%

Laundry 21%

Leaks 14%

Faucet 15%

Other 2%

Furthermore, the water we actually drink (from the Faucet's 15%) could be as low as 1%.

Like Jon pointed out today, this is due to the legacy mind set "we have plenty of water". Of course, if you think of the cost of treating water to drinking standards when only a very small percentage is actually consumed for drinking purposes per household, then this shows how flawed and unsustainable this system is.

Best

Gil

Gil Pezza
Water Strategy Policy Liaison
Michigan Economic Development Corporation
3022 W. Grand Blvd., Suite 14-450 | Detroit, MI 48202
Office: 313-613-4944
pezzag@michigan.org

From: [Finnell, Emily \(DEQ\)](#)
To: [mi-waterstrategy](#)
Subject: FW: Great Lakes 30 year report
Date: Wednesday, August 26, 2015 1:24:35 PM

Emily Finnell
Office of the Great Lakes | MI Department of Environmental Quality
PO Box 30473
Lansing, MI 48909
finnelle@michigan.gov
517-284-5036

From: Allan, Jon (DEQ)
Sent: Wednesday, June 24, 2015 11:25 AM
To: Finnell, Emily (DEQ)
Subject: FW: Great Lakes 30 year report

☺

From: Miller, Candice [<mailto:Candicehr3102@mail.house.gov>]
Sent: Wednesday, June 24, 2015 11:16 AM
To: Allan, Jon (DEQ)
Subject: Great Lakes 30 year report

Excellent work Jon, this is the most comprehensive work product i've seen. One suggestion, although perhaps this is too specific and you only want to speak in generalities, about a dozen years ago we developed a real time water quality monitoring system at the 7 water intakes in the st Clair river and 2 of the lake st Clair intakes, Mt Clemens and new baltimore. The devices checked for almost 30 different contaminants every 15 minuets, it became part of the notification protocols especially for the previously very common, chemical spills in the st Clair river. Once we were able to detect what and from where, guess what, no more chemical spills. But most of the municipalities didn't want to pay for it once the federal dollars ran out, very shortsighted. Also Granholm used federal homeland security dollars to built an extension of this system along the rest of lake st Clair, down the Detroit river. Not sure what's happening there either.

My point is, the only way for this to really work is for the state to take it over and have a plan for the entire system, it really could be an inexpensive model for the entire state.

Anyway, call me if you have any questions or suggestions and sincere good luck in continuing to improve and protect our magnificent great lakes.

Sent from my BlackBerry 10 smartphone on the Verizon Wireless 4G LTE network.

From: [mi-waterstrategy](#)
To: [mi-waterstrategy](#)
Subject: FW: Great Lakes 30 year report
Date: Tuesday, March 08, 2016 11:08:51 AM

From: Miller, Candice [<mailto:Candicehr3102@mail.house.gov>]
Sent: Wednesday, June 24, 2015 11:16 AM
To: Allan, Jon (DEQ)
Subject: Great Lakes 30 year report

Excellent work Jon, this is the most comprehensive work product i've seen. One suggestion, although perhaps this is too specific and you only want to speak in generalities, about a dozen years ago we developed a real time water quality monitoring system at the 7 water intakes in the st Clair river and 2 of the lake st Clair intakes, Mt Clemens and new baltimore. The devices checked for almost 30 different contaminants every 15 minuets, it became part of the notification protocols especially for the previously very common, chemical spills in the st Clair river. Once we were able to detect what and from where, guess what, no more chemical spills. But most of the municipalities didn't want to pay for it once the federal dollars ran out, very shortsighted. Also Granholm used federal homeland security dollars to built an extension of this system along the rest of lake st Clair, down the Detroit river. Not sure what's happening there either.

My point is, the only way for this to really work is for the state to take it over and have a plan for the entire system, it really could be an inexpensive model for the entire state.

Anyway, call me if you have any questions or suggestions and sincere good luck in continuing to improve and protect our magnificent great lakes.

Sent from my BlackBerry 10 smartphone on the Verizon Wireless 4G LTE network.

From: [Finnell, Emily \(DEQ\)](#)
To: [mi-waterstrategy](#)
Subject: FW: Info to forward to Joe Fitzsimmons
Date: Thursday, September 03, 2015 8:47:01 AM

Emily Finnell
Office of the Great Lakes | MI Department of Environmental Quality
PO Box 30473
Lansing, MI 48909
finnelle@michigan.gov
517-284-5036

From: Allan, Jon (DEQ)
Sent: Thursday, September 03, 2015 8:44 AM
To: Finnell, Emily (DEQ)
Subject: Fwd: Info to forward to Joe Fitzsimmons

Add to comments on water strategy.

Jon W Allan, Director
Office of the Great Lakes

Office 517.284.5034

Begin forwarded message:

From: "Thelen, Mary Beth (DEQ)" <THELENM2@michigan.gov>
Date: September 2, 2015 at 1:29:32 PM EDT
To: "Allan, Jon (DEQ)" <AllanJ@michigan.gov>
Cc: "Vaughn, Kari (DEQ)" <VaughnK3@michigan.gov>
Subject: FW: Info to forward to Joe Fitzsimmons

FYI as needed.

Mary Beth

Mary Beth Thelen
Management Assistant to Director Dan Wyant
Department of Environmental Quality
Constitution Hall, 6th Floor South
Phone: 517-284-6712 or 284-6700 (new numbers)
Fax: 517-241-7401
Thelem2@michigan.gov

From: Creal, William (DEQ)
Sent: Wednesday, September 02, 2015 1:19 PM
To: douglasbgross@gmail.com
Cc: Washburn, Bruce (DEQ); Wyant, Dan (DEQ)
Subject: Info to forward to Joe Fitzsimmons

Thank you for your email and we appreciate your concerns. We are very aware of the potential environmental risks Concentrated Animal Feeding Operations (CAFOs) pose to the waters of Michigan and have worked to ensure the practices utilized by farms are protective of water quality. Currently, Michigan has about 260 such farms that are covered by our NPDES permits. Michigan is one of few states that requires that all CAFOs be covered by NPDES permits.

The NPDES permit already does not allow application to saturated fields and/or when heavy rain is forecasted. And we prohibit application to frozen and snow-covered ground except under very prescriptive requirements. Discharges resulting from an application to frozen and snow-covered ground are prohibited and when this occurs we take appropriate enforcement action. We have increased our focus on this and started an initiative last year to track wintertime applications to assess potential impacts and are continuing this effort. We are also working with partners to develop guidance and risk evaluations for farms not covered by the NPDES permit that choose to apply on frozen or snow-covered ground.

Your recommendation for municipal grade treatment is one that would take careful consideration. Land application of CAFO wastes may be more protective of the waters than allowing for a discharge of treated waste directly to surface waters. Permitted farms are required to be managed so that they do not discharge material that is harmful to our waters. There is a handful of farms that have installed advanced mechanical and in some cases chemical treatment to assist them in managing their CAFO wastes. A limited number of farms also have anaerobic digesters.

Thank you for your email and if you have specific instances that we can address, please let Bruce Washburn or I know.

Hi Joe:

Thanks for your efforts with League of Conservation Voters. Sabrina and I are very concerned that the state is really not dealing with the biggest water quality issue, CAFO's. Could you share these concerns with the governor? It is very disappointing to have the state marketing "Pure Michigan" and yet not dealing with a very critical water issue. CAFO's are not farms, they are factories processing food and making us deal with the waste. The EPA and DEQ should both be regulating them as such, not as farms.

Many state agencies recently put together a 30 year plan that outlines how Michigan plans to support high-quality water resources.

["Michigan's Water Strategy"](#) (at link) is the summary of these efforts & unfortunately ignores the "Elephant in the Room", 15 CAFOs (Concentrated Animal Feed operations) in Michigan's portion

of the Lake Erie watershed that contribute untreated fecal waste, equivalent to the city of Boston.

Manure is only mentioned once in 160 pages of the water strategy, and that reference claims that manure only contributes nitrate. CAFO waste disposal applies the fecal waste, (concentrated dissolved Phosphorus, E coli, etc.) several times annually to land throughout the watershed, and this dissolved phosphorus threatens drinking water & contributes to the algal blooms in Lake Erie.

Although small farms still exist in Michigan, (and we boast about local, boutique farms), the reality is that nearly all of the dairy, eggs & meat at grocery stores (from small size to Costco), restaurants, hospitals, schools, and other institutions are sourced from CAFOs. Just as other industries are required to dispose of waste properly, factory farms should also be regulated.

MSU promotes a 4R *voluntary* program (**Right** Source, Time, Rate, & Place). Unfortunately factory farms do not comply with this voluntary program as the waste the animals generate is very huge quantities, and the least expensive option for their business model is to apply to the land over & over again. This waste creates a public health hazard and results in expensive water treatment costs for public drinking water (which impacts all of our wallets).

Progressive public health regulation of fecal waste from CAFOs would include:

1. **At the minimum, banning the application of manure (animal waste) on saturated or frozen ground or when heavy rain is predicted, implemented statewide by 2016.**
2. **Requiring municipal grade treatment of waste generated from Concentrated Animal Feeding Operations by 2020.**

Let me know if you are interested in a field trip to see the results of extensive CAFO waste applications, 1 hour west of Ann Arbor.

Thanks again for your hard work.

[Doug and Sabrina Gross](#)

sabrinaLB@hotmail.com

[734-944-5459](tel:734-944-5459) (home)

[734-355-4218](tel:734-355-4218) (cell)

From: [Finnell, Emily \(DEQ\)](#)
To: [mi-waterstrategy](#)
Subject: FW: IWR of MSU Water Strategy Comments
Date: Thursday, August 27, 2015 12:57:57 PM
Attachments: [Bartholic-IWR_Water_Strategy_Comments-Final-Signed.pdf](#)
Importance: High

Emily Finnell
Office of the Great Lakes | MI Department of Environmental Quality
PO Box 30473
Lansing, MI 48909
finnelle@michigan.gov
517-284-5036

From: Jon Bartholic [<mailto:bartholi@msu.edu>]
Sent: Thursday, August 27, 2015 12:33 PM
To: Allan, Jon (DEQ)
Cc: Finnell, Emily (DEQ); 'Cynthia Brewbaker'
Subject: FW: IWR of MSU Water Strategy Comments
Importance: High

Jon/Emily, Attached are IWR, MSU Water Strategy Comments. This Strategy is a great start in providing guidance for the future of Michigan's water resources! We look forward to working with you as the Strategy evolves and is implemented. Jon

Jon Bartholic
Director, Institute of Water Research
Michigan State University
East Lansing, MI 48823-5243
517-353-9785
bartholi@msu.edu

From: Cynthia Brewbaker [<mailto:brewbake@msu.edu>]
Sent: Wednesday, August 26, 2015 2:56 PM
To: Jon Bartholic
Cc: Lois Wolfson; Frank Ruswick; Laura Young
Subject: IWR of MSU Water Strategy Comments
Importance: High

Jon,
Attached is IWR of MSU Water Strategy Comments. Please send no later than Friday Aug 28 to (***since you are out all day tomorrow I would suggest sending it today to assure Jon Allan receives it on time***):

Jon Allan, Director, Office of the Great Lakes
allanj@michigan.gov

Copy to:

Emily Finnell, Senior Environmental Specialist
finnelle@michigan.gov

me, and whomever else you wish to send it to.

I am copying it to Lois, Frank and Laura in this email.

Thank you,
CB

Cindy Brewbaker
Executive Assistant
Michigan State University
Institute of Water Research
1405 S. Harrison Rd., 101 Manly Miles
East Lansing, MI 48823-5243
517-353-9709
brewbake@msu.edu

From: [Finnell, Emily \(DEQ\)](#)
To: [mi-waterstrategy](#)
Subject: FW: Michigan Water Strategy- Pokagon Band
Date: Tuesday, March 08, 2016 11:30:25 AM
Attachments: [image001.png](#)
[PBOPI Water Strategy 2016.pdf](#)

From: Goodheart, James (DEQ)
Sent: Tuesday, February 16, 2016 9:41 AM
To: Finnell, Emily (DEQ)
Cc: Cromell, Rachel (DEQ); Vaughn, Kari (DEQ); Copen, Leigh (DEQ)
Subject: FW: Michigan Water Strategy- Pokagon Band

Additional tribal comments on water strategy from my meeting last week. FYI-Jim G

From: Jennifer Kanine [<mailto:Jennifer.Kanine@PokagonBand-nsn.gov>]
Sent: Monday, February 15, 2016 8:18 AM
To: Goodheart, James (DEQ)
Cc: Allan, Jon (DEQ)
Subject: Michigan Water Strategy- Pokagon Band

Jim-

I wanted to send our information your way regarding the water strategy and the efforts that Pokagon Band believes they can contribute to.

Please feel free to contact me if you have any questions.

Thank you

Jennifer

Jennifer Kanine, PhD, AWB®
Director, Department of Natural Resources

Pokégnek Bodéwadmik
Pokagon Band of Potawatomi

PO Box 180 • 32142 Edwards Street
Dowagiac, MI 49047

(269) 782-9602 main office • (269) 462-4214 desk
(269) 783-9749 mobile • (269) 782-1817 fax
www.PokagonBand-nsn.gov

-



The information contained in this message is confidential. If you are not the intended recipient, please: (1) delete the message and all copies; (2) do not disclose, distribute or use the message in any manner; and (3) notify the sender immediately.

From: [Roger Labine](#)
To: [mi-waterstrategy](#)
Subject: FW: My Remarks to the Water Strategy
Date: Thursday, August 27, 2015 4:04:58 PM
Attachments: [Comments On Sustaining Mich water 30 yr plan \(draft\).docx](#)

From: Roger Labine [mailto:roger.labine@lvdtribal.com]
Sent: Thursday, August 27, 2015 1:39 PM
To: 'Office of the Great Lakes' <Mi-waterstrategy@michigan.gov>
Cc: 'Roger LaBine' <tc.ricekeeper@gmail.com>
Subject: My Remarks to the Water Strategy

Good Afternoon,

Please find attached the remarks to the Water Strategy. I have noted the top six concerns I have with the draft. I'm willing to share the remaining concerns and issues at another time, during a planning session or when the departments are consulting with the Lac Vieux Desert Band of Lake Superior Chippewa.

Please feel free to respond if you any questions regarding my comments

Roger LaBine
Water Resource Technician
Environmental and Planning
Lake Superior Band of Lake Superior Chippewa
Office: 906.358.4577 ext. 4122
Fax: 906.358.4785

From: [Finnell, Emily \(DEQ\)](#)
To: [mi-waterstrategy](#)
Subject: FW: Water Shutoffs Information
Date: Wednesday, August 26, 2015 1:46:06 PM

Emily Finnell
Office of the Great Lakes | MI Department of Environmental Quality
PO Box 30473
Lansing, MI 48909
finnelle@michigan.gov
517-284-5036

From: Randy Block [mailto:randyblock@yahoo.com]
Sent: Tuesday, July 28, 2015 10:38 PM
To: Finnell, Emily (DEQ)
Subject: Water Shutoffs Information

Dear Emily Finnell:

Thanks for listening to my comments about the need for plans to make water fees more affordable so that consumers can better afford to pay their water bills. Thanks also for your openness to expanding the plan to provide information about what other communities, e.g., Cincinnati and Philadelphia, are doing to establish water affordability plans.

Here's information from a 7/22/15 Detroit Water and Sewer Department report that I obtained from the Sierra Club:

GLWA/DWSD-R Project Implementation Team (P.I.T.) Update

- **Customer Service Division Report**
- July 1, 2014 to June 30, 2015 (past 12 months)
 - 35,595 accounts have been turned off and 17,900 accounts were turned on
- June 1, 2015 to June 30, 2015 (current month)
 - 5,988 accounts have been turned off and 2,016 accounts were turned on.

The 2013 U.S. Census (projected) showed that the average household in Detroit had 2.4 people. This could be a basis for projecting that as many as 47,953 men, women and children may still have their water shut off. This is a problem that can't wait for a long range solution!

You might want to get more information on the City Council's "Blue Ribbon Committee to study a Water Affordability Plan for the City of Detroit. They just voted last Tuesday to create such the Blue Ribbon Committee last Tuesday. You might also want to learn more

about what they're doing in Philadelphia with their new Water Affordability Plan. Roger Colton, a national water expert who developed Detroit's 2005 Water Affordability Plan, is due to be in Detroit tonight and tomorrow morning for a press conference on the above issues. The media event will be held at 10 a.m. at 2727 2nd Avenue, Detroit.

Let me know if I can be helpful to you.

Sincerely,

Randy Block, MSW, Director
Michigan Unitarian Universalist Social Justice Network

From: [Finnell, Emily \(DEQ\)](#)
To: [mi-waterstrategy](#)
Subject: FW: Water Strategy
Date: Thursday, August 20, 2015 12:58:02 PM

Emily Finnell
Office of the Great Lakes | MI Department of Environmental Quality
PO Box 30473
Lansing, MI 48909
finnelle@michigan.gov
517-284-5036

From: Taylor Morgan, Joy (DEQ)
Sent: Tuesday, August 18, 2015 11:16 AM
To: Finnell, Emily (DEQ)
Cc: Sills, Robert (DEQ)
Subject: Water Strategy

Hi Emily,

I wanted to send you a couple of comments before your deadline of 8/28/15 for the Water Strategy. I listened to the webinar on the Strategy yesterday and have a couple of comments.

When the Director of OGL talked about the hydrological connectivity with all water and that one of the goals is to monitor water quality with one of the specific recommendations being supporting surface and groundwater monitoring. What about rain water monitoring? That should be included as well.

On page 24 of the Strategy it states, "preventing environmental impacts from emerging contaminants " and gives a few examples and has the specific recommendation to "adapt monitoring protocols to detect concentrations, fate and transport." Would this also include air monitoring? (wet and dry deposition) as many of these emerging compounds can be transported via atmospheric transport.

Also on page 32. There is a recommendation, "Continue national & regional coordination of mercury reduction activities, such as implementation of the Great Lakes Mercury in Products Phase-Down Strategy & the Great Lakes Emissions Reduction Strategy."

While this is fine to include it seems like we should also include something specific to Michigan, such as "continue to implement Michigan's DEQ Mercury Reduction Strategy" or it doesn't have to be that specific just "continue to implement DEQ's mercury reduction and pollution prevention activities".

Language similar to this is recommended because such general language could also encompass the MI DEQ mercury TMDL reduction goals, when completed. I'm concerned that

there is nothing specific to Michigan and the Regional Strategies do not have much leadership or support currently at EPA.

Please contact me with any questions.

Best regards,
Joy

Joy Taylor Morgan
MDEQ
AQD - Toxics
517-284-6765

From: [Finnell, Emily \(DEQ\)](#)
To: [mi-waterstrategy](#)
Subject: FW: Water Strategy Comments from Saginaw Chippewa Tribe
Date: Tuesday, March 08, 2016 11:29:56 AM
Attachments: [09212015MOGL Water Strategy Comments w signature.pdf](#)
[09212015 MOGL Water Strategy Comments Table.pdf](#)

From: Carey Pauquette [mailto:CPauquette@sagchip.org]
Sent: Monday, September 21, 2015 10:23 AM
To: Allan, Jon (DEQ); Finnell, Emily (DEQ)
Cc: Goodheart, James (DEQ); Copen, Leigh (DEQ)
Subject: Water Strategy Comments from Saginaw Chippewa Tribe

Hello,

Attached you will find comments and a cover letter from the Saginaw Chippewa Indian Tribe of Michigan regarding the Office of Great Lakes Water Strategy. The SCIT is excited to partner with the State as we move ahead implementing our strategies as collaborators. Outlined you will find a comparable task list the Tribe intends to embark on relating to the Strategy. We look forward to hearing from you. Please feel free to contact me for more information or details on the attached comments.

Sincerely,

Carey Pauquette

Water Quality Specialist

Saginaw Chippewa Indian Tribe of Michigan

(989)775-4016

From: [Finnell, Emily \(DEQ\)](mailto:Finnell, Emily (DEQ))
To: mi-waterstrategy
Subject: FW: Water Strategy comments
Date: Thursday, August 13, 2015 3:40:16 PM
Attachments: [Water Strategy Summary Items.docx](#)

Emily Finnell
Office of the Great Lakes | MI Department of Environmental Quality
PO Box 30473
Lansing, MI 48909
finnelle@michigan.gov
517-284-5036

From: Evan Pratt [mailto:pratte@ewashtenaw.org]
Sent: Tuesday, August 11, 2015 12:02 PM
To: Finnell, Emily (DEQ); Allan, Jon (DEQ)
Subject: Water Strategy comments

Dear Jon and Emily

Thank you for your stewardship over the development of the draft Water Strategy, along with the recent outreach in July and August. Along with many other stakeholders I have spoken with from diverse segments of our economy and demographics, I agree that water is an economic engine that Michigan would do well to harness and manage sustainably.

My understanding from the July public meetings around the state is that while feedback on the positives is always appreciated, the type of input you are currently seeking is constructive, detailed and specific feedback on where we might be able to increase our collective chance of success in implementation. With those instructions in mind, I am attaching a document that is longer than I might have submitted if the goal was brevity vs detail, and offer this over-arching summary of the areas of greatest concern to this office, falling into these five main areas:

1. The Strategy calls for implementation via local leadership. Through the MS4 process, dozens of local leaders, mainly in urbanized areas, have been doing everything in their power for cleaner water, particularly in urbanized areas where problems are worst. Progress has been substantial, but many obstacles prevent locals from doing what we know is needed. These obstacles require state leadership and commitment of resources if any different outcome is expected. Three specific examples include enabling more local funding tools, providing high-level public engagement and economic development effort, and providing tools to incent compliance with voluntary Recommendations.

In short, the Strategy does not provide much new that one would expect to result in a greater commitment or change in local effort levels in the Grand Traverse, Tri-County, SEMCOG, or GVMC regions. Only about 5% of Michigan's population lives outside those regions, so it would be difficult to expect a change in results if these obstacles, repeatedly identified by local leaders all over the state, are not addressed.

2. The outcomes, or Measures of Success are not specific enough in many areas for people to agree in the future that the goal has been accomplished or that significant progress has been made. It appears that most of the

Measures that have a specific, measurable outcome are from other plans or initiatives. There is a need for the Measures of Success to be measurable and timebound if the Water Strategy is intended to achieve more than other existing plans and initiatives.

3. The most important Measure of Success would be to improve on existing state efforts to manage water budgets in each aquifer and stream. The current tool falls short of establishing a connection between permitted water use and historic and current groundwater elevations and/or stream flows that is easily understood by the public. Additionally, with respect to cold water fisheries, temperature should be monitored and correlated with withdrawals and stream flows.
4. The Strategy is mute on many developing issues, yet talks about Asset Management, sustainability, and the need to apply these principles to our water resources in order to take full advantage of the economic advantages offered by our abundant resources. By definition, Asset Management is a process of prioritizing needs by multiplying risk factors times failure impacts. Ignoring developing, low-risk, high impact issues such as hydrocarbon transport, fracking, or invasives that are near but not here (yet) is inconsistent with language like Asset Management and sustainability, and subtract from the document's credibility.
5. It may be counter-intuitive, but perhaps worth considering that recruiting sustainable water intensive industries might be more viable economically than the suggestions to foster innovative new water technologies. The latter is normally a strategy of water-poor regions or countries. Two examples of sustainable water intensive industries are renewable energy from wave action and semiconductor fabrication.

This office is committed to continuing over 40 years of local leadership as suggested in the document, through implementation of the most progressive stormwater management regulations in the state while meeting with individual developers on every project to identify ways in which these regulations can save costs. We are also committed to a long list of best practices and educational outreach, including continued implementation and monitoring of green infrastructure in road Rights-of-Way for water quality improvement, a robust residential raingarden development program, and ongoing outreach and efforts to address agricultural soil and water conservation. Any areas where the State of Michigan is able to provide our office with additional support in the future as a result of the Water Strategy or other means will be greatly appreciated.

Thank you again for your efforts on the Strategy and for seeking feedback.

Evan

Evan N. Pratt, P.E.

**Water Resources Commissioner
Director of Public Works**

Office of the Water Resources Commissioner
Washtenaw County
P.O. Box 8645
Ann Arbor, MI 48107

<http://drain.ewashtenaw.org>

Follow the Water Resources Commissioner's Office on [Facebook](#)

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(734) 222 6860

pratte@ewashtenaw.org

*Please consider the environment before printing or copying.
I'm using Century Gothic font because it [uses 30% less ink](#) or toner.*

From: [Finnell, Emily \(DEQ\)](#)
To: [mi-waterstrategy](#)
Subject: FW: Water Strategy comments
Date: Wednesday, August 26, 2015 1:53:57 PM

Emily Finnell
Office of the Great Lakes | MI Department of Environmental Quality
PO Box 30473
Lansing, MI 48909
finnelle@michigan.gov
517-284-5036

From: Allan, Jon (DEQ)
Sent: Tuesday, August 11, 2015 7:58 PM
To: Evan Pratt; Finnell, Emily (DEQ)
Subject: RE: Water Strategy comments

Evan,

Thanks for the very thoughtful and thorough analysis and insights. Of course, we will study them in close detail.

Jon

From: Evan Pratt [<mailto:pratte@ewashtenaw.org>]
Sent: Tuesday, August 11, 2015 12:02 PM
To: Finnell, Emily (DEQ); Allan, Jon (DEQ)
Subject: Water Strategy comments

Dear Jon and Emily

Thank you for your stewardship over the development of the draft Water Strategy, along with the recent outreach in July and August. Along with many other stakeholders I have spoken with from diverse segments of our economy and demographics, I agree that water is an economic engine that Michigan would do well to harness and manage sustainably.

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1. The Strategy calls for implementation via local leadership. Through the MS4 process, dozens of local leaders, mainly in urbanized areas, have been doing everything in their power for cleaner water, particularly in

urbanized areas where problems are worst. Progress has been substantial, but many obstacles prevent locals from doing what we know is needed. These obstacles require state leadership and commitment of resources if any different outcome is expected. Three specific examples include enabling more local funding tools, providing high-level public engagement and economic development effort, and providing tools to incent compliance with voluntary Recommendations.

In short, the Strategy does not provide much new that one would expect to result in a greater commitment or change in local effort levels in the Grand Traverse, Tri-County, SEMCOG, or GVMC regions. Only about 5% of Michigan's population lives outside those regions, so it would be difficult to expect a change in results if these obstacles, repeatedly identified by local leaders all over the state, are not addressed.

2. The outcomes, or Measures of Success are not specific enough in many areas for people to agree in the future that the goal has been accomplished or that significant progress has been made. It appears that most of the Measures that have a specific, measurable outcome are from other plans or initiatives. There is a need for the Measures of Success to be measurable and timebound if the Water Strategy is intended to achieve more than other existing plans and initiatives.
3. The most important Measure of Success would be to improve on existing state efforts to manage water budgets in each aquifer and stream. The current tool falls short of establishing a connection between permitted water use and historic and current groundwater elevations and/or stream flows that is easily understood by the public. Additionally, with respect to cold water fisheries, temperature should be monitored and correlated with withdrawals and stream flows.
4. The Strategy is mute on many developing issues, yet talks about Asset Management, sustainability, and the need to apply these principles to our water resources in order to take full advantage of the economic advantages offered by our abundant resources. By definition, Asset Management is a process of prioritizing needs by multiplying risk factors times failure impacts. Ignoring developing, low-risk, high impact issues such as hydrocarbon transport, fracking, or invasives that are near but not here (yet) is inconsistent with language like Asset Management and sustainability, and subtract from the document's credibility.
5. It may be counter-intuitive, but perhaps worth considering that recruiting sustainable water intensive industries might be more viable economically than the suggestions to foster innovative new water technologies. The latter is normally a strategy of water-poor regions or countries. Two examples of sustainable water intensive industries are renewable energy from wave action and semiconductor fabrication.

This office is committed to continuing over 40 years of local leadership as suggested in the document, through implementation of the most progressive stormwater management regulations in the state while meeting with individual developers on every project to identify ways in which these regulations can save costs. We are also committed to a long list of best practices and educational outreach, including continued implementation and monitoring of green infrastructure in road Rights-of-Way for water quality improvement, a robust residential raingarden development program, and ongoing outreach and efforts to address agricultural soil and water conservation. Any areas where the State of Michigan is able to provide our office with additional support in the future as a result of the Water Strategy or other means will be greatly appreciated.

Thank you again for your efforts on the Strategy and for seeking feedback.

Evan

Evan N. Pratt, P.E.

**Water Resources Commissioner
Director of Public Works**

Office of the Water Resources Commissioner
Washtenaw County
P.O. Box 8645
Ann Arbor, MI 48107

<http://drain.ewashtenaw.org>

Follow the Water Resources Commissioner's Office on [Facebook](#)

[View Property Maps Interactively at MapWashtenaw](#)

[View Washtenaw County Drain PDF Maps](#)

(734) 222 6860

pratte@ewashtenaw.org

*Please consider the environment before printing or copying.
I'm using Century Gothic font because it [uses 30% less ink](#) or toner.*

From: [Finnell, Emily \(DEQ\)](#)
To: [mi-waterstrategy](#)
Subject: FW: Water strategy
Date: Wednesday, August 26, 2015 12:32:44 PM
Attachments: [image001.png](#)

Emily Finnell
Office of the Great Lakes | MI Department of Environmental Quality
PO Box 30473
Lansing, MI 48909
finnelle@michigan.gov
517-284-5036

From: Allan, Jon (DEQ)
Sent: Thursday, May 21, 2015 9:50 AM
To: Petrovskis, Erik
Subject: RE: Water strategy

Eric,

This is a great set of thoughts and comments. We worked like Trojans on the tone and tenor of the report. We are moving ever so close to our public release (scheduled for June 8th) and thus have locked down most of the text of the strategy for this round. Your comments are really important and will form the basis for a thoughtful review as we move through the summer.

One point of context though, particularly as it related to our long term vision for drinking water and aquifer systems. We have had extensive (really extensive and ongoing) discussions about the difference between a practical goal statement and an aspirational goal statement. As it relates to aquifers for human use, we are mindful of the difference between what is achievable and affordable but also that our desire and aspiration is to have aquifers that support the kinds of uses we desire well into the future. We are deeply cognizant that human activity has despoiled considerable aquifer systems (think of the 1 trillion gallons of TCE contaminated water spreading to the northwest from the Kalkaska area (the Wicks plume). We are not willing though to write it off as a matter of course or because it may be hard or costly. There may be no practical way for that aquifer system to be remediated in total and your conception of risk management or abatement is correct, but as a matter of desire for a future condition decades from now, we must set the stage and context for such an effort. Thus the broader context for aquifer systems is to ultimately support the kinds of human use and ecological processes without caveat or condition. That said, the work of the decade will need to be informed with both prioritization for risk as matched against available resources.

Our conception of a groundwater monitoring system is based on the simple premise that groundwater is quickly and substantially increasing in importance, especially for the ag sector. We have added over 2000 high capacity ag wells in the last 5 or so years alone, and as ag continues to moves northwards, the potential clash between ag and natural resource management (coldwater

streams for instance) is imminent. You are correct that we have no basis for a comprehensive cost-benefit statement here but we see ample evidence of this shift and just need to go at it a piece at a time that makes sense. We see this issue as central to the long term value proposition of the state. This is one of the countries great prolific and cost effectively accessible aquifer systems and that we just need to understand it better and manage it better.

I could not agree more with you about the water-energy nexus! Not all of our partners shared this point of view but that is changing and your comments and others will help us make the case stronger. In fact, I just learned that the Michigan Public Service Commission is kicking off some work in this space to look at energy savings potential from municipal water systems (the movement of water) as part of the overall EO program. I like this development.

Again, your insights help greatly in seeing what some of the critical issues are that we will need to be more mindful and clear about in our next version. Thank you for the thoughtful read and comments.

Jon

From: Petrovskis, Erik [<mailto:Erik.Petrovskis@meijer.com>]
Sent: Thursday, May 21, 2015 8:37 AM
To: Allan, Jon (DEQ)
Subject: Water strategy

Joe,

First, my apologies for the delayed review of the draft. The strategy is comprehensive. I liked the tone and level of technical information. I have several high-level comments regarding the strategy:

- Groundwater cleanup needs to be addressed sustainably. Due to technical and financial limitations, remediation of source zones and large dilute plumes to drinking water standards is not feasible. See Kavanaugh reference. The state's and responsible parties' limited resources can focus on eliminating risk.
- The cost-benefit of a state-wide groundwater monitoring network is quite uncertain.
- Understanding the impact of personal care products in Michigan waterways is critical. The industry is removing microbeads ahead of legislation – can the state foster stakeholder groups (retailers, manufacturers, regulators) to address these issues?
- Voluntary efforts to reduce water use for manufacturers are needed, as are incentives, recognition and rewards.
- The strategy should further develop the water-energy nexus. It's touched on when discussing wastewater treatment, but belongs in other sections (water infrastructure) more prominently.
- How do we drive the implementation of LID and green infrastructure? Municipal regulation? Incentives for developers?

Water is an integral part of our business. Please let me know, if you would like our perspectives in the future.

Regards,

Erik



Erik A. Petrovskis, PhD, PE | Director of Environmental Compliance and Sustainability | Properties
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Office: 616-735-7101 Cell: 616-710-2228
erik.petrovskis@meijer.com

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From: [David Watkins](#)
To: [mi-waterstrategy](#)
Subject: Fwd: [GLIN==>] Reminder: Public comments due on Michigan Draft Water Strategy - August 28, 2015
Date: Friday, August 28, 2015 6:50:34 PM

To Whom It Concerns,

I commend the contributors to this report for developing such a comprehensive and forward-looking strategy for protecting Michigan's water resources and leveraging their quality and abundance for sustainable economic growth. The strategy covers many of the challenges and opportunities that I would consider important, if not critical, and does an overall excellent job of identifying specific goals, recommendations, metrics and responsible parties. Although I was not able to read it cover to cover by the public comment deadline (but I will), I would just like to point out a couple notable omissions (which I believe are accurate based on my use of the "search" tool in Adobe Acrobat):

- It's baffling in this day and age that a "strategy for the next generation" would not include a single mention of climate change. While some effects of climate change are still highly uncertain, there is a growing body of scientific evidence that we will face (or are already facing) more extreme weather events and climate variability, which can increase the risk of floods and droughts and cause more rapid and extreme fluctuations in Great Lakes water levels. Furthermore, increasing temperatures will have adverse affects on aquatic ecosystems (e.g. cold water fisheries). All of these impacts can have significant effects on Michigan's economy. I would suggest climate change monitoring and adaptation planning (if not mitigation) be included in the strategy. I understand this is a politically sensitive issue for some, but I believe it can be posed in a politically neutral way oriented towards adapting to change -- similar to adapting to and mitigating the impacts of land use change.

- I think the strategy also misses an opportunity to address environmental justice issues, ranging from disparate impacts of water pollution (and climate change) on low-income communities to water shut-offs resulting from water utility financial distress, and tribal consultation on water management policy. It appears Michigan may have an environmental justice plan (https://www.michigan.gov/documents/deq/met_ej_plan121710_340670_7.pdf), which should at least be referenced in the water strategy; but even if the plan was not approved, addressing water-related social justice issues would seem paramount to promoting sustainable economic growth.

Thank you for your consideration of these comments.

Sincerely,
David Watkins
Houghton, MI

----- Forwarded message -----

From: **Finnell, Emily (DEQ)** <FinnellE@michigan.gov>
Date: Wed, Aug 26, 2015 at 12:31 PM
Subject: [GLIN==>] Reminder: Public comments due on Michigan Draft Water Strategy - August 28, 2015

To: "glin-announce@great-lakes.net" <glin-announce@great-lakes.net>

Reminder: Comments on Michigan Draft Water Strategy are due by Friday, August 28, 2015.

Written comments on the Draft Water Strategy may be submitted to the Office of the Great Lakes, DEQ, P.O. Box 30473-7973, Lansing, Michigan 48909, by fax at [517-335-4053](tel:517-335-4053) or by emailing Mi-waterstrategy@michigan.gov.

For more information about the Draft Water Strategy, visit www.michigan.gov/waterstrategy.

Emily Finnell

Office of the Great Lakes | MI Department of Environmental Quality

PO Box 30473

Lansing, MI 48909

finnelle@michigan.gov

[517-284-5036](tel:517-284-5036)

--

David W. Watkins, Ph.D., P.E.
Professor of Civil & Environmental Engineering
Michigan Technological University
Houghton, MI 49931
Tel: +1 (906) 487-1640
Email: dwatkins@mtu.edu

From: [Catherine Daligga](#)
To: [mi-waterstrategy](#)
Subject: Fwd: Comment on draft of "Sustaining Michigan Water Heritage, A Strategy for the Next Generation"
Date: Friday, August 28, 2015 4:53:53 PM

Dear Water Strategy Policy Committee Members:

I agree that devising a comprehensive strategy to protect water, this marvelous resource present in such abundance in our state, is a worthwhile project. I appreciate the many person-hours that went into the meetings and consultations involved in preparing this document, as well as the deep background knowledge that must be exercised in the process.

However, I have some strong comments to make about this document, which I hope the final version will remedy in word, so that effective actions can be guided thereby.

I have criticisms to offer of the overall framing of the issue; specific points made, mostly by omission; and the process through which the draft was created.

As the draft states in the introduction, water does indeed define Michigan. But if the writers are going to be attentive to the definition of the words used, then I am concerned about the choice of words immediately afterwards. "[Leveraging] the power and presence of this treasured natural resource and ensuring its long-term sustainability are critical to advancing Michigan's prosperity." The connotations here are for market-driven considerations, in using "leveraging" instead of **protecting**, and "prosperity" instead of **well-being**.

The market cannot and should not be the primary driver of decisions made about our water. While I do not want or expect the statements of a religious leader to determine secular policy, it is still appropriate to consider the moral and ethical implications of the state policies that we create. Access to water is fundamental to life; disregard of that is a betrayal of our charge to each other as human beings.

According to the recent encyclical promulgated by Pope Francis, [Laudato Si'](#):

[p. 23]

¶ 30. Even as the quality of available water is constantly diminishing, in some places there is a growing tendency, despite its scarcity, to privatize this resource, turning it into a commodity subject to the laws of the market. Yet *access to safe drinkable water is a basic and universal human right, since it is essential to human survival and, as such, is a condition for the exercise of other human rights*. [emphasis in original] Our world has a grave social debt towards the poor who lack

[p. 24]

access to drinking water, because they are denied the right to a life consistent with their inalienable dignity. This debt can be paid partly by an increase in funding to provide clean water and sanitary services among the poor. But water continues to be wasted, not only in the developed world but also in developing countries which possess it in abundance. **This shows that the problem of water is partly an educational and cultural issue, since there is little awareness of the seriousness of such behaviour within a context of great inequality.** [emphasis added]

There are essential human rights to clean water and sanitation that must be safeguarded by any statewide water policy and by the programs through which this policy is implemented. In this

regard, the discussion in chapter 6, "Invest in Water Infrastructure," is disingenuous at best. Several sentences are devoted to a characterization of Michigan's water as a "free, shared resource"--only to say oops, not so fast: the infrastructure costs money, and we have to pay for that. Except then, in the next paragraph, the observation is made that indeed, there are choices made relative to the assessment of those costs: entities that consume more water pay proportionately less for it! (p. 42)

The point glossed over is that there are deliberate and intentional choices made in the design of water rates and assessments. There is no abstract, absolute standard about what water costs, only the political decisions made by those in control. Consequently, decisions could also be made to implement a Water Affordability Plan, not only for the City of Detroit but statewide, to ensure that the human rights of all people to safe, clean water for drinking and sanitation are protected. It remains, again, a question of political will, not economic feasibility.

Apparently other decisions were made to write the document without explicit acknowledgement of several current pressures and issues above and beyond the crisis of water availability now affecting Detroit and Highland Park. Here are only three others:

1. the huge controversy in Flint over the inadequate, even dangerous water supply in use now;
2. the major threat posed to the ecosystem of the Great Lakes/St. Lawrence Seaway by the looming presence of Asian Carp just outside our watershed;
3. the incalculable danger presented by the inability of the state--the agent of the people--to insist on a thorough inspection (and replacement) of Enbridge's Line 5, now in service transporting oil for over 60 years, subject to corrosion by zebra mussels and the ravages of time, and located at one of the most vulnerable crossings in the whole waterway.

A policy intended to be of use for the next thirty years must not shy away from attending to the urgent and immediate problems we face right now. The potential harm to be caused by any of these three, should the worst case scenario not be proactively averted, is unimaginable--so far. If we are to claim to act on behalf of generations to come, we cannot postpone responsible action until a catastrophe occurs.

I will close my comment with a critique of the process involved in the preparation of this document, especially as it relates to chapter 8, "Build Governance Tools"

First, a relatively minor criticism, though I think it is relevant to the construction of the document as a whole. Pages 100-129 of the report describe the sixteen "Community Water Dialogues" that were held throughout the state in early 2014. Participation in these was by invitation only, and the sites were allegedly chosen to represent a variety of types of communities relative to the characteristics of the water. The closest site to Detroit was in Dearborn, and eleven people participated. On the face of it, that process seems tailor-made to exclude points of view that might raise uncomfortable questions for the overall project.

One of the follow-up meetings was held in Detroit, earlier this month. For that to have been the only public meeting held in the city, after the completion of the draft document, suggests an agenda intent on diminishing the impact of Detroiters on this process.

More importantly: It is the depth of hypocrisy to claim an interest in "better governance" when the overt policy of the state, during the Snyder administration, has been to subvert local democracy through the imposition of emergency managers, the eviscerating of contracts, and the transfer of public goods into private hands. We must do better than this with the vital objective of safeguarding our water as a public, common good.

I look forward to reading subsequent drafts of this document, and I would welcome the opportunity to become involved in one or more of the revisions.

Sincerely,

Catherine Daligga, Ph.D.

From: [Finnell, Emily \(DEQ\)](#)
To: [mi-waterstrategy](#)
Subject: Fwd: KVCTU Water Strategy Comments
Date: Friday, August 28, 2015 9:24:49 AM
Attachments: [ATT00001.htm](#)
[ATT00002.htm](#)
[MI Waterr Strategy Comments KVCTU.doc](#)
[ATT00003.htm](#)

Emily Finnell
Office of the Great Lakes
Mi Department of Environmental Quality
finnelle@michigan.gov
517-284-5036
Sent from my iPhone

Begin forwarded message:

From: "Ostrowski, James (DEQ)" <OSTROWSKIJ2@michigan.gov>
Date: August 28, 2015 at 7:17:14 AM EDT
To: "Finnell, Emily (DEQ)" <Finnelle@michigan.gov>
Subject: FW: KVCTU Water Strategy Comments

Hi Emily,
Passing these comments on to you. I believe they came to me because my e-mail was listed on the webinar for feedback.
- Jim

James A. Ostrowski
Office of Environmental Assistance
Michigan Department of Environmental Quality
517-284-6870 ostrowskij2@michigan.gov

From: [Bruce Noble](#)
To: [mi-waterstrategy](#)
Subject: Fwd: Review and Comments, draft "Sustaining Michigan's Water Heritage" document.
Date: Wednesday, August 19, 2015 12:03:37 AM

>

> Here are my comments on the draft, "Sustaining Michigan's Water Heritage, A Strategy for Next Generation" document.

> 1. The Introduction fails to give a reason on why it was written. The web page link gives a very good introduction on why it was written.

> 2. The Introduction and 1st paragraph fails to mention groundwater. But the body of document covers many groundwater issues.

> 3. Table 1, Goal 1, define the acronym AIT.

> 4. Chapter 1, you need to add an entire chapter on impacts of global warming. The chapter makes a flippant remark about, "While Michigan future climate is unclear", puts doubt on the scientific legitimacy of the document, or was it written to appease politicians? Are you serious about if global warming is occurring? The document should be clear on the fact that global warming is occurring and will have adverse impacts on Michigan's water quality.

> 5. While the document had goals, there is no mention on how these goals will be measured and published for public review over the life of the 30 year document. This needs to be clarified. Let's see a grading system from A to E for each goal beginning with some current grades would be a good start. The grades would be given by a panel of organizations, government, individuals and academic to reduce bias.

> 6. The Water Efficiency and Conservation State Scorecard in 2012 gave Michigan a grade of a "D". This independent grade conflicts with the document's statement in the Introduction, " Today, the state is slowly returning to a level of health of aquatic health..."

7. You could easily add a chapter on "Protecting Small Seasonal Streams and Wetlands".

8. The document needs to include a goal to properly map the glacial deposits of Michigan. The data and decisions from the Water Withdrawal Assessment Tool will continue to be inaccurate and result in poor decisions, because the data on hydraulic conductivity is in grossly inaccurate.

9. You could remove the Chamber of Commerce's chapter 3, Create Vibrant Waterfronts. You could transfer this chapter to Michigan's business plans.

10. I would recommend that one of the goals include qualifications for individuals that work on water issues. For instance groundwater issues would be done by geologists certified by the State of Michigan. After all you need a State of Michigan license to cut hair, but no license to work on water issues.

11. Finally I would also strongly encourage that the State of Michigan have qualifications and college degrees in water management to be a County Drain Commissioners. One only has to look at the recent fiasco in Barry County and the Coldwater river and how unqualified individuals can quickly ruin water quality for the residents of the great state of Michigan.

Sincerely,
Bruce Noble
2250 W Kirby Rd
Battle Creek, MI 49017

>

> Sent from my iPad

Superior Region - FY 2015 Season

| Salt Use | | | | | | | | | | | | | | | |
|------------------------|----------------------|-----------------------|----------------------|-----------------------|----------------------|-----------------------|----------------------|-----------------------|----------------------|------------------------|-----------------------|------------------------|-----------------------|----------------|-----------------|
| County / Garage | Nov 1-15 Report 1 | Nov 16-30 Report 2 | Dec 1-15 Report 3 | Dec 16-31 Report 4 | Jan 1-15 Report 5 | Jan 16-31 Report 6 | Feb 1-15 Report 7 | Feb 16-28 Report 8 | Mar 1-15 Report 9 | Mar 16-31 Report 10 | Apr 1-15 Report 11 | Apr 15-30 Report 12 | May 1-15 Report 13 | YE Adj. | YTD |
| Alger | 43.0 | 988.4 | 483.7 | 1,296.5 | 787.8 | 1,722.3 | 872.4 | 925.9 | 269.3 | 528.2 | 123.5 | 218.0 | 0.0 | | 8,259.0 |
| Chippewa | 1,139.0 | 1,027.6 | 511.2 | 1,173.0 | 587.6 | 968.0 | 654.0 | 155.0 | 1,125.0 | 1,358.0 | 100.0 | 13.0 | 0.0 | | 8,811.4 |
| Delta | 598.0 | 667.0 | 396.0 | 1,190.0 | 470.0 | 574.0 | 576.0 | 195.0 | 297.0 | 335.0 | 162.0 | 0.0 | 0.0 | | 5,460.0 |
| Dickinson | 556.5 | 569.0 | 300.0 | 900.5 | 211.5 | 257.0 | 173.0 | 110.0 | 50.0 | 150.0 | 141.0 | 17.5 | 0.0 | 1,266.0 | 4,702.0 |
| Gogebic | 773.0 | 846.5 | 174.5 | 723.5 | 486.5 | 592.0 | 240.0 | 226.0 | 103.0 | 224.0 | 91.0 | 169.0 | 0.0 | | 4,649.0 |
| Houghton Garage | 648.0 | 790.0 | 210.0 | 1,388.6 | 402.0 | 450.0 | 934.0 | 350.0 | 118.0 | 259.0 | 261.0 | 214.0 | 0.0 | | 6,024.6 |
| Iron | 1,361.0 | 553.0 | 407.0 | 1,186.0 | 286.0 | 765.0 | 327.0 | 0.0 | 202.0 | 443.0 | 315.0 | 111.0 | 0.0 | | 5,956.0 |
| Keweenaw | 0.0 | 254.2 | 178.0 | 232.7 | 189.2 | 315.6 | 388.2 | 154.9 | 26.4 | 150.0 | 49.8 | 70.7 | 0.0 | | 2,009.5 |
| L'Anse Garage | 593.0 | 601.0 | 546.0 | 858.0 | 1,498.0 | 506.0 | 803.0 | 175.0 | 201.0 | 106.0 | 159.0 | 84.0 | 0.0 | | 6,130.0 |
| Luce | 217.0 | 321.9 | 205.0 | 452.0 | 194.0 | 368.0 | 246.0 | 96.0 | 135.0 | 515.0 | 21.0 | 4.0 | 0.0 | | 2,774.9 |
| Engadine Garage | 324.0 | 265.0 | 161.5 | 288.8 | 224.2 | 190.3 | 85.3 | 70.4 | 211.1 | 40.0 | 77.1 | 0.0 | 0.0 | | 1,937.7 |
| St. Ignace Garage | 804.0 | 364.7 | 448.3 | 378.1 | 396.7 | 514.2 | 321.0 | 215.0 | 160.8 | 0.0 | 204.2 | 6.3 | 0.0 | | 3,813.3 |
| Marquette | 1,235.0 | 807.0 | 1,272.0 | 2,652.0 | 693.0 | 2,188.0 | 1,679.0 | 2,807.0 | 507.0 | 724.0 | 309.0 | 123.0 | 0.0 | | 14,996.0 |
| Menominee | 320.0 | 648.0 | 426.0 | 857.0 | 520.0 | 541.0 | 484.0 | 106.0 | 161.0 | 200.0 | 312.0 | 0.0 | 0.0 | | 4,575.0 |
| Ontonagon | 527.0 | 779.0 | 288.0 | 1,387.0 | 689.0 | 630.0 | 473.0 | 1,148.0 | 475.0 | 503.0 | 159.0 | 210.0 | 107.0 | | 7,375.0 |
| Schoolcraft | 702.5 | 1,125.0 | 543.0 | 1,163.0 | 888.0 | 1,142.0 | 695.0 | 507.0 | 335.0 | 452.3 | 106.0 | 48.0 | 0.0 | | 7,706.8 |
| Total Tons Used | 9,841.0 | 10,607.3 | 6,550.2 | 16,126.7 | 8,523.5 | 11,723.4 | 8,950.9 | 7,241.2 | 4,376.6 | 5,987.5 | 2,590.6 | 1,288.5 | 107.0 | 1,266.0 | 95,180.2 |

North Region - FY 2015 Season

| Salt Use | | | | | | | | | | | | | | | |
|------------------------|----------------------|-----------------------|----------------------|-----------------------|----------------------|-----------------------|----------------------|-----------------------|----------------------|------------------------|-----------------------|------------------------|-----------------------|------------|-----------------|
| County / Garage | Nov 1-15 Report 1 | Nov 16-30 Report 2 | Dec 1-15 Report 3 | Dec 16-31 Report 4 | Jan 1-15 Report 5 | Jan 16-31 Report 6 | Feb 1-15 Report 7 | Feb 16-28 Report 8 | Mar 1-15 Report 9 | Mar 16-31 Report 10 | Apr 1-15 Report 11 | Apr 15-30 Report 12 | May 1-15 Report 13 | YE Adj. | YTD |
| Alcona | 0.0 | 200.5 | 39.0 | 140.0 | 252.0 | 188.0 | 252.5 | 42.0 | 89.0 | 61.0 | 0.0 | 0.0 | | | 1,264.0 |
| Alpena | 63.0 | 466.0 | 81.0 | 127.0 | 447.0 | 315.0 | 470.0 | 86.0 | 180.0 | 63.0 | 11.0 | 0.0 | | | 2,309.0 |
| Antrim | 257.0 | 543.0 | 90.0 | 386.0 | 609.0 | 335.0 | 342.0 | 293.0 | 203.0 | 272.0 | 3.0 | 9.0 | | | 3,342.0 |
| Atlanta Garage | 83.5 | 257.0 | 60.0 | 256.0 | 173.0 | 158.0 | 187.0 | 39.0 | 110.0 | 72.0 | 19.0 | 0.0 | | | 1,414.5 |
| Benzie | 140.0 | 486.0 | 118.0 | 200.0 | 452.0 | 181.0 | 241.0 | 655.0 | 152.0 | 90.0 | 0.0 | 3.5 | | | 2,718.5 |
| Charlevoix | 231.7 | 477.8 | 95.9 | 310.8 | 440.2 | 249.6 | 286.2 | 107.2 | 119.7 | 134.5 | 35.3 | 12.8 | | | 2,501.7 |
| Cheboygan | 426.0 | 1,507.0 | 367.0 | 655.0 | 1,138.0 | 580.0 | 875.0 | 250.0 | 305.0 | 495.0 | 69.0 | 0.0 | | | 6,667.0 |
| Crawford | 493.3 | 887.0 | 184.0 | 726.0 | 1,579.0 | 1,019.0 | 735.0 | 217.5 | 263.0 | 243.0 | 3.0 | 22.0 | | | 6,371.8 |
| Emmet | 547.0 | 607.0 | 212.0 | 360.0 | 770.0 | 745.0 | 863.0 | 407.0 | 249.0 | 225.0 | 62.0 | 0.0 | | | 5,047.0 |
| Grand Traverse | 207.0 | 513.5 | 110.0 | 207.0 | 465.0 | 239.0 | 316.3 | 282.8 | 235.1 | 98.7 | 6.2 | 15.5 | | | 2,696.1 |
| Iosco | 0.0 | 257.5 | 63.0 | 128.5 | 306.0 | 137.0 | 291.8 | 40.0 | 65.3 | 26.8 | 0.0 | 0.0 | | | 1,315.8 |
| Kalkaska Garage | 189.6 | 403.4 | 115.4 | 264.2 | 693.3 | 359.5 | 365.2 | 192.5 | 203.8 | 112.2 | 0.0 | 3.2 | | | 2,902.3 |
| Lake | 110.0 | 348.8 | 124.0 | 129.4 | 331.8 | 293.5 | 239.0 | 183.5 | 161.5 | 74.0 | 0.0 | 24.0 | | | 2,019.4 |
| Leelanau | 138.5 | 442.5 | 60.5 | 230.5 | 344.5 | 212.0 | 287.5 | 244.5 | 148.0 | 100.0 | | 0.0 | | | 2,208.5 |
| Manistee | 94.0 | 548.5 | 140.0 | 279.0 | 524.5 | 353.0 | 1,290.0 | 500.0 | 245.0 | 51.0 | 2.0 | 0.0 | | | 4,027.0 |
| Marion Garage | 24.0 | 187.0 | 73.0 | 194.0 | 147.0 | 131.0 | 81.0 | 25.0 | 107.0 | 77.0 | 7.0 | 0.0 | | | 1,053.0 |
| Mio Garage | 25.0 | 186.0 | 40.0 | 148.5 | 149.8 | 146.7 | 229.1 | 101.8 | 93.9 | 38.9 | 1.0 | 0.0 | | | 1,160.7 |
| Mason | 95.3 | 599.0 | 106.0 | 195.2 | 554.5 | 533.0 | 486.6 | 407.0 | 235.4 | 103.7 | 0.0 | 0.0 | | | 3,315.7 |
| Missaukee | 27.0 | 259.5 | 54.5 | 132.0 | 193.5 | 180.3 | 90.5 | 71.0 | 102.0 | 28.8 | 14.0 | 0.0 | | | 1,153.1 |
| Ogemaw | 46.0 | 345.0 | 50.0 | 86.0 | 131.0 | 136.0 | 159.0 | 81.0 | 161.0 | 66.0 | 31.0 | 0.0 | | | 1,292.0 |
| Otsego | 558.0 | 915.0 | 334.0 | 717.0 | 1,240.0 | 556.0 | 697.0 | 252.0 | 310.0 | 68.0 | 24.0 | 117.0 | | | 5,788.0 |
| Presque Isle | 198.0 | 429.0 | 126.0 | 231.0 | 374.0 | 272.0 | 323.0 | 153.0 | 150.0 | 173.0 | 61.0 | 0.0 | | | 2,490.0 |
| Reed City Garage | 46.0 | 392.0 | 105.0 | 280.0 | 381.0 | 245.0 | 184.0 | 409.0 | 106.0 | 106.0 | 28.0 | 0.0 | | | 2,282.0 |
| Roscommon | 93.5 | 692.5 | 114.0 | 255.0 | 132.0 | 250.5 | 98.5 | 183.0 | 407.0 | 207.5 | 41.5 | 1.0 | | | 2,476.0 |
| Wexford | 285.1 | 922.0 | 272.0 | 290.2 | 578.6 | 470.0 | 390.7 | 314.3 | 266.5 | 234.7 | 39.7 | 55.9 | | | 4,119.6 |
| Total Tons Used | 4,378.3 | 12,872.4 | 3,134.3 | 6,928.3 | 12,406.6 | 8,285.1 | 9,780.9 | 5,537.1 | 4,668.1 | 3,221.7 | 457.7 | 263.9 | 0.0 | 0.0 | 71,934.5 |

Grand Region - 2015 Season

| Salt Use | | | | | | | | | | | | | | | |
|------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|--------------------------------|-------------------------------|--------------------------------|-------------------------------|----------------|-----------------|
| County / Garage | Nov 1-15 Report 1 | Nov 16-30 Report 2 | Dec 1-15 Report 3 | Dec 16-31 Report 4 | Jan 1-15 Report 5 | Jan 16-31 Report 6 | Feb 1-15 Report 7 | Feb 16-28 Report 8 | Mar 1-15 Report 9 | Mar 16-31 Report 10 | Apr 1-15 Report 11 | Apr 15-30 Report 12 | May 1-15 Report 13 | YE Adj. | YTD |
| Ionia | 56.0 | 1,947.0 | 4.2 | 145.2 | 1,046.0 | 708.0 | 523.0 | 287.0 | 315.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 5,031.4 |
| Kent | 129.0 | 2,513.0 | 3,496.0 | 296.0 | 5,684.0 | 2,504.0 | 2,429.0 | 3,178.0 | 1,594.0 | 487.0 | 0.0 | 0.0 | 0.0 | | 22,310.0 |
| Mecosta | 73.1 | 844.4 | 302.3 | 343.3 | 618.6 | 802.4 | 507.1 | 239.9 | 307.1 | 68.3 | 33.2 | 45.9 | 0.0 | | 4,185.5 |
| Montcalm | 0.0 | 487.5 | 71.0 | 67.0 | 297.3 | 275.5 | 228.4 | 186.7 | 77.9 | 3.8 | 0.0 | 0.0 | 0.0 | | 1,695.0 |
| Muskegon | 456.3 | 1,939.4 | 344.0 | 176.5 | 923.9 | 1,043.9 | 688.9 | 729.9 | 466.9 | 38.6 | 0.0 | 0.0 | 0.0 | | 6,808.1 |
| Newaygo | 34.5 | 833.5 | 246.8 | 205.0 | 620.0 | 788.3 | 522.0 | 131.3 | 286.0 | 36.0 | 0.0 | 0.0 | 0.0 | | 3,703.2 |
| Oceana | 270.0 | 1,474.0 | 730.0 | 273.0 | 1,936.0 | 1,218.0 | 1,032.5 | 1,354.0 | 648.0 | 64.0 | 0.0 | 0.0 | 0.0 | | 8,999.5 |
| Ottawa | 550.4 | 1,931.5 | 116.0 | 102.7 | 1,771.7 | 701.6 | 1,035.2 | 1,377.0 | 421.1 | 0.0 | 0.0 | 0.0 | 0.0 | | 8,007.1 |
| Total Tons Used | 1,569.3 | 11,970.2 | 5,310.2 | 1,608.6 | 12,897.5 | 8,041.7 | 6,966.0 | 7,483.8 | 4,116.0 | 697.6 | 33.2 | 45.9 | 0.0 | 0.0 | 60,739.9 |

Bay Region - 2015 Season

| Salt Use | | | | | | | | | | | | | | | |
|------------------------|----------------------|-----------------------|----------------------|-----------------------|----------------------|-----------------------|----------------------|-----------------------|----------------------|------------------------|-----------------------|------------------------|-----------------------|------------|-----------------|
| County / Garage | Nov 1-15 Report 1 | Nov 16-30 Report 2 | Dec 1-15 Report 3 | Dec 16-31 Report 4 | Jan 1-15 Report 5 | Jan 16-31 Report 6 | Feb 1-15 Report 7 | Feb 16-28 Report 8 | Mar 1-15 Report 9 | Mar 16-31 Report 10 | Apr 1-15 Report 11 | Apr 15-30 Report 12 | May 1-15 Report 13 | YE Adj. | YTD |
| Arenac | 0.0 | 281.9 | 50.0 | 186.0 | 240.7 | 135.9 | 122.4 | 0.0 | 237.4 | 42.0 | 0.0 | 0.0 | 0.0 | | 1,296.3 |
| Bay | 10.0 | 443.4 | 42.9 | 80.6 | 568.8 | 333.7 | 703.5 | 225.7 | 262.8 | 104.1 | 0.0 | 3.0 | 0.0 | | 2,778.6 |
| Clare | 51.2 | 592.7 | 121.0 | 304.8 | 487.5 | 360.6 | 293.3 | 219.7 | 241.1 | 103.1 | 63.0 | 4.0 | 0.0 | | 2,841.9 |
| Genesee | 26.3 | 1,345.5 | 78.0 | 136.0 | 2,109.0 | 1,237.0 | 1,530.0 | 628.0 | 561.0 | 77.0 | 0.0 | 0.0 | 0.0 | | 7,727.8 |
| Gladwin | 37.5 | 137.7 | 25.0 | 83.4 | 63.0 | 65.6 | 173.3 | 76.9 | 104.8 | 17.2 | 6.1 | 0.0 | 0.0 | | 790.5 |
| Gratiot | 0.0 | 374.0 | 93.8 | 33.0 | 435.4 | 285.9 | 361.4 | 23.0 | 93.6 | 0.0 | 0.0 | 0.0 | 0.0 | | 1,700.1 |
| Huron | 45.0 | 181.0 | 118.0 | 144.0 | 414.0 | 171.0 | 296.0 | 115.0 | 179.0 | 82.0 | 31.0 | 0.0 | 0.0 | | 1,776.0 |
| Lapeer | 0.0 | 466.1 | 45.0 | 70.0 | 730.0 | 663.0 | 433.0 | 131.0 | 226.0 | 110.0 | 0.0 | 30.0 | 0.0 | | 2,904.1 |
| Midland | 5.0 | 316.0 | 87.0 | 40.0 | 628.0 | 555.0 | 547.0 | 144.0 | 217.0 | 29.0 | 0.0 | 4.0 | 0.0 | | 2,572.0 |
| Mt. P Garage | 0.0 | 392.0 | 81.0 | 96.0 | 254.0 | 307.0 | 258.0 | 108.0 | 177.0 | 53.0 | 63.0 | 5.0 | 0.0 | | 1,794.0 |
| Saginaw East | 0.0 | 224.0 | 39.0 | 27.0 | 671.0 | 542.5 | 476.0 | 68.0 | 372.0 | 20.5 | 4.0 | 0.0 | 0.0 | | 2,444.0 |
| Saginaw West | 0.0 | 180.0 | 0.0 | 4.0 | 341.5 | 238.0 | 241.0 | 16.0 | 58.0 | 6.0 | 0.0 | 0.0 | 0.0 | | 1,084.5 |
| Sanilac | 0.0 | 322.0 | 44.0 | 76.0 | 428.0 | 482.0 | 713.0 | 119.0 | 281.0 | 124.0 | 127.0 | 24.0 | 0.0 | | 2,740.0 |
| Tuscola | 0.0 | 122.0 | 50.0 | 35.0 | 190.0 | 188.0 | 153.5 | 32.0 | 144.9 | 33.0 | 0.0 | 0.0 | 0.0 | | 948.4 |
| Total Tons Used | 174.9 | 5,378.2 | 874.7 | 1,315.8 | 7,560.9 | 5,565.2 | 6,301.4 | 1,906.3 | 3,155.6 | 801.0 | 294.1 | 70.0 | 0.0 | 0.0 | 33,398.1 |

Southwest Region - 2015 Season

| Salt Use | | | | | | | | | | | | | | | |
|---------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|--------------------------------|-------------------------------|--------------------------------|-------------------------------|----------------|-----------------|
| County / Garage | Nov 1-15 Report 1 | Nov 16-30 Report 2 | Dec 1-15 Report 3 | Dec 16-31 Report 4 | Jan 1-15 Report 5 | Jan 16-31 Report 6 | Feb 1-15 Report 7 | Feb 16-28 Report 8 | Mar 1-15 Report 9 | Mar 16-31 Report 10 | Apr 1-15 Report 11 | Apr 15-30 Report 12 | May 1-15 Report 13 | YE Adj. | YTD |
| Berrien | | | | | | | | | | | | | | | 0.0 |
| Branch | 66.8 | 322.0 | 14.3 | 73.9 | 801.4 | 602.2 | 769.2 | 348.2 | 143.1 | 0.0 | 0.0 | 0.0 | 1,241.2 | | 4,382.2 |
| Calhoun | 285.0 | 742.9 | 41.1 | 56.6 | 1,155.3 | 789.7 | 1,197.3 | 492.9 | 278.3 | 63.1 | 0.0 | 0.0 | 0.0 | | 5,102.3 |
| Coloma Garage | 214.6 | 847.9 | 10.2 | 288.9 | 2,438.1 | 1,750.4 | 1,750.4 | 617.8 | 118.5 | 74.2 | 0.0 | 0.0 | 0.0 | | 8,111.0 |
| Fennville Garage | 328.6 | 847.3 | 10.8 | 105.8 | 982.3 | 659.3 | 1,091.9 | 1,252.9 | 90.9 | 125.8 | 0.0 | 0.0 | 0.0 | | 5,495.6 |
| Hastings Garage | 96.9 | 366.9 | 46.2 | 130.9 | 714.3 | 645.5 | 562.1 | 207.2 | 127.7 | 0.8 | 0.0 | 0.0 | 0.0 | | 2,898.4 |
| Jones Garage | 243.7 | 273.4 | 41.2 | 481.5 | 763.1 | 1,374.3 | 408.3 | 213.3 | 0.0 | 198.0 | 0.0 | 0.0 | 0.0 | | 3,996.8 |
| Kalamazoo Garage | 372.7 | 1,016.5 | 0.0 | 246.8 | 1,396.9 | 878.1 | 1,674.4 | 899.9 | 197.8 | 11.7 | 0.0 | 0.0 | 0.0 | | 6,694.8 |
| Marshall Garage | 23.7 | 136.0 | 3.4 | 228.1 | 154.8 | 658.2 | 219.3 | 163.0 | 60.5 | 0.0 | 0.0 | 0.0 | 0.0 | | 1,647.0 |
| Niles Garage | 248.1 | 671.5 | 18.1 | 15.7 | 1,417.5 | 649.2 | 1,231.9 | 727.8 | 77.7 | 44.7 | 0.0 | 0.0 | 0.0 | | 5,102.2 |
| Plainwell Garage | 498.6 | 397.0 | 39.7 | 300.5 | 687.6 | 569.5 | 480.3 | 521.9 | 123.4 | 0.2 | 0.0 | 0.0 | 0.0 | | 3,618.8 |
| Sawyer Garage | 171.8 | 166.8 | 39.1 | 82.7 | 825.7 | 106.0 | 886.5 | 531.4 | 138.0 | 70.0 | 0.0 | 0.0 | 0.0 | | 3,018.0 |
| South Haven Garage | 287.7 | 304.7 | 1.6 | 15.1 | 707.8 | 211.4 | 615.3 | 614.9 | 87.2 | 3.7 | 0.0 | 0.0 | 0.0 | | 2,849.3 |
| Total Tons Used | 2,838.2 | 6,092.9 | 265.7 | 2,026.6 | 12,044.6 | 8,893.9 | 10,886.9 | 6,591.2 | 1,443.0 | 592.2 | 0.0 | 0.0 | 1,241.2 | 0.0 | 52,916.3 |

University Region 2015 Season

| Salt Use | | | | | | | | | | | | | | | |
|---------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|--------------------------------|-------------------------------|--------------------------------|-------------------------------|----------------|-----------------|
| County / Garage | Nov 1-15 Report 1 | Nov 16-30 Report 2 | Dec 1-15 Report 3 | Dec 16-31 Report 4 | Jan 1-15 Report 5 | Jan 16-31 Report 6 | Feb 1-15 Report 7 | Feb 16-28 Report 8 | Mar 1-15 Report 9 | Mar 16-31 Report 10 | Apr 1-15 Report 11 | Apr 15-30 Report 12 | May 1-15 Report 13 | YE Adj. | YTD |
| Adrian Garage | 9.0 | 340.5 | 0.0 | 0.0 | 699.5 | 534.0 | 782.0 | 247.0 | 240.5 | 0.0 | 0.0 | 0.0 | 0.0 | | 2,852.5 |
| Brighton Garage | 14.0 | 684.0 | 117.5 | 152.4 | 1,710.0 | 750.0 | 1,820.0 | 560.0 | 495.0 | 0.0 | 115.3 | 0.0 | 0.0 | | 6,418.3 |
| Charlotte Garage | 64.0 | 586.0 | 82.0 | 233.0 | 778.0 | 573.0 | 912.0 | 313.0 | 258.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 3,799.0 |
| Clinton | 0.0 | 503.0 | 74.0 | 59.0 | 399.0 | 876.0 | 478.0 | 315.0 | 292.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 2,996.0 |
| Grand Ledge Garage | 0.0 | 1,505.5 | 152.0 | 538.0 | 2,111.0 | 1,227.5 | 1,208.5 | 895.0 | 686.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 8,323.5 |
| Hillsdale | 56.0 | 146.5 | 11.0 | 35.0 | 352.0 | 388.0 | 300.0 | 88.0 | 80.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 1,456.5 |
| Jackson | 121.0 | 1,080.0 | 0.0 | 197.0 | 2,500.0 | 1,093.0 | 1,891.0 | 499.0 | 527.0 | 3.0 | 0.0 | 0.0 | 0.0 | | 7,911.0 |
| Mason Garage | 11.0 | 473.0 | 63.0 | 174.0 | 933.0 | 384.0 | 609.0 | 338.0 | 168.0 | 8.0 | 0.0 | 0.0 | 0.0 | | 3,161.0 |
| Monroe | 20.0 | 1,110.0 | 6.5 | 79.0 | 3,722.0 | 1,693.0 | 2,914.0 | 1,336.0 | 882.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 11,762.5 |
| Shiawassee | 2.0 | 858.0 | 47.0 | 171.0 | 1,173.0 | 864.0 | 785.0 | 271.0 | 409.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 4,580.0 |
| Washtenaw | 11.5 | 865.0 | 12.0 | 201.0 | 2,216.0 | 858.0 | 1,771.0 | 446.0 | 481.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 6,861.5 |
| Williamston Garage | 0.0 | 661.0 | 63.0 | 254.0 | 1,250.0 | 752.9 | 1,045.0 | 506.3 | 231.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 4,763.2 |
| Total Tons Used | 308.5 | 8,812.5 | 628.0 | 2,093.4 | 17,843.5 | 9,993.4 | 14,515.5 | 5,814.3 | 4,749.5 | 11.0 | 115.3 | 0.0 | 0.0 | 0.0 | 64,885.0 |

Metro Region - 2015 Season

| Salt Use | | | | | | | | | | | | | | | |
|------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|--------------------------------|-------------------------------|--------------------------------|-------------------------------|----------------|-----------------|
| County / Garage | Nov 1-15 Report 1 | Nov 16-30 Report 2 | Dec 1-15 Report 3 | Dec 16-31 Report 4 | Jan 1-15 Report 5 | Jan 16-31 Report 6 | Feb 1-15 Report 7 | Feb 16-28 Report 8 | Mar 1-15 Report 9 | Mar 16-31 Report 10 | Apr 1-15 Report 11 | Apr 15-30 Report 12 | May 1-15 Report 13 | YE Adj. | YTD |
| Detroit Garage | 3.2 | 413.3 | 0.0 | 9.6 | 952.4 | 814.9 | 773.0 | 443.0 | 133.0 | 76.0 | 0.0 | 0.0 | 0.0 | | 3,618.4 |
| Macomb | 0.0 | 2,004.0 | 0.0 | 124.0 | 4,211.1 | 2,601.9 | 5,923.0 | 745.9 | 1,283.2 | 190.2 | 0.0 | 0.0 | 0.0 | | 17,083.3 |
| Oakland | 3.8 | 4,625.0 | 7.0 | 236.0 | 7,334.0 | 4,033.5 | 7,703.5 | 2,120.5 | 2,245.5 | 93.0 | 0.0 | 0.0 | 0.0 | 916.2 | 29,318.0 |
| St. Clair | 17.0 | 1,364.0 | 61.5 | 120.5 | 2,273.0 | 1,563.0 | 2,467.3 | 921.5 | 553.0 | 209.0 | 153.0 | 0.0 | 0.0 | | 9,702.8 |
| Wayne | 51.0 | 4,263.0 | 64.0 | 193.0 | 11,714.0 | 5,154.0 | 11,384.0 | 3,015.0 | 3,401.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 39,239.0 |
| Total Tons Used | 75.0 | 12,669.3 | 132.5 | 683.1 | 26,484.5 | 14,167.3 | 28,250.8 | 7,245.9 | 7,615.7 | 568.2 | 153.0 | 0.0 | 0.0 | 916.2 | 98,961.4 |

GREAT LAKES INDIAN FISH & WILDLIFE COMMISSION

P. O. Box 9 • Odanah, WI 54861 • 715/682-6619 • FAX 715/682-9294



• MEMBER TRIBES •

MICHIGAN

Bay Mills Community
Keweenaw Bay Community
Lac Vieux Desert Band

WISCONSIN

Bad River Band
Lac Courte Oreilles Band
Lac du Flambeau Band
Red Cliff Band
St. Croix Chippewa
Sokaogon Chippewa

MINNESOTA

Fond du Lac Band
Mille Lacs Band

Via electronic submission

August 28, 2015

Office of the Great Lakes
Department of Environmental Quality
P.O. Box 30473-7973
Lansing, Michigan 48909

Re: Draft Water Strategy

Dear Sir or Madam:

Staff of the Great Lakes Indian Fish and Wildlife Commission (“GLIFWC” or “Commission”) submit the following comments on the draft Water Strategy – Sustaining Michigan’s Water Heritage (“draft Strategy”). The Commission is a natural resource agency exercising delegated authority from 11 federally recognized Indian tribes in Michigan, Minnesota, and Wisconsin.¹ These tribes retain reserved hunting, fishing, and gathering rights in territories ceded to the United States in various treaties, rights that have been reaffirmed by federal courts, including the US Supreme Court. The ceded territories extend over portions of Minnesota, Wisconsin, and Michigan, and include portions of Lake Superior, Michigan and Huron.

GLIFWC member tribes reserved these ceded territory rights to guarantee that they could continue their hunting, fishing, and gathering way of life (or “lifeway”) in a manner that meets their subsistence, economic, cultural, medicinal, and spiritual needs. It must be noted that GLIFWC’s focus is off-reservation, and it is from that perspective that these comments are submitted. GLIFWC staff’s comments on this draft Strategy should not be construed as precluding comments by individual member tribes from their own sovereign and on-reservation perspectives. GLIFWC staff’s comments are also in no way a substitute for direct engagement with the affected tribes.

¹ GLIFWC member tribes are: in Wisconsin – the Bad River Band of the Lake Superior Tribe of Chippewa Indians, Lac du Flambeau Band of Lake Superior Chippewa Indians, Lac Courte Oreilles Band of Lake Superior Chippewa Indians, St. Croix Chippewa Indians of Wisconsin, Sokaogon Chippewa Community of the Mole Lake Band, and Red Cliff Band of Lake Superior Chippewa Indians; in Minnesota – Fond du Lac Chippewa Tribe, and Mille Lacs Band of Chippewa Indians; and in Michigan – Bay Mills Indian Community, Keweenaw Bay Indian Community, and Lac Vieux Desert Band of Lake Superior Chippewa Indians.

GLIFWC's member tribes understand that clean water is fundamental to life. They regard it as "the first medicine" and as the blood of their mother, the earth. With this perspective in mind, it is not difficult to understand the importance of water to the spiritual, cultural, medicinal and subsistence practices that underlie the tribal lifeway. GLIFWC's member tribes also believe that actions affecting natural resources must be judged on how well they will protect seven generations hence. They seek to ensure that principles of ecosystem management and biological diversity recognize and protect the fundamental interdependence of all parts of the environment.

It is with that background in mind that these comments are submitted. They are comprised of general comments that apply to the draft Strategy as a whole, and more specific comments for specific sections of the draft Strategy.

General Comments

1. Government to government relationships require timely and consistent communication, consultation, and collaboration.

GLIFWC staff applauds the draft Strategy's recognition of the importance of government to government relationships with tribes to the management of water and other natural resources. It is important, however, to understand that true government-to-government relationships require timely and consistent communication, consultation, and collaboration between the State and the tribes within its borders, as well as tribes with reserved rights within Michigan's borders. Such communication and consultation cannot be accomplished through public comment periods or other general methods of communication with general stakeholders. As sovereigns with interest in the natural resources both within their reservation boundaries and within the boundaries of the ceded territories over which they exercise co-management authority, the State should inform tribes early of any statewide policy or regulation that has the potential to impact those resources (either directly or indirectly) and allow tribes the opportunity to comment and collaborate prior to any public comment period.

While the draft Strategy's Water Cabinet included a representative from a tribe, the Water Cabinet also included members of non-governmental entities, such as farm credit services and the Nature Conservancy. Tribal governments are more than a stakeholder group – they are governments with which the State has a dedicated government to government relationship that requires early consultation. Additionally, a representative from a single tribe cannot speak for all of the tribes in Michigan and does not replace true government-to-government consultation.

2. The Strategy should incorporate tribes in each goal.

While the draft Strategy acknowledges the importance of its government-to-government relationship with the tribes within the Michigan borders, there is little recognition throughout the draft Strategy of how the draft Strategy relates to tribes, or of tribal participation in many projects and initiatives to protect and restore the quality of water throughout the State.

For example, the Introduction outlines the intention of the Measures of Success as a way to “examine system response...as a result of the collective impact of implementation of the Water Strategy recommendations and other efforts already underway by state, federal and local governments and partners and partners to rebuild healthy aquatic systems, clean water and vibrant economies.” This sentiment is repeated on page 6, just before Table 1. Tribes are very active in many tribal, regional, statewide, and national efforts to protect and restore healthy aquatic systems and water quality. There should be recognition of the parts that all governments play as a way to build respect and cooperation among all governments.

Another example of tribal exclusion is on page 12, when discussing the prevention of aquatic invasive species (“AIS”). The draft Strategy recommends the State to “[w]ork with other Great Lakes states and provinces to harmonize aquatic invasive species prevention, early detection processes, and response actions across Great Lakes region.” Tribes and intertribal agencies have a vested interest in preventing the introduction and establishment of AIS within waters over which they have management authority, and in fact are already quite active in regional and international initiatives to track and manage AIS, such as the Great Lakes Fishery Commission and on the Annex 6 Subcommittee of the Great Lakes Water Quality Agreement’s Great Lakes Executive Committee. The draft Strategy should work to build inclusion and cooperation among all governments with an interest in the prevention of the introduction and establishment of AIS.

The draft Strategy makes clear that management of the water resources should be undertaken considering four core values: the economic, environmental, social and cultural. GLIFWC staff applauds this sentiment. Tribes approach each of these goals in potentially different ways. Overall, tribes are concerned about protecting traditional practices that depend on clean resources, such as fishing rights, and cultural, religious and medicinal practices. For the tribes, these uses must be protected — they serve as tribal baseline protection assumptions. In general they are consistent with the Strategy’s list of recommendations, but are focused on specific tribal uses of resources.

The full inclusion of tribes in this Strategy is required to round out the understanding and interaction of each of these core values, and every effort should be made to include tribes in each of the Strategy’s goals.

3. Protection must be given the same weight as restoration.

The Tribal Nations Issues and Perspective paper notes that many tribal lands are among the most pristine and non degraded in the Great Lakes basin. In addition, tribes know that it is better to preserve than to allow degradation that will require restoration. Therefore, it is vital that “protection” have as much weight as “restoration” in the development of goals and ultimately in the implementation of the Strategy. A focus on restoration without protecting pristine areas will have little effect; as some areas are restored, others will be damaged. The Strategy must recognize and place proper emphasis on protecting the high quality areas that remain in the basin.

Specific Comments

1. The Strategy must directly address climate change.

Climate change will affect water resources in Michigan within the 30-year time frame of Michigan's Water Strategy. While it is true that Michigan's future climate is unclear, there are readily-available sophisticated models of the most likely climate future for the Midwest region, with a high level of agreement among scientists. These likely changes are as follows:

- Air temperatures are expected to increase from 1.8 5.4 °F by 2050. Growing seasons are projected to increase in length. Water temperatures will also increase in streams, rivers and lakes (Great Lakes Integrated Sciences and Assessments 2014).
- Precipitation is predicted to change in timing, frequency, and intensity. Extreme precipitation events are projected to be more frequent and intense. Summer droughts are predicted to be more frequent. Snowfall is expected to be reduced in most regions and more winter precipitation is expected to fall as rain (National Climate Assessment 2014).
- Ice cover duration on lakes will continue to decline. Lake temperatures have been increasing faster than air temperatures and are projected to continue increasing. Lake levels will likely continue to fluctuate, with most models projecting long term declines (National Climate Assessment 2014, Great Lakes Integrated Sciences and Assessments 2014).

Climate change will make management of water resources increasingly challenging. Warmer water will affect water chemistry and aquatic species composition, with potential negative effects on cold-water fisheries. Warmer temperatures may also increase the likelihood of the success and distribution of invasive species. Flooding can lead to impacts on streamflow, water supply and quality, transportation and infrastructure. Higher levels of runoff from larger volumes of water can cause increased nutrient loading. Higher temperatures, longer growing seasons and increased frequency of drought could affect soil moisture, groundwater supply and the consumption of water for irrigation. Altered hydrology caused by changes in precipitation has the potential to impact many aspects of Michigan's water resources and resource management (National Climate Assessment 2014, Great Lakes Integrated Sciences and Assessments 2014).

Michigan should address climate change directly in its Water Strategy. To address all of these predicted effects, Michigan should incorporate additional flexibility and resilience planning into its Water Strategy. For example, water infrastructure, including dams, culverts, storm water and wastewater management systems, can be modified to accommodate higher flows for larger storms and increase storage capacity. Michigan could also promote resilience in natural systems, incorporate water conservation measures, promote continual research on the effects of climate change on water, and support adaptation strategies throughout the state. Planning for climate change will make Michigan's Water Strategy stronger and more successful.

2. Inclusion of subsistence economies.

The first chapter of the draft strategy provides recommendations for protecting and restoring aquatic ecosystems. These recommendations are premised on supporting resource-based economies. This premise should be expanded to include the support of subsistence based economies. Relying solely on the needs of a resource based economy allows for less stringent protection or restoration activities. For example, this chapter provides recommendations for healthy and functional ecosystems that are able to purify air and water and provide habitat for fish and wildlife. By expanding this section to include subsistence based economies, recommendations would be required to protect and restore air and water to the point they can provide habitat for fish and wildlife that are safe for human consumption.

Most fish consumption advisories, for example, are developed targeting people who fish for sport. Those advisories would be different if they targeted people who relied on fish as the basis of their subsistence diet, who would therefore eat many more fish. Fish and wildlife that are the basis for a community's daily diet are required to be less contaminated than fish or wildlife eaten sporadically by sporting communities, and would, therefore, require a less contaminated and healthier habitat.

3. Include tribes in groundwater planning.

The withdrawal of groundwater has the potential of affecting a wide geographic region. Any refinement and change to the water withdrawal assessment process or tools should be done through close consultation and cooperation with tribal governments throughout the state. Input from tribes is necessary to gain a better understanding of tribal water resources and the impact surface water/groundwater interactions will have on tribal resources.

4. Green infrastructure is a prime area for state, local, and tribal collaboration.

Green infrastructure is a new and emerging technology and way of community planning, and one that requires a lot of financial resources. Financial resources can be conserved by encouraging collaboration between state, local and tribal governments with regard to green infrastructure. Communities that have already begun to build or plan for green infrastructure should be tapped to provide technical assistance to communities that either do not have the capacity to do so, or who have yet to undertake the process, and this includes tribes. Tribes have as much interest as other communities in developing sustainable and environmentally friendly infrastructure. Sharing of experiences, knowledge and training should be provided both ways. Many tribal communities have already begun to plan for or develop green infrastructure and could provide a wealth of information and assistance to local communities. Other tribal communities lack the capacity and could greatly benefit from technical assistance that could be provided by the state or local communities. The draft Strategy should make it clear that collaborations and technical assistance for green infrastructure should not just be between the State and local governments, but also be with all governments.

5. Coordination over mercury monitoring should include tribes.

The draft Strategy recommends that there should be continued national and regional coordination of mercury reduction activities. GLIFWC has, for years, tracked mercury deposition in many inland lakes throughout the ceded territories. As subsistence economies, GLIFWC member tribes have significant interest in the deposition of mercury in lakes and rivers from which they harvest fish. In fact, tribal communities bear the brunt of mercury's detrimental effects due to the amount and pattern of fish that are consumed for subsistence and ceremonial purposes. Yet, reductions in emissions of mercury are not within the control of tribes to mandate or enforce. Information should be shared across all governments regarding the deposition of mercury throughout Michigan waters and collaboration should be undertaken regarding mercury reduction activities. Additionally, load reduction schedules for mercury should be established in the final Strategy and should be at least as stringent as those set by the Binational Program.

6. Tribes must be integrated into Great Lakes decision-making entities and policies.

GLIFWC member tribes hold treaty rights within Michigan boundaries. Exercise of those treaty rights present increased opportunities to the effective implementation of the Strategy. These tribes share in the goal of effective ecosystem management that protects the diversity of life, which is consistent with the goals of the Strategy.

Transparent government tools can help tribes engage in their co management responsibilities within the ceded territories, and engage their citizens with regard to watershed stewardship. Governance tools should expand opportunities for everyone to be informed and should make both regulatory and non-regulatory environmental datasets accessible. Additionally, the Interdepartmental Water Team should include one seat for a tribal representative. While including a tribal representative on the Water Team would not substitute government-to-government consultation, it would allow for valuable input at the beginning stages of implementation discussions.

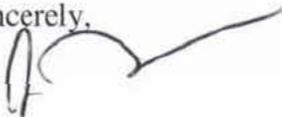
7. Revise the Aquatic Resource list to update the status of wild rice

The second table in the draft Strategy provides recommendations, implementation metrics, and the lead actor for Goal 1: Michigan's aquatic ecosystems are healthy and functional. The table should be amended to include a recommendation that the Aquatic Resource list be updated as it pertains to the status of wild rice. Wild rice was once present throughout the state, but has been in steep decline. Many tribes in Michigan have undertaken wild rice restoration projects, which have been known to conflict with state actions. The impact of state activity on historic wild rice beds, and wild rice beds that are currently undergoing restoration should be considered prior to every state action.

Draft Water Strategy
GLIFWC Comments
August 28, 2015
Page 7

We appreciate the opportunity to comment on this draft Strategy. If you have any further questions or would like to discuss these comments, please do not hesitate to contact me at jvanator@glifwc.org or at 715-682-6619, extension 2104.

Sincerely,

A handwritten signature in black ink, appearing to read 'J. Vanator', with a long horizontal flourish extending to the right.

Jennifer Vanator, Great Lakes Program Coordinator
Great Lakes Indian Fish and Wildlife Commission

From: [Jen Vanator](#)
To: [mi-waterstrategy](#)
Subject: GLIFWC Comments on Michigan draft Water Strategy
Date: Friday, August 28, 2015 4:42:27 PM
Attachments: [GLIFWC Comments on Michigan draft Water Strategy.pdf](#)

Please find attached GLIFWC's comments on Michigan's draft Water Strategy. Please let me know if you have any questions or have trouble opening the document.

Sincerely,

Jen

Jen Vanator
Great Lakes Program Coordinator
Great Lakes Indian Fish and Wildlife Commisison
715-682-6619, ext. 2104
jvanator@glifwc.org

From: [Ruth Cooley](#)
To: [mi-waterstrategy](#)
Subject: Grand River
Date: Wednesday, August 26, 2015 4:43:54 PM

I would like to see the Grand River in West Michigan dredged from Grand haven up river to Grand Rapids. In the olden days the river was used for travel and commerce but in the last 30 years , trash, old docks and bridge foundations have created sand bars and changed currents so the depth in areas is just too shallow to navigate.

Thanks.. Ruth Cooley

Our Great Lakes Commons:

A People's Plan to Protect
the Great Lakes Forever

By Maude Barlow
National Chairperson,
The Council of Canadians

THE
COUNCIL
OF CANADIANS



LE
CONSEIL
DES CANADIENS

the commons



Our Great Lakes Commons:
A People's Plan to Protect the Great Lakes Forever

About the Author

Maude Barlow is the National Chairperson of the Council of Canadians and chairs the board of Washington-based Food and Water Watch. She is also an executive member of the San Francisco-based International Forum on Globalization and a Councillor with the Hamburg-based World Future Council. Maude is the recipient of ten honorary doctorates as well as many awards, including the 2005 Right Livelihood Award (known as the “Alternative Nobel”), the Citation of Lifetime Achievement at the 2008 Canadian Environment Award, and the 2009 Earth Day Canada Outstanding Environmental Achievement Award. In 2008/2009, she served as Senior Advisor on Water to the 63rd President of the United Nations General Assembly. She is also the bestselling author or co-author of 16 books, including the international bestseller *Blue Covenant: The Global Water Crisis and The Coming Battle for the Right to Water*.



Acknowledgements

This paper has arisen out of a series of meetings and consultations hosted by Harriet Barlow and *Our Water Commons*, a subcommittee of the group *On The Commons*, which took place at the Blue Mountain Center in New York State in November 2010. The consultations involved community, human rights, indigenous, and environmental leaders and activists from around the Great Lakes, leading to the birth of this project. It is therefore, a collective work of many minds and many groups.

For this report, I want to thank and acknowledge the following people for their ideas, support, collaboration and commitment: Harriet Barlow, Jim Olson, Daniel Moss, Julie Ristau, Alexa Bradley, Anil Naidoo, Brent Patterson, Wenonah Hauter, Emily Wurth, David Morris, Meera Karunanathan, Emma Lui, Mark Calzavara, Matt Ramsden, Jan Malek and the lawyers and policy leaders who took part in a Wingspread conference to guide the legal aspects of the process.

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On the Commons advances the commons movement. OTC names the commons and animates a growing network of citizens and organizations seeking commons-based solutions to the problems of our times.

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“This is not a mystery anymore. We know what needs to be done, ... The Great Lakes has gotten nine studies in four years from this administration, and Iraq has gotten \$4.5 billion. Give Iraq the studies, and we’ll take the money.”

~ Rahm Emanuel
Mayor-elect of Chicago, former
White House Chief of Staff to
President Barack Obama
October 2005

Introduction

This paper is intended to serve as a background, a call to understanding and a call to action on an exciting new proposal to designate the Great Lakes and its tributary waters as a lived *Commons*, to be shared, protected, carefully managed and enjoyed by all who live around them. The *Great Lakes Basin Commons* would need to be protected by a legal and political framework based on *Public Trust Doctrine*, underpinning in law that the Great Lakes are central to the very existence of those people, plants and animals living on or near them and therefore must be protected for the common good from generation to generation. This means that the Lakes could not be appropriated or subordinated for private gain. It is also our determination that the Great Lakes will be designated as a *Protected Bioregion*, recognizing that while there are many political jurisdictions governing the Great Lakes Basin, it is, in fact, one integrated watershed and needs to be seen and governed as such.

The Great Lakes of North America are in serious trouble. Multipoint pollution, climate change, over-extraction, invasive species, and wetland loss are all taking their toll on the watershed that provides life and livelihood to more than 40 million people and thousands of species that live around it. Once thought to be immune from the water crisis that threatens other parts of the world, the Great Lakes are a source of increasing concern as residents watch their shorelines recede, their beaches close and their fisheries decline. Added to this mounting ecological crisis are growing conflicts as some eye these precious waters for commercial bulk and bottled water export, mining, oil and gas exploration, private control of once public water services, and as an incentive to lure water-intensive industries to locate on them.



Lake Erie bluffs, Lake Erie. Photo by Nicholas A. Tonelli / Flickr - CC BY 2.0



There are many dedicated environmental and community organizations as well as elected officials around the Lakes, working very hard to restore them, and some real progress has indeed been made. There also exists already a rich history of Commons practices and laws, including the application of the Public Trust Doctrine to the Lakes by the U.S. courts, dating back to a shared vision of the First Nations peoples of the region. We seek to build on this history. However, there are conflicting visions for the Great Lakes. For every victory to extend a Commons framework for the Lakes there is a corresponding setback of exploitation. While many advocate that the Great Lakes belong to the public and must be protected for future generations, others put economic issues above both the health of the Lakes and the lived Commons and common good of those who depend on them.

Alexa Bradley, Great Lakes community activist, puts it this way: “For some, the Great Lakes represent a massive resource grab that takes many forms: privatization, appropriation, the entitlement to use and misuse water, and the prioritization of market economics over ecological and justice considerations. By its nature this resource grab is anti-democratic and undercuts both environmental protection and the equitable sharing of water. This exploitation makes the case for not just better water policy, but for a different kind of governance.”

As well, many jurisdictions responsible for the Great Lakes govern with an uneven patchwork of rules, regulations and laws. Most have not mapped the groundwater feeding the Lakes and do not have extensive knowledge of the crises threatening them. All suffer from chronic underfunding, regulatory infractions, and inadequate enforcement of existing rules. It is easy to see why it seems that with every step that takes us forward, another takes us backward.

We believe the answer to this uneven and inadequate governance would be strengthened by the embrace of the narrative of the Commons by the people and communities living on the Great Lakes. It is our fervent hope that the leadership for this project will come from First Nations and local urban and rural communities, as well as existing and new organizations, to fortify a grassroots movement that will protect and nurture these Great Lakes for all the generations to come.

The Great Lakes Are in Trouble

The Great Lakes of North America form the largest group of freshwater lakes in the world, holding more than 20 per cent of the world's surface freshwater and 95 per cent of North America's. Add to this the groundwater underlying and feeding the Great Lakes or its tributary streams and lakes, and the percentage is closer to 25 and 97 per cent respectively. The Lakes and the St. Lawrence River, which is their primary flow outlet to the Atlantic Ocean, are bordered by two Canadian provinces: Ontario and Quebec, and eight U.S. states: Minnesota, Wisconsin, Michigan, Illinois, Indiana, Ohio, Pennsylvania and New York. The Great Lakes have a unique biodiversity and are home to more than 3,500 species of plants and animals. They were formed over 20,000 years ago when the last glacier continental ice sheet retreated. The Great Lakes provide life and livelihood to more than 40 million people and are the economic centre at the heart of the continent. They are, however, under serious threat from a wide variety of demands and sources.

Over-extraction and climate change

According to a 2004 study by the Great Lakes Commission, communities around the Great Lakes Basin pump 850 billion gallons (3.2 trillion litres) of water out of the Lakes and St. Lawrence River every day. Close to 2 billion gallons (over 7.6 billion litres) are "consumed" every day, meaning that they are not returned to the watershed.¹ There is a misconception that the Great Lakes replenish themselves each year with rainwater. This is not true. These are ancient glacial waters that will be drained if we overuse them. (This figure is likely higher today, as the demands on the lakes have continued to grow since this report was published.) Much of this loss is in virtual water exports, where water used in the production of commodities is exported out of the watershed along with the exported commodity. Around the Basin, 67,000 square miles (174,000 square kilometres) are devoted to agriculture, an area larger than most of the bordering states.² Much of the wheat, corn, oats, barley, grapes, cheese, milk, fruits, vegetables and livestock produced on these lands are exported away from the region, depleting the Great Lakes Basin of water. This water is not being replenished. Since 99 per cent of the water in the Lakes is from the glacial era, this water will not be replaced once it is used up. As well, renewable water is in decline. A recent Statistics Canada study showed the renewable water yield in southern Canada has declined 8.5 per cent in just four decades.³

On top of a lack of renewable sources, the sources that supply the Lakes are under assault. As with most other bodies of water in the world, the groundwater around the Lakes is being pumped with little oversight. Some communities on Lake Michigan's west coast are pumping so much groundwater they are now drawing water from the lake itself. The U.S. Geological Survey reports that by using deep wells that reach farther into the ground than Chicago's tallest skyscrapers soar into the sky, cities are pumping the aquifers beneath them so hard they are pulling water in through the bottom of Lake Michigan, reversing a flow as old as the lake itself. Chicago has been depending on local groundwater sources since 1864. As a result,

"There is a misconception that the Great Lakes replenish themselves each year with rainwater. This is not true."

1 Quoted by the Alliance for the Great Lakes, *Muskegon Chronicle*, December 31, 2008

2 U.S. Environmental Protection Agency, Great Lakes Monitoring website, http://www.epa.gov/glnpo/monitoring/great_minds_great_lakes/social_studies/without.html

3 *Freshwater supply and demand in Canada, 1971 to 2004*, Statistics Canada, September 2010

the groundwater levels in the Chicago and Milwaukee areas have dropped at least 1,000 feet (305 metres).⁴ The Chicago Diversion from Lake Michigan to the Illinois and Mississippi Rivers results in the withdrawal of 2 billion gallons (almost 8 billion litres) of water every day. The diversion decreases water tables as far away as Port Huron and Georgian Bay. Yet the University of Southern Illinois reports that population and industry in the Chicago area alone will grow so quickly in the next 20 years that demand for water in the area will increase by 30 per cent.

Many scientists attribute these water level drops to both climate change and over-extraction. A major December 2009 report by the International Great Lakes Study Board found that climate change had already had a discernable effect on the drop in water levels of the Lakes. The Union of Concerned Scientists warns that Great Lakes water levels could drop by another two feet (0.610 metres) within decades, particularly threatening Lake Huron and Lake Michigan.⁵ The amount of water flowing out of Lake Superior at its outlet, the St. Mary's River, would have to rise by 50 per cent to reach the average of the past century. Over the last 100 years, water levels at the Port of Montreal have dropped six feet (two metres) and the Army Corps of Engineers reports that in 2010, water levels in the Lakes continued a disquieting drop that started in the early 1990s.

The Great Lakes are also warming up. *Canadian Press* reported in July 2010 that surface temperatures in normally frigid Lake Superior had warmed almost 11 degrees Celsius (52 degrees Fahrenheit) higher than normal. Scientists cite declining ice covers and decreased precipitation for the rise in lake temperatures. Jay Austin, a physics professor at the University of Minnesota's Large Lake Laboratory, says that the Lakes are getting to their end-of-summer temperatures weeks before they should, negatively affecting their aquatic chain of life and leading to algae blooms.⁶ Lake Erie is undergoing huge ecological changes, all of it bad, says Jeff Reutter, director of Franz Theodore Stone Laboratory, Ohio State University's freshwater biological field station. Pollutants that cling to lake sediment, the flow of contaminants such as phosphorus, and plumes of algal blooms spreading across the southern shore of the lake all tell of a body of water warming faster than it should and contributing to Lake Erie's dead zone, an oxygen-deprived area devoid of life.

Pollution, wetland loss and invasive species

According to the U.S. Toxic Release Index and Canada's National Pollutant Index, there are at least 204 pollutants in the Great Lakes.⁷ A total of 15 million kilograms (over 30 million pounds) of such toxins were found in the Great Lakes and St. Lawrence River Basin in the latest survey; another 10 million kilograms were injected underground. (On average, Canadian facilities released almost three times more carcinogenic and reproductive toxins than American facilities.) Although the Great Lakes Water Quality Agreement has helped to reduce levels of some contaminants such as mercury, dioxins, lead and PCBs, a 2007 Environmental Defence report found that fish from the Great Lakes are still loaded with these and other toxins, making many of them unfit for human consumption.⁸ Other major concerns are the proliferation

4 Howard Reeves, *Water Availability and Use Pilot: A Multiscale Assessment in the U.S. Great Lakes*, United States Geological Survey, February 2011

5 Union of Concerned Scientists, *Confronting Climate Change in the U.S. Midwest*, September 30, 2009

6 Great Lakes warm up, could reach record high, *The Detroit News*, July 23, 2010,

7 Pollution Watch, *Partners in Pollution, An Update on the Continuing Canadian and United States Contributions to Great Lakes-St. Lawrence River Ecosystem Pollution*, 2010

8 Environmental Defence, *Up to the Gills, Pollution in Great Lakes Fish*, 2007

of non-point source pollutants including pharmaceuticals, flame-retardants, plasticizers and pesticides, none of which are covered by the Agreement, and the introduction of a whole new class of chemicals including endocrine disrupters. These chemicals do not dissolve in water but rather bind up into particles that float in the water like magnets, latching onto one another and creating a layer of contaminated sediment on the floor of the Lakes.

There are now 43 “Areas of Concern,” – sites on the Great Lakes so contaminated, they have been targeted for special remediation. They include Saginaw Bay in Michigan where the tourist industry has been destroyed with the spread of a foul toxic algae called cladophora, and Sarnia, Ontario, nicknamed “Chemical Alley” where twice as many girl babies as boy babies are being born to the local First Nations peoples, the Aamjiwnaang, and where unusual sexual attributes to frogs and other species have been observed by Canadian wildlife experts.

The government toxic release indexes also do not include U.S. and Canadian wastewater plants, which release billions of gallons of untreated sewage and run-off into the Lakes each year and are the Great Lakes’ largest source of such pollution. A 2006 Sierra Club report called the sewer systems in many Great Lakes cities “antiquated” and said they routinely dump raw sewage in the Lakes. The study, which examined 20 Canadian and U.S. cities found that they collectively dumped more than 92 billion litres (21 billion gallons) into the Lakes each year.⁹ That is the equivalent of dumping more than 100 Olympic swimming pools of raw sewage into the Great Lakes every day. In his 2010 annual report, Ontario’s Environment Commissioner added that pollution in the Great Lakes on the Canadian side is getting worse because the province’s municipal wastewater discharge rules have not kept up with an exploding population growth.¹⁰

Nuclear waste poses another threat to the Great Lakes. There are more than 30 nuclear reactors along the shores of the Lakes and shipments of medical isotopes and radioactive materials are increasingly being transported through the Basin. The International Institute of Concern for Public Health has noted that radionuclides found in the Great Lakes water, including tritium, carbon-14, caesium and long-lived iodine-129, pose serious health hazards at even low levels. As if these threats aren’t enough, in February 2011, the Canadian Nuclear Safety Commission gave the go-ahead for the first shipments of radioactive waste through the Great Lakes. The Bruce Nuclear Generating Station, located on the shores of Ontario’s Georgian Bay, has been granted permission to ship at least 16 bus-sized radioactive steam generators to a recycling facility in Sweden through the waters of Lakes Huron, Erie and Ontario and out the St. Lawrence to the open sea. A coalition of groups from Michigan has estimated that the amount of hazardous waste that could be released into the Lakes in case of an accident is 50 times more radioactive than International Atomic Energy Agency standards. Plutonium-239 remains hazardous for 240,000 years.¹¹

Bunker oil is yet another threat to the air and water quality of the Great Lakes. Bunker oil is a marine heavy oil that emits lethal chemicals into the air and kills wildlife when it is spilled into the water, either in accidents or in illegal dumping. Just 16 of the world’s largest ships can produce as much lung-clogging sulphur pollutants as all the world’s cars.¹² Yet Canada is resist-

9 Sierra Legal Defence Fund, *The Great Lakes Sewage Report Card*, 2006

10 Environmental Commissioner of Ontario, *Redefining Conservation, 2009/2010 Annual Report*.

11 News from Beyond Nuclear, *Groups Warn of Radioactive Waste Shipping Risks on Great Lakes*, September 16, 2010

12 Fred Pearce, *How 16 ships create as much pollution as all the cars in the world*, *Daily Mail*, November 21, 2009

“In just 70 years, 90 per cent of the belugas of the St. Lawrence have disappeared.”

ing even mild regulatory changes proposed by the U.S. Environmental Protection Agency to reduce bunker oil emissions.

Industrial and agribusiness-based chemical contaminants from the North American heartland are killing the Beluga whales of the St. Lawrence Estuary. The St. Lawrence has been named among the top 10 most endangered rivers in the United States by American Rivers. All of the pollutants from Chicago, Detroit, Montreal and Toronto travel down the Estuary to the marine Arctic microenvironment at the mouth of the Saguenay River where these magnificent animals call home. The pollution joins the effluent from the aluminium industry dotted along the shoreline. One quarter of all the St. Lawrence belugas have cancer and are among the most contaminated marine mammals in the world. In just 70 years, 90 per cent of the belugas of the St. Lawrence have disappeared. Tragically, the human population of the Saguenay has substantially higher rates of all types of cancer than the Canadian population.

Wetlands play a crucial role in offsetting pollution, acting as nature’s filter. Ninety per cent of the 200 fish species in the Great Lakes depend directly on wetlands for some part of their life cycle. Tragically two-thirds of the wetlands of the lower Great Lakes and the St. Lawrence Basin have been lost and the destruction continues with increased development.

Another threat to the Lakes is a new and vicious stream of invasive species, introduced when foreign ships empty their ballast water, dumping organisms from virtually all over the world. At present there are about 185 invasive species in the Great Lakes. But the U.S. National Centre for Environmental Assessment recently issued a dire warning about 30 virulent non-native species that may soon reach the Lakes, and 28 virulent species that have already established a foothold, saying they pose serious ecological and environmental damage to the watershed and to native species.¹³ The region’s busiest ports – Toronto, Hamilton, Chicago and Milwaukee – are singled out as strong potential targets for invaders. New species such as the Asian carp and snakehead may soon join established predators such as the sea lamprey and zebra mussels that have clogged the intake pipes of power plants, industrial facilities and public waters systems.

Recently, scientists have blamed the proliferation of zebra and quagga mussels for the die-off of large numbers of migratory birds over the Great Lakes. The mussels filter botulism and other naturally occurring toxins from the waters. More than 100,000 birds, many of them threatened species including many thousands of loons, have died in the last decade while migrating over the Lakes, and experts now believe it is as a result of eating goby fish, who in turn have eaten the contaminated mussels. Warming waters are also stimulating more plant growth, thereby increasing the amount of bacteria on the lake bottoms. Several years ago, so many dead loons washed up on the Lake Erie shores of a Pennsylvania state park, officials used a funeral home to incinerate them.

Mining, oil and gas exploration

Oil and gas deposits lay beneath four of the five Great Lakes. While the United States Congress banned drilling in the Great Lakes in 2005, Canada has not yet followed suit. Approximately 2,200 gas wells have been drilled under Canada’s portion of Lake Erie since 1913, 550 of which are still producing. A report by the Ohio Public Interest Research Group documented

¹³ EPA National Center for Environmental Assessment, *Predicting Future Introduction of Nonindigenous Species to the Great Lakes*, July 2009

51 natural gas spills caused by gas drilling in the period studied – an average of one per month. During onshore and offshore drilling, a toxic combination of oil, water, arsenic, cadmium, lead, mercury and naturally occurring radioactive materials, called drilling muds, are dispersed into the well hole. Canada's National Pollutant Release Inventory, which tracks the use and disposal of toxic chemicals, does not require reporting for oil and gas drilling. Before he was defeated in the 2010 midterm elections, Senator Russ Feingold of Wisconsin called on the International Joint Commission – a commission appointed to oversee issues concerning lakes and rivers along the Canada-U.S. border – to ban oil and gas drilling on the Canadian side of the Lakes as well.

But not only does Canada not appear to be open to such a ban, there is great pressure to open up the St. Lawrence River to shale-gas exploration. Geologists believe that up to 50 trillion cubic feet of gas reserves may be locked in hard shale under Quebec's heavily populated St. Lawrence River Valley. Hydraulic fracturing or "fracking" involves drilling and pumping massive amounts of chemical-laced water into rock seams to force the natural gas to the surface. Quebec has already given out 600 permits for shale gas exploration under the St. Lawrence in anticipation of a full-fledged industry.

The pressure to supply the U.S. with Alberta's heavy oil is cause for another concern. Bitumen from northern Alberta's tar sands is increasingly being shipped by pipeline to refineries around the Great Lakes for processing. There is an ever-expanding network of pipelines leading from Fort McMurray to refineries at the tips of Lakes Superior, Michigan and Erie, reports *The Toronto Star*.¹⁴ The refinement of tar sands oil has devastating impacts on water sources and local communities. Bitumen, the form of petroleum found in the tar sands, is the thickest and dirtiest form of petroleum to process and requires digging, heating and water use on extreme scales. Processing bitumen uses four times more water than conventional oil and releases nitrogen oxides and sulphur dioxides into the atmosphere, creating acid rain. As a result of this booming business of bitumen export from deep in the U.S. heartland, new and increased amounts of acid rain are falling on the Great Lakes.

There are currently 17 major refinery projects either being planned or developed around the Lakes.¹⁵ The biggest is the BP refinery in Whiting on the south-eastern shore of Lake Michigan in Indiana, which is in the midst of a controversial expansion project aimed at boosting its capacity to process bitumen from the Canadian tar sands. Already, the plant's unpermitted modifications have resulted in a significant increase in nitrogen oxides, sulphur dioxide, carbon monoxide and particulate matter. An expansion of the Murphy Oil plant in Superior, Wisconsin could damage 300 to 500 acres of wetlands and consume 5 million gallons (almost 20 million litres) of water from Lake Michigan every day.

Mining exploration around the Lakes is yet another area of deep concern. A November 2010 six-part television series by the Public Education Center warned that the Great Lakes are threatened from a rash of foreign mining interests seeking to extract billions of dollars in copper and nickel found in a giant sulphide ore deposit. The deposit runs from the tip of Lake Superior through Minnesota's Arrowhead region and Wisconsin's Native American territorial lands, extends to Michigan's Upper Peninsula, all the way to Ontario. Dozens of companies are seeking exploration approval to mine the rock which, when exposed to air and water, sparks a

14 David Isrealson, *Toronto Star*, September 12, 2010

15 Munk Centre, University of Toronto, *How the Oil Sands got to the Great Lakes*, October 2008

reaction that creates sulphuric acid. Much of the mining activity will come “dangerously close” to the Great Lakes Basin watershed.¹⁶

In Canada, mining operations now pose an urgent threat to water. An amendment to the Fisheries Act called “Schedule 2” allows healthy lakes and streams to be reclassified as “tailings impoundment areas” so they are no longer subject to the protection of the Act that prevents toxic dumping in healthy fish-bearing waters. A series of 44 ponds and 30 streams near Marathon, Ontario, situated on the northern most point of Lake Superior, are slated for destruction to make way for an open-pit metal-copper mining operation that will dump 5.3 million cubic metres (well over one billion gallons) annually into the local water systems.

As well, the Great Lakes are at deep risk due to the depletion of water for new energy sources often thought of as “clean.” *Circle of Blue* Senior Editor Keith Schneider reports that the collision between energy needs and water supplies will have serious implications for all large bodies of water, including the Great Lakes. The massive rush for new domestic sources of energy, backed by government subsidies, requires huge new sources of water. For instance, it takes 1,000 gallons of water to produce one gallon of corn ethanol, and 6,500 gallons of water to produce one gallon of biodiesel from soybeans, forms of energy promoted as fossil fuel replacements. The plan by the U.S. government to produce 60 billion gallons (240 billion litres) of home-grown biofuels by 2030 will have a devastating impact on the nation’s water supplies. Generating energy for “clean” alternatives is almost certain to consume much more water than the fossil fuels they are meant to replace.¹⁷ The demand for biofuels, coupled with increased coal, thermal power, natural gas fracking, nuclear and hydropower energy production has led to a “choke” between water and energy says Schneider, one that water will not win.

Could the Great Lakes disappear?

The Great Lakes are in deep distress and under serious threat. For too long now it has been assumed that these magnificent bodies of water could withstand any amount of pollution, extraction, diversion and exploitation, so vast are their stores of water. But in the last two decades, we have started to learn a great deal about the global water situation and old assumptions about the “myth of water abundance” are being proven false. For years, we all believed that we cannot run out of clean water because an infinite amount of water perpetually circulates through the planet’s hydrologic cycle and cannot be destroyed. While it is true that the water is still somewhere on the planet, it is often now not in a form we can access. Humans everywhere are taking water from where it is accessible and polluting it, dumping it into the oceans as waste, using it to mass irrigate crops in deserts, and sending it out of watersheds in the form of commodities and other exports in the name of global trade. As the demand grows, the supply diminishes.

A recent study on the global water supply conducted by water intensive industries and coordinated by the World Bank found that by 2030, global demand for water will exceed supply by 40 per cent.¹⁸ Another recent global study of groundwater takings found that the rate of

16 Public Education Center, DC Bureau, *Midwest Mining Rush Threatens Water*, November 2010

17 Keith Schneider, *ChokePoint U.S.: Understanding the Tightening Conflict Between Energy and Water in the Era of Climate Change*, *Circle of Blue*, September 2010

18 McKinsey and Company and World Bank, *Charting our Water Future*, 2009

extraction has doubled in the last few decades, causing massive disruptions in communities where water supplies are running out.¹⁹

Even large bodies of water like the Great Lakes are not immune to our abuse. The Aral Sea was once the world's fourth largest lake and provided water for people in Afghanistan, Iran and five other countries of the former Soviet Union. Through massive dredging and diversions to grow cotton in the desert, the Aral Sea has lost more than 80 per cent of its volume and what is left is salty brine – an ecological tragedy. Lake Chad, once the world's sixth largest lake that served as the water supply for 30 million people in central Africa, has shrunk by 90 per cent and will likely disappear altogether in 20 years, according to the United Nations Food and Agricultural Organization. Researchers studying the crisis found that climate change had little to do with it and blamed human activities, especially poor farming practices, industrial development and diversions from the lake.²⁰

The Great Lakes face the same abuses of over-extraction and diversion, pollution, poor agricultural practices, groundwater mining and growing demand. They are also subject to what Canadian environmentalist David Suzuki calls “exponential destruction,” the assault on a resource that cannot be charted because it is coming so fast and from so many places. What may look like a mostly full body of water one day may be gone the next when the multiple and multiplying demands are so great.

Can the Great Lakes run out of water? According to the scientists who conducted the recent global study on groundwater extractions, *if groundwater around the Great Lakes is being drawn down at the same rate as it is globally, the Lakes will be bone dry in just 80 years.*

“What may look like a mostly full body of water one day may be gone the next.”

19 American Geophysical Union, *Groundwater Depletion Rate Accelerating Worldwide*, Marc Bierkens, Utrecht University, 23 September, 2010

20 National Geographic News, *Shrinking African Lake Offers Lesson on Finite Resources*, April 26, 2001

Current Practices Are Not Saving the Great Lakes

Clearly the governance structures of the various jurisdictions are failing to adequately protect the Great Lakes, in spite of many attempts at joint actions. This does not mean there have been no attempts. In fact, there is a rich tradition of cooperation between the two countries and among the various states and provinces that share responsibility for them. There is also a myriad of state, provincial and federal laws governing water quality as well as highly regulated utilities supplying safe water to millions. Many communities also have watershed councils – citizen groups that champion watershed health, monitor their local waterways and advocate with their local, state and provincial governments to improve protection and equitable access to local water sources. Many of these local facilities, groups and regulations, as well as cross-border cooperation agreements, are based on the principle of protecting a shared Commons.

Cooperative agreements

The Boundary Waters Treaty of 1909 was created at the beginning of the 20th century when the importance of the Great Lakes was dominated by its use to transport goods to market. The treaty provides the principles and mechanisms to help resolve disputes and to prevent future ones, primarily those concerning water quality and quantity along the boundary between the United States and Canada. It was far-sighted enough to include a provision that the boundary waters “shall not be polluted on either side to the injury to health or property to the other side” and that there should be no effect on flows and levels. The Boundary Waters Treaty established The International Joint Commission (IJC) and set out a legal structure for regulating the Great Lakes as boundary waters between the two countries. The treaty requires that the Commission give all interested parties a “convenient opportunity to be heard” on matters under consideration, invites public participation and advice when it undertakes new studies or reports to governments, and provides information to the public on matters pertaining to the Lakes – all good Commons practices. The treaty and the IJC have long been considered global models of cooperation for countries that share boundary waters.

The 1955 *Convention on Great Lakes Fisheries* was created to deal with the decimation of fish stock in the Lakes, particularly trout and salmon. It created the Great Lakes Fishery Commission to coordinate fisheries research, jointly manage the Lakes’ fisheries and jointly control invasive species, especially the sea lamprey. *The Great Lakes Water Quality Agreement*, first signed in 1972 and renewed in 1978 and again in 1987, expressed the commitment of the two countries to restore and maintain the chemical, physical and biological integrity of the Great Lakes Basin ecosystem and has become a major focus of the IJC. As the agreement was renewed, persistent toxic substances and phosphorus were added as targets to the original goal of industrial pollution control. The agreement is presently under review.

The Great Lakes Water Quality Agreement also established a Lakewide Management Plan for every lake so that each lake could have a specific plan drawn up for its unique situation and government structure. Every Lakewide Management Plan includes a Remedial Action Plan to

deal with the 43 “Areas of Concern” – areas of intense environmental contamination singled out for remedial action.

In 1985, the countries, states and provinces of the Great Lakes signed the *Great Lakes Charter*, which recognized the limits of the 1909 treaty and sought to establish new mechanisms for co-managing the Great Lakes. The signatories were worried about the deterioration of the Lakes and wanted to assert an understanding that they form one integrated watershed that must be managed as such. Priority goals were to conserve the levels and flows of the Great Lakes and to protect and conserve the environmental balance of the Basin. A year later, the U.S. Congress passed the *Water Resources Development Act* requiring unanimous consent of the Governors of the Great Lakes states prior to any new diversion out of the Basin.

Concern about commercial exports from the Great Lakes suddenly arose in 1998 when the then Premier of Ontario granted a licence to a private Canadian company to export six hundred million litres (about 150 million gallons) of water from Lake Superior per year and ship it by tanker to Asia for bottling. The outcry from both sides of the border forced the Premier to cancel the licence. The U.S. added the word “export” to the ban on diversions in the *Water Resources Development Act*, and the governments of the United States and Canada placed a temporary moratorium on new takings while the IJC studied the issue further. The result of this study was the 2005 *Great Lakes-St. Lawrence River Basin Sustainable Water Resources Agreement*, which called the lakes “precious” and “interconnected,” reaffirmed the Great Lakes Charter vision of an integrated system that looks at ground and surface water as a unified whole, and set a floor for regulating water withdrawals in the Great Lakes. All eight states and both provinces have since adopted legislation ratifying the agreement. In 2002, the Canadian Parliament amended the International Boundary Waters Treaty to ban bulk water transfers from the Great Lakes, and in 2008, the U.S. Congress adopted it as the *Great Lakes-St. Lawrence River Basin Water Resources Compact*.

Some progress

Over the years, these cross-border agreements have resulted in some very important initiatives. One was a great reduction in the amount of phosphorus dumping in the Lakes, a result of both these cross border agreements and the 1977 *Clean Water Act* in the U.S. Phosphorus is a nutrient that in excess, will cause algae to grow out of control. Algae blooms can lead to biological death, called eutrophication. Measures to limit the nutrient included removing phosphorus in detergents and sewage treatment plants.

This in turn led to the (perhaps only temporary it may now appear) recovery of Lake Erie and the shrinking of its “dead zone.” Lake Erie, the shallowest of the Lakes, was clearly in trouble as far back as the 1930s, as a result of intensive industrial and farm activity, as well as wetland and habitat destruction on its shores. In 1970, its commercial fisheries were closed due to mercury contamination. With the warming of Lake Erie came oxygen depletion, eutrophication and shorelines covered in cladophora, a green, slimy rotting moss that forced the closing of beaches and recreational areas. The recovery of the Lake Erie fishery was rightly seen as a model for cross-border environmental cooperation.

Another partial but important success story was the reduction of DDT and PCBs found in fish and humans living on the Lakes in the decade between 1995 and 2005, a drop that has

“The recovery of the Lake Erie fishery was rightly seen as a model for cross-border environmental cooperation.”



“The reason that so little real progress is being made is that there are really duelling notions about what the Great Lakes are, and whom they should serve.”

been attributed to the banning of these substances in the 1970s.²¹ DDT was widely used in agriculture and insect control from the 1950s for at least 20 years. The fire resistant class of oils called polychlorinated biphenyls (PCBs) were widely used in transistors, capacitors and other electronics in the same decades. The return of the bald eagle is a moving part of this story. When the bald eagle was chosen as the national bird of the United States in 1782, there were about 100,000 nesting pairs; by the mid-sixties, that number was down to less than 500 nesting pairs. With the ban of DDT plus a recovery plan, there are now more than 10,000 pairs again, many of them living in the Great Lakes region. In 2007, the bald eagle was removed from the endangered species list.

The signing of the *Canada-United States Air Quality Agreement* in 1991 was largely meant to address transboundary air pollution leading to acid rain that was particularly harmful to the Great Lakes. Both countries agreed to reduce emissions of sulphur dioxide and nitrogen oxides, the primary precursors to acid rain, and to work on other acid related scientific and technical cooperation. Both governments claim that much progress has been made to reduce acid rain-causing emissions, a claim environmental groups acknowledge, but with caution. Pollution Probe says that while “great progress” has been made to meet reduction targets, the acid rain story is still unfolding, with new sources of pollution still being constructed and new science telling us that even reduced levels are not good enough to save our lakes and rivers from the scourge of acid rain.²²

Working alongside governments to implement these agreements are a number of hardworking and dedicated environmental organizations such as the National Wildlife Federation and the Canadian Wildlife Federation, Sierra Club U.S. and Sierra Club Canada, Great Lakes United, Healing Our Waters Coalition, Alliance for the Great Lakes, the Canadian Environmental Law Association, various manifestations of Waterkeepers and hundreds of state, provincial and local citizen groups fighting to protect their portion of the basin. These groups advocate for the Lakes, conduct research, lobby for better laws and serve as watchdogs to governments at all levels. Yet despite these important cross-border agreements, the many cross border-working groups tasked with their implementation and the relentless energy and commitment of these and other non-governmental organizations, and despite the successes listed here, the threat to the Great Lakes continues to grow and the alarm bells continue to sound.

Conflicting priorities

The reason that so little real progress is being made is that there are really duelling notions about what the Great Lakes are, and whom they should serve. The story of the global water crisis sets the stage all over the world: to feed the increasing demands of a consumer-based system, modern humans have seen water as a great resource for our personal convenience and profit, not as the most essential element in a living ecosystem. So we have built our economic and development policies based on a human-centric model and assumed that nature would never fail to provide, or that, where it does fail, technology will save the day. We have polluted, diverted and mismanaged the planet’s finite supplies of water to the point that they are now dangerously close to collapse in many parts of the world. We have moved water from where it is needed to protect a healthy hydrologic cycle, to where we want it. Increasingly,

21 L. Knobeloch, M. Turyk, P. Imm, C. Schrank, and H. Anderson, *Temporal changes in PCB and DDE levels among a cohort of frequent and infrequent consumers of Great Lakes sportsfish*, *Environmental Research*, 109:66-71, 2008

22 Pollution Probe, *Acid Rain Primer*, Second Edition, 2006

humans see water as a commodity to be used for personal profit. Many in the private sector view the world water crisis as a great business opportunity. Judson Hill, investment analyst for NGP Global Adaptation Partners, recently told a Geneva agriculture investment conference that water scarcity is turning water into a bankable commodity and will generate “buckets and buckets of money” for smart investors.²³

The waters of the Great Lakes are no exception to this rule. The history of the Lakes exposes deep threads of exploitation – from early settlement to the present day. From the time of European settlement, forests and wetlands were destroyed with impunity and extractive-industries such as pulp and paper dumped their effluent directly into the Lakes. The St. Lawrence Seaway was created in 1959 to open up the Great Lakes for international shipping and trading. It required much dredging and blasting, the building of massive hydroelectric power dams as well as the creation of a complicated series of canals and locks. (It also included the submersion of a number of villages and shorelines along the route, particularly on the Canadian side. Most of the lands and villages destroyed belonged to the Mohawk First Nations people of Akwesasne, who also witnessed the destruction of their fishing grounds, wetlands, arable farming land and access to the river.)

For the first time, deep draft ocean-going international vessels were able to come right into the heartland of North America. The creation of the Seaway opened the way for a huge expansion of industrial activity right on the Lakes in order to take advantage of the new shipping and trading opportunities, which in turn dramatically increased effluent dumping into the Lakes. Major manufacturing industries such as steel, paper, chemicals and automobiles, all attracted by plentiful water, set up shop in the Great Lakes region. Today, 36 per cent of U.S. cars and 38 per cent of Canadian cars are produced in the Basin. And of course, with the ocean-going vessels came the first of the invasive species that would destroy so much of the local native aquatic life of the Great Lakes.

That the Seaway served economic goals from the beginning almost to the exclusion of all others was evident with the mandate of the Moses-Saunders hydropower dam (built in the 1950s as part of the Seaway project), which required it to control the flow of the water levels in order to promote marine traffic and trading. Before the installation of the dam, water levels on the St. Lawrence and Lake Ontario water levels were dynamic and the natural flow enabled wetlands to survive by allowing shoreline seed banks to grow during periods of low water levels. Natural flows also protected access to inner marshes for fish spawning and served as protection for near shore animal activity during winter months. The new artificial controls of the water levels led to 50 years of environmental degradation of coastal wetlands says the Upper St. Lawrence Riverkeepers, and is a partial cause of the declining levels of the Lakes themselves.

Even the many agreements between the various government jurisdictions noted above are often based on the assumption of growth for the region, and one can see the duelling views of the Great Lakes right in the documents themselves. For instance, one of the official purposes of the 1985 Great Lakes Charter, aimed at joint reduction of environmental degradation, is “to provide a secure foundation for future investment and development within the region.” The Canadian Environmental Law Association (CELA) notes that, in the current consultations leading up to a mandated review of the *Great Lakes Water Quality Agreement*, some industry interests are lobbying to move away from a focus on toxics to “other issues” and worries

23 Private equity sees “buckets of money” in water buys, Reuters, November 9, 2010

that the IJC may be open to this line of thinking. “Has the ecosystem fallen off the negotiating table?” CELA demands to know, noting that it is difficult to discern if the ecosystem is still central to those responsible for updating the agreement.²⁴

As well, the *Great Lakes Water Quality Agreement* only outlines a need for research on the threat of invasive species, but does not recommend a program to control or contain them. In 2006, Canada introduced regulations to set new ballast standards but with a loophole for ships with “No Ballast on Board” (NOBOB), that is, loaded with goods. Lack of ballast is not a fool-proof protection however. While NOBOB ships are heavy with cargo and little ballast water, they do still carry unpumpable water and sediment and can therefore harbour invasive species. New York State recently adopted regulations that would require all ships entering the Great Lakes to be outfitted with ballast treating systems that exceed current international shipping standards, but New York State Senator Darrel Aubertine and the Canadian Department of Foreign Affairs and International Trade have joined the powerful shipping lobby in opposing them, citing their possible negative impact on Seaway commerce.

Even the 2008 *Great Lakes Compact* that came about to prevent new water diversions from the Lakes has a serious flaw that benefits industry, serving as another example of the duelling visions for the Lakes. As Michigan environmental legal expert Jim Olson explains, the Compact (and therefore all the implementing legislation by the states and provinces) contains a loophole that allows for water withdrawals of up to 20 litres (5.7 gallons) in unlimited quantity, which in turn allows big water-bottling companies such as Nestlé, Pepsi and Coca-Cola to remove large amounts of water from the Lakes for export. (For example, Nestlé secured a permit to withdraw 150 gallons – nearly 600 litres – per minute from wells in Evart, Michigan *after* the Compact was signed.)²⁵ It also contains an exemption that includes water in any sized container without limit so long as the container is labelled “product,” and the water is used in agricultural, manufacturing or industrial processes. This creates a giant precedent that water exporters can use to transfer water out of the Basin and to undercut the diversion ban, which is the intent of the law in the first place. Olson warns that once water is seen as a good, it is subject to tough new business rules under the under the terms of the North American Free Trade Agreement (NAFTA).

Open for business?

This view of the Great Lakes as primarily a commercial enterprise should come as no surprise. According to the Brookings Institute, if it stood alone as a country, the Great Lakes economy, with a gross regional product of \$4.2 trillion, would be the second biggest in the world, next only to that of the United States. Politicians and business leaders are keenly aware of the business opportunities this vast body of water offers.

In 2010, as part of its new *Open for Business Act*, Ontario passed the *Water Opportunities and Water Conservation Act*, which, while setting some good (albeit voluntary) standards for water conservation, clearly aims to make the province “a leader in the development and commercialization of innovative technologies for the treatment and management of water and wastewater” and use Ontario’s abundant water resources as an “economic incentive” for

24 Canadian Environmental Law Association, *Re-negotiation to Amend the Great Lakes Water Quality Agreement: Response to the Binational Webinars*, June 7-9, 2010

25 Jim Olson, *Navigating the Great Lakes Compact: Water, Public Trust and International Trade Agreements*, Michigan St. Lawrence Review, 1103, 2007

businesses to locate there. The same Bill weakened the requirements for public scrutiny of pollution permits.²⁶ The duelling visions of trying to care for the Lakes, while at the same time exploiting them, can be clearly seen in this legislation and where it might lead. Environmentalists are concerned with plans to open up a whole sub-basin of the Great Lakes to Greater Toronto-scale urban sprawl and industrial development, which will necessitate building huge water pipelines traversing the countryside from Lake Simcoe or Georgian Bay to inland communities.

Milwaukee's City Council is planning to entice water-intensive industries such as semiconductors, meatpackers, paper, pharmaceuticals and fabricators, to the city with deeply discounted water from the Great Lakes. "This is our comparative advantage," says Mayor Tom Barrett, who clearly favours the vision of the Great Lakes as an economic engine over that of a shared and protected watershed. He suggested poaching jobs from water-parched Atlanta. Local business leaders see this as an example for other Great Lakes cities and suggest the project be called WAVE – "Water Attracting Valued Customers." Critics point out that water intensive industries dispose of a lot of wastewater, which will be cleaned at public expense by public treatment plants, and are usually highly energy intensive as well, creating additional air and water burdens in the surrounding communities. As well, cheap water rates may lure the kinds of businesses that do not want to take measures to reduce their water footprints. The Alliance for the Great Lakes notes that if Great Lakes cities and their leaders do not recognize the intrinsic value of being situated near the world's largest concentration of freshwater lakes, how can they convince others of their value?

Chicago Mayor Richard Daley is proposing to bottle municipal tap water to sell for profit. As it is, commercial and bottled water users have access to the groundwater of the Great Lakes at cut-rate prices. Ontario charges large commercial water users only \$3.71 per million litres (250,000 gallons). In Michigan, Nestlé pays just for the service charge of the municipal tap water it uses. The company pays the City of Ewart 9.4 cents per 1 million gallons (4 million litres) and pays nothing for the 100 million gallons (4 million litres) of water it removes every year from the Sanctuary Springs Mecosta because these are private high capacity wells. In Detroit, as in many other Great Lakes cities, the rate charged per gallon of water decreases the more water is used. For instance, industry in Detroit uses more than 33,000 cubic feet a month, but pays almost 20 per cent less than both industry and residents using less than that amount. The bottled water industry is of course very interested in the water of the Great Lakes and pumps three hundred million gallons (more than 1 billion litres) out of the systems that feed the Lakes every year with the blessing of local governments.²⁷

As well, many governments are now promoting the sale or contracting out of their public water systems to private companies, either because they are cash strapped and need private investment funds to upgrade neglected and aging infrastructure, or because they believe in private services ideologically. Public-private-partnerships are being promoted by many municipal, provincial and state governments as an alternative to public delivery of water and wastewater services and in some cases, funding for new initiatives such as water treatment plants, favour private sector involvement. Chicago is one of a number of Great Lakes cities seriously considering privatizing its water services. (Others include Toledo, Detroit, Grand Rapids, and Bay City.) A report by U.S.-based Food and Water Watch found that if Chicago moves to a

"Public-private-partnerships are being promoted by many municipal, provincial and state governments as an alternative to public delivery of water and wastewater services."

26 Lake Ontario Waterkeepers, *Waterkeeper's Weekly*, October 27, 2010

27 From an April 2008 speech by former Great Lakes Fisheries Commission member Dave Dempsey at Michigan State University Alumnus Theatre



Chicago, Lake Michigan. Photo by Marius M. / stock.XCHNG

private model, consumers will pay for the original investment many times over.²⁸ Privatization brings not only higher rates for consumers but also a loss of public oversight to manage and protect watersheds. Commodifying public water services of the Great Lakes renders a Great Lakes-centred vision for the Basin unattainable.

And despite the intent of the Compact to ban commercial water exports from the Great Lakes, pressure is growing to open up the Lakes for water trading. The influential policy think-tank, the Montreal Economic Institute, is proposing a \$20 billion plan in annual bulk water sales that would take massive amounts of water from Northern Quebec and ship it by canals down to the southwestern United States through the St. Lawrence and the Great Lakes. While there has been no response yet from the Quebec government on this proposal, it has generated a fair bit of media and some support in Canadian business circles. This would not surprise the National Wildlife Federation, which warns of the growing demand on the waters of the Great Lakes as climate change decreases water and aquifer levels in other parts of the United States.²⁹

Consistently underfunded

In the end the proof is in the funding. For decades, funding for the various joint agreements and reclamation projects for the Great Lakes has been so meagre, their recommendations have been impossible to implement. Many groups appearing before the current review of the *Great Lakes Water Quality Agreement* expressed widespread concern that inadequate and

²⁸ Food and Water Watch, *Water Privatization Costly for Chicago*, 2010

²⁹ National Wildlife Federation, *Climate Change and Great Lakes Water Resources*, November 2007

inconsistent funding has hampered the overall success of the Agreement. A 2008 report by the Great Lakes and St. Lawrence Cities Initiative showed that local governments in Canada and the United States invest the lion's share of Great Lakes rehabilitation costs, an estimated \$15 billion annually.³⁰ The U.S. government had cut federal funding for the Great Lakes to the bone to just over half a billion dollars annually in 2004, and the Canadian government allots a mere \$8 million a year for Great Lakes clean-up and protection.

While the Obama administration has promised to increase federal funding for the Great Lakes to \$2.2 billion over the next five years, this money is not adequate to the demand and the funds have not been forthcoming at the expected rate. The Environmental Protection Agency estimates that \$73 billion is needed in the U.S. just for infrastructure repair and upgrade and the Canadian Water Network, a group of scientists and researchers across the country, places Canada's need for immediate infrastructure upgrading at close to \$40 billion. As a consequence of this severe underfunding, not only are the remediation goals of the *Great Lakes Water Quality Agreement* not able to be realized, neither are the proper implementation of the Compact and its goal of controlling diversions.

It is clear then, that the measures taken to date are not adequate to the enormous task before us of rescuing and permanently protecting the Great Lakes of North America. If we truly saw the Great Lakes as a shared Commons to be protected for all time, we would have invested heavily in their reclamation and created powerful laws to prevent further harm. While no one would deny that there is an important economic dimension to the waters of the Great Lakes, the dominant tendency to see them primarily as an engine of growth and prosperity has placed them in grave and growing danger. A new narrative, widely held and acted upon, is needed now to save the Great Lakes.

30 Great Lakes and St Lawrence Cities Initiative, *Local Investment in the Great Lakes and St Lawrence*, February 2008



We Need a New Narrative to Protect the Great Lakes

What might happen if the citizens living around the Great Lakes decided to collectively protect them based on some of the very principles and practices that informed the First Peoples of the region, namely that the Great Lakes must be shared equitably by all who live around them and protected for seven generations into the future? What do we mean by a Commons? What is the Public Trust Doctrine? How could we protect a Bioregion?

A Commons approach

The notion of the Commons is a very old one. A Commons narrative asserts that no one owns water. Rather it is a common heritage that belongs to the Earth, other species and future generations as well as our own. Because it is a flow resource necessary for life and ecosystem health, and because there is no substitute for it, water must be regarded as a public Commons and a public good and preserved as such for all time in law and practice. Embracing the Commons helps us to restore to the centrestage a whole range of social and ecological phenomena that market economics regards as “externalities.” A language of the Commons would restore more democratic control over the Great Lakes and establish their care and stewardship the joint responsibility of citizens and their elected governments based on the notions of social equity, ecological survival and governance by the people most impacted.

The Commons approach is based on the belief that just by being members of the human family, we all have rights to certain common heritages, be they the atmosphere and oceans, freshwater and genetic diversity, or culture, language and wisdom. In most traditional societies, it was assumed that what belonged to one belonged to all. Many indigenous societies to this day cannot conceive of denying a person or a family basic access to food, air, land, water and livelihood. Many modern societies extended the same concept of universal access to the notion of a social Commons, creating education, health care and social security for all members of the community. There are many working examples of Commons in North America today that include systems of national, state and provincial parks, cooperative fishing compacts to protect local stocks from depletion, and public libraries.

A Great Lakes Basin Commons would reject the view that the primary function of the Great Lakes is to promote the interests of industry and the powerful and give them preferential access to the Lakes’ bounties. It would embrace the belief that the Great Lakes form an integrated ecosystem with resources that are to be equitably shared and carefully managed for the good of the whole community. In a Commons framework, water is a fundamental human right that must be accessible to all. Private control of water cannot address itself to the issues of conservation, justice or democracy, the underpinnings of a solution to the crisis of the Great Lakes. Only citizens and their governments acting on their behalf can operate on these principles. Under a Commons regime, all private sector activity would come under strict public oversight and government accountability, and all would have to operate within a mandate whose goals are the restoration and preservation of the waters of the Basin and water justice for all those who live around it.

“A Commons narrative asserts that no one owns water. Rather it is a common heritage that belongs to the Earth, other species and future generations as well as our own.”

At the same time, it is *not* a return to the notion that the Great Lakes are indestructible due to their size,³¹ or what has come to be known as “the tragedy of the commons.”³² It is rooted rather in a sober and realistic assessment of the true damage that has already been unleashed on the Great Lakes as well as the knowledge that they must be managed and shared in a way that protects them now and for all time.

Public Trust Doctrine

The Public Trust Doctrine underpins in law the universal notion of the Commons that certain natural resources, particularly air, water and the oceans, are central to our very existence and considered to be the property of the public, which cannot be denied access. The trust resources must, therefore, be protected for the common good and not appropriated for private gain. Under the public trust, governments, as trustee, are obliged to protect these trust resources and exercise their fiduciary responsibility to sustain them for the long-term use of the entire population, not just the privileged few who could buy inequitable access.

The Public Trust Doctrine was first codified in 529 A.D. as Codex Justinianus, after the emperor of that period who said, “By the laws of nature, these things are common to all mankind: the air, running water, the sea and consequently the shores of the sea.” This “common law” was repeated many ways and in many jurisdictions, including the Magna Carta, and has been a powerful legislative tool in many countries to provide for public access to seashores, lake-shores and fisheries. U.S. courts have referred to the Public Trust Doctrine as a “high, solemn and perpetual duty”³³ and held that the states hold title to the lands under navigable waters “in trust for the people of the State.” The Public Trust Doctrine has been used in recent decades to protect both the right of public access to water and water itself.

Oliver Brandes and Randy Christensen of the Polis Water Sustainability Project of the University of Victoria in British Columbia add that at its core, Public Trust Doctrine is a background principle of property law that serves to strike an appropriate accommodation between the public interest and private development rights through requiring continuous state supervision of trust resources. Public trust is a recognition, they say, that private rights to use water are not granted in a completely unencumbered fashion, but are obtained through an appropriation system administered by government and with implicit restrictions to not unduly and irreparably harm the resource and associated values. This public trust is a safeguard that prevents the monopolization of trust resources and promotes decision-making that is accountable to the public.³⁴

The Public Trust Doctrine is an important tool in the movement to fuse solutions to both the ecological and human water crises. Under a public trust regime, all competing uses of Great Lakes water should have to pass a test, not just of fairness of access, but also that they will

31 As noted by a decision of the Michigan Supreme Court, nibbling effects can impair the public trust as much as one major event, *People v Broedell*, 112 NW 2d 517, Mich 1961

32 *The Tragedy of the Commons* is an essay written for the journal *Science* in 1968 by Garrett Hardin and is widely taught and referenced as an argument for private control of resources. It is now widely criticized for failing to distinguish between well managed and regulated common property and “open access” resources that can be accessed by anyone at any time without restraint.

33 Michigan Supreme Court, *Collins v. Gerhardt*, 1926

34 Oliver M. Brandes and Randy Christensen, *The Public Trust and a Modern BC Water Act*, Polis Water Sustainability Project, June, 2010

not draw down the future capacity of the watershed. Public trust offers a body of principles that combine public good, public control and public oversight with the long-term protection of the watershed. It also sets the stage for an agreed upon “hierarchy of use,” whereby some uses of the water, such as the human right to water and water for ecosystem protection, will take precedence over others.

Protected Bioregion

As important as it is, the Public Trust Doctrine does not extend to the concept that the Commons themselves have the inherent right to protection. In the eyes of most Western law today, most of the community of life on Earth remains mere property, natural “resources” to be exploited. Where there is challenge to this exploitation, it is usually to protect a natural Commons so that it can still be of use to humans, usually for economic purposes. The main form of environmental protection of the Great Lakes has been based on the regulatory system, legalizing the discharge of large amounts of toxins into the Basin in the name of curbing the worst practices.

South African environmental lawyer Cormac Cullinan has written extensively on the need for “wild law” to regulate human behaviour in order to protect the integrity of the Earth and all species on it.³⁵ If we are members of the Earth’s community, then our rights must be balanced against those of plants, animals, rivers and ecosystems, he argues. In a world that recognizes the rights of nature, the destructive, human-centred exploitation of the natural world would be unlawful and humans would be prohibited from deliberately destroying the functioning of ecosystems or driving other species to extinction. Humans have bought into the “myth of abundance” and used, abused and moved water as if it is unlimited. The time has come to reverse this pattern and learn to live within the cycles and systems of water that give us life.

Creating a *Great Lakes Protected Bioregion* would require a change in the relationship of the humans who depend on the watershed from one of exploitation to one of respect. A Great Lakes Protected Bioregion would require legislation that recognizes the inherent rights of the ecosystem and aquatic life of the Great Lakes Basin outside of their usefulness to the humans who live around it. Law and practice would protect all the waters of the Great Lakes Basin, and the restoration of its ground and surface waters would be a priority.

Existing Public Trust Law

Technically, as environmental lawyer Jim Olson points out, all the waters of the Great Lakes, connecting waters and all tributary lakes and streams (with the exception of groundwater) are subject to Public Trust law in the United States by virtue of the U.S. Supreme Court decision in *Illinois Central Railroad v Illinois* (1802), where the Court ruled that even though the state held title to the lands under navigable waters, it is a title held in trust for the people. Olson says, “The principles of governance, democracy, and public control already apply and exist; we, as recognized beneficiaries, need to educate and exercise.”³⁶

Knowledgeable environmental groups such as Midwest Environmental Advocates, a Wisconsin-based non-profit environmental law centre, agree, saying that because of these trust laws,

35 Cormac Cullinan, *Wild Law: A Manifesto for Earth Justice*, Green Books, Second Edition, 2011

36 Jim Olson, personal correspondence, January 2011

the Great Lakes are already “the quintessential shared Commons” and need to be recognized as such.³⁷

There is a rich history of public trust in U.S. law. The state Supreme Court of Idaho has stated “the public trust doctrine at all times forms the outer boundaries of permissible government action with respect to public trust resources.” In 1983, the California Supreme Court used the Public Trust Doctrine to curtail the diversion of water to Los Angeles from fragile Lake Mono. The Audubon Society successfully argued that even though the tributaries feeding Lake Mono were not navigable (up until then only navigable waters were subject to public trust protection), the public trust was still violated because diverting from those streams jeopardized the public trust value of the lake. Two decades later, Olson used the Public Trust Doctrine to argue for limits to tributary groundwater access with dramatic effect on an adjacent stream, in a 2004 court challenge against a Nestlé bottling operation in Michigan. He said that groundwater and surface water are one and the same, and therefore the effects are the same whether the pipe is in the stream or in the groundwater that feeds it – both must be equally protected for the common good.

In 2008, concerned about major groundwater extractions, the State of Vermont passed the *Groundwater Protection Act* that declared the groundwater to be a public trust resource legally belonging to all Vermonters that must be managed in the best interest of all Vermonters. A permitting system has been set up for users over a certain limit per day, and the state has the right to revoke these permits if they are abused. Recently, the Vermont Natural Resources Council used the State’s public trust legislation to challenge a tritium leak from nuclear power plant Vermont Yankee, saying that a violation of the integrity of the water is a violation of the rights of the owners – the people of Vermont. Maine has introduced a law that would require a majority vote of the local community before a large groundwater withdrawal or large-scale transport of public water could take place.

The Great Lakes states have some good public trust law and history as well. In 2005, the U.S. Supreme Court ruled that Michigan residents have the right to walk along that state’s more than 5,000 kilometres of shoreline. Michigan, Wisconsin and Ohio all have the right of public access under the Public Trust Doctrine extending to all navigable lakes and streams. In a dispute between a Wisconsin property owner and the public, the Supreme Court established that streams and wetlands are interconnected and a private homeowner does not have the right to destroy a wetland because of the common ownership of the stream.

There is less of a history of public trust in Canadian law because, as distinguished Canadian water advisor Ralph Pentland explains, Canada’s *Constitution Act* recognizes the on-going role and authority of the Crown as the owner of all public lands.³⁸ So the responsibility to preserve the Commons was vested more in government than in citizens. As Brandes and Christensen of the Polis Project point out however, just because no court in Canada has explicitly recognized or adopted the Public Trust Doctrine with respect to freshwater resources does not mean there is not some history of Commons protection in Canadian law. Public rights to shared resources have been affirmed in court cases involving the use of public rivers and oceans, including the rights of fishing and navigations; the use of lands dedicated for public use includ-

“Creating a Great Lakes Protected Bioregion would require a change in the relationship of the humans who depend on the watershed from one of exploitation to one of respect.”

37 Midwest Environmental Advocates, *Realizing the Promise of the Great Lakes Compact: A Policy Guide for State Implementation*, *Vermont Journal of Environmental Law*, 2006-2007

38 Ralph Pentland, *Public Trust Doctrine – Potential in Canadian Water and Environmental Management*, Polis Project on Ecological Governance, June 2009



Picture Rocks, Lake Superior. Photo by Cece Chen / stock.XCHNG

ing parks and public commons; and the maintenance of key environmental features including clean air and water, healthy fish stocks and wildlife and publicly-owned forests.

More recently, limited public trust language has found its way into Canadian law. The Yukon and Northwest Territories have incorporated trust principles into recent environmental laws, the latter defining the public trust as “the collective interest of the people of the Territories in the quality of the environment and the protection of the environment for future generations.” As Pentland notes, these Acts not only establish the public trust concept, they also provide means for the trust to be enforced by citizens who feel that it is threatened. British Columbia passed the *Islands Trust Act*, which, as the Polis Project points out, identifies lands vulnerable in the Gulf Islands to development pressure and provides that land use planning and decision-making must be done in a manner that “preserves and protects” the resource. And the Canadian environmental justice law group Ecojustice has filed an application on behalf of the Aamjiwnaang First Nation of Sarnia that the on-going approval of pollution of their local watershed by the Ontario Ministry of the Environment, and the resulting imbalance in their ratio of boy and girl babies, violates their basic human rights under the *Canadian Charter of Rights and Freedoms*.

One of the two Great Lakes provinces, Ontario, has yet to commit to key public trust law to protect the Great Lakes. Water in Ontario is governed under Common Law and is public. The beds of the Great Lakes belong to the Crown (the government). But the law also allows for “reasonable use.” The many private claims to waterfront have meant that public access to the shoreline of the Great Lakes on the Canadian side is not secure. In April 2010, the Member of the Provincial Parliament from Niagara Falls introduced the *Great Lakes Shoreline Rights of Passage Act*, in the hope of gaining support from the Ontario government for this public trust

access, but has had little success to date. Quebec however, adopted a law in 2009 recognizing that “both surface water and groundwater, in their natural states, are resources that are part of the common heritage of the Québec nation.” The Act states that every person has a duty to prevent or at least limit the damage done to water resources. The government of Quebec can now sue individuals and companies for damaging water resources.

Limits of existing Public Trust Law

Clearly then, the notion of a limited public trust are becoming more established on both sides of the border. However, there are still gaping holes in the legislative process, such as Ontario’s reluctance to provide public access to shorelines on its side of the Lakes. The public trust is deeply undermined by the terms of the “investor-state” provision of NAFTA, which gives corporations from another NAFTA country the right to sue for financial compensation if governments change the rules of business even to protect the environment or the health and safety of their citizens. Canadian bottling, agriculture, mining and other private interests that have set up shop in the U.S. and their American counterparts operating in Canada have legal claims to the water they use for their business and can sue for millions – even billions of dollars – if governments use their authority to try to set limits on their water takings. In October 2010, the Canadian government set a dangerous precedent by “compensating” U.S. pulp and paper giant Abitibi Bowater for \$130 million after it claimed it has ownership of the water rights from the Newfoundland operation it deserted. The government of Newfoundland and Labrador argued that the company only had the right to access the water as long as it was creating jobs in the province but that the water belongs to the people. Abitibi Bowater used NAFTA to argue that the water it used for business was its private property, not a public trust, and won.

As well, neither the public trust nor the Commons framework are widespread notions, really understood, or lived in practice. Further, there are on-going challenges to existing Commons protections by those who have a very different vision of the purpose and future of the Great Lakes. As Midwest Environmental Advocates note, this “quintessential shared Commons” is under pressure from within and without: “There are no uniform and comprehensive rules for management of water uses within the Great Lakes Basin and there are increasing pressures to export and exploit the Great Lakes by private industries.”³⁹ They point out that while in their opinion, the public trust laws render the Great Lakes a Commons, their management of the Lakes would suggest otherwise.

Furthermore, existing definitions of the Commons in North American do not much address themselves to the issues of social or environmental justice. The lack of access to clean water is increasingly seen as a violation of fundamental human rights. Around the world, lack of access to clean water is now the largest killer of young children, and these deaths are directly related to the inability of their parents to pay for water services. In July 2010, the United Nations General Assembly adopted an historic resolution that recognizes the human right to safe drinking water and sanitation, and several months later, the UN Human Rights Council adopted a similar resolution. Because the Human Rights Council’s resolution is an interpretation of two existing treaties, it strengthened the interpretation of the General Assembly resolution, making it binding. Both Canada and the United States worked to derail the resolution of the General Assembly although in the end, they abstained rather than vote against it. However,

“The public trust is deeply undermined by the terms of the ‘investor-state’ provision of NAFTA.”

39 *ibid*, Midwest Environmental Advocates

in a surprise and welcome move, the United States, which sits on the Human Rights Council, supported the second right to water resolution.

The human right to water is being violated in a number of communities around the Great Lakes. In Canada, First Nations communities are far more at risk of water contamination than the average population. In 2010, 49 First Nations communities had high-risk drinking water systems and more than 100 face on-going boil water advisories (out of about 600 First Nations reserves in Canada.) Many of these deplorable conditions have been dragging on for years and in some cases, decades.⁴⁰ Compared to other Canadians, First Nations' homes are 90 times more likely to be without running water. Several of the more seriously contaminated communities live on or near the Great Lakes and several others draw from source water seriously compromised by chemicals, pathogens, E. coli, giardia and cryptosporidium. The Walpole Island First Nation located at the head of Lake St. Clair on the Ontario side of the international boundary, for instance, has dealt for decades with contamination from the petrochemical industry and to this day lives with strict restrictions on eating local fish and wildlife.

On the U.S. side, high water rates have been responsible for water cut-offs in some poor communities. At least 45,000 residences in Detroit, Michigan have had their water disconnected, according to the Detroit Water and Sewerage Department⁴¹ (although local activists put the number much higher). Water rates have climbed as industrial activity has declined, causing a steep drop in population and municipal revenues. Communities affected are largely African-American, poor, elderly, or single parents. As a result, a number of families have had their children taken from them by social services. Reminiscent of the townships of South Africa, some Highland Park families haul water from public venues or run hoses from neighbours' yards into their kitchens to survive. As water rates climb across the states, provinces and countries, there will be other communities affected in this way unless access to clean water is redefined as a human right and is guaranteed, regardless of ability to pay.

And what of the people living around the Lakes in proximity to the toxic cesspools so bureaucratically named "Areas of Concern?" What are their rights? Will Great Lakes residents be able to challenge mining, energy, chemical, pharmaceutical and other companies for discharging poisons into their drinking water as a violation of their human right to safe drinking water? Will people in a community where a bottled water company has drained their aquifer be able to challenge the company or the government for allowing the theft of community water? Why should the public keep paying for the clean-up of industrial and agribusiness pollution while so many corporations get to make large profits from this supposed Commons resource? How will we ever have a true definition of the Commons if we do not give citizens the right to challenge these and other violations of their rights?

40 David R. Boyd, *No Running Water, First Nations and the Constitutional Right to Safe Water in Canada*, November 2010

41 Circle of Blue Waternews, *In Detroit: No Money, No Water*, April 19, 2010

The Time has Come for the Great Lakes Basin Commons

We are hoping that this paper serves as a “call to understanding and action” to create the *Great Lakes Basin Commons*. The time has come for a cohesive analysis of the crisis facing the Great Lakes, a new narrative to guide us on this journey, and a common set of goals to unite us as we move forward to take remedial action. What we are proposing is different in kind, context, reach and framework from what exists now, although some of the foundation has surely been laid. There is a strong need for Basin-wide consistent laws, regulations and definitions to protect and expand the existing Commons groundwork if we are to save the Great Lakes. And for this to work, the public must understand and embrace the Commons concept and demand its supremacy in the governance of the Great Lakes. A new Commons narrative bound by a Commons set of principles and a new governance structure truly subject to citizen accountability could provide a path toward sustainable and equitable stewardship of the Great Lakes.

Commons principles

To help guide this process, a group of legal experts from both Canada and the United States met to set out some draft key concepts and approaches that are needed to form the basis for the kind of Commons regime that is needed to protect the Great Lakes and can serve as a guide to groups and communities wanting to move this agenda forward. “In theory,” say the legal experts, “a Commons approach is simple – it requires only that we envision water as a shared resource and so recognize our shared responsibility to carefully steward our water resources. The goal of a Commons approach to water is to ensure that there is sufficient water to meet human and ecological and community needs for many generations to come.”⁴² The authors underline the need to identify key principles to guide the process and situate them within a good and strong governance structure.

Ten principles for the *Great Lakes Basin Commons*:

- 1) ***The waters of the Great Lakes belong to everyone and every living being that live on or around them.*** The waters are inherently a public resource, the same as the air we breathe. This principle derives from the physical nature of water, the fact that having access to water to drink is a biological imperative of all life, and because of the fact that water is critical to the water and ecosystems that sustain us.
- 2) ***Private interests of those with claims to the Great Lakes are subordinate to public rights.*** The concept of water as a Commons stands in stark contrast to the concept being advanced by some that water rights are a form of property equivalent to a permanent and exclusive entitlement that precludes any public use of the appropri-

42. *Water Commons Legal Framework*, A working document that came out of a 2009 Wingspread meeting of legal and policy experts. The principles that follow are a combination of ones proposed from this gathering and my own work.

ated water without public compensation. Individual water rights allocations must not interfere with collective and Earth rights.

- 3) ***The waters of the Great Lakes are a human right and must be equitably and justly shared.*** Every person living around them has the right to clean drinking water and sanitation consistent with the new human right to water obligations under the United Nations, regardless of ability to pay. Every person has the right not to have the water of their local watershed contaminated by industrial, agribusiness, mining, energy or other activities.
- 4) ***Governments have an affirmative obligation to manage and protect the water of the Great Lakes as a Commons.*** Not only does the public trust provide a basis for enforcement of the rights of people in the Commons, it demands respect. Governments must protect the water and its uses for all generations in a way that ensures that clean water is available for drinking, fishing, healthy ecosystems, as well as for agriculture, transportation, industry, and power generation. Water management, regulation and pricing must be consistent with principles of the public good and respect for human rights and Earth rights.
- 5) ***The Great Lakes Basin Commons recognizes the ecological rights of the watershed.*** Water belongs where nature put it. We must recognize the ecological integrity of water itself and the need to leave it as intact as possible in watersheds. As well, water is part of a cycle; one cannot disrupt any part of the cycle of the Great Lakes without disrupting the entire cycle. Groundwater and surface water of the Basin are linked. All water allocations and water management must support a balanced hydrological cycle where water withdrawals and contamination do not exceed the water sources ability to replenish and restore.
- 6) ***The Great Lakes Basin Commons will require constant and careful management.*** A central characteristic of a true Commons is its careful, collaborative management by those who use it, and allocation of access based on a set of priorities set by the community. As well, those living around the Lakes have a responsibility to prevent harm and must take responsibility to care for the watersheds for future generations. Good stewardship needs good law and will require the extension of public trust law in many areas and in a consistent manner.
- 7) ***The Great Lakes Basin Commons must encourage and empower decision-making at the local level.*** A water Commons should empower community-based investment, but subject to strong oversight by regional, state/provincial, and national interests in making sure that local groups are not captured by economic interests, or driven to compete for economic development by lowering water resource protections in a race to the bottom.
- 8) ***The water systems of Great Lakes communities should remain under public management.*** Where water systems have been privatized, they should be brought back under public control. Full cost recovery should not be the goal of water services; water should be seen as a public service like health care or education. Higher service rates can be set for industry and agribusiness.
- 9) ***Public participation is key to the Great Lakes Basin Commons.*** The availability of good information about the local watershed is crucial to its success and governments

have an obligation to collect baseline information on water quality and quantity (including “virtual water” that leaves the watershed) and disseminate it. A true Commons is based on a co-management model and requires true collaboration between community and government and ability of regulatory agencies to implement public recommendations.

10) All decisions about the Great Lakes should be made with the involvement of all recognized nations and people, including local First Nations/American Indian tribes. Indigenous peoples have lived around the Great Lakes for centuries and continue to do so today. These aboriginal communities are sovereign governments with strong traditions and cultural ties to the waters of their historic lands and must be recognized as having fundamental rights to these traditional lands and waters. They must be fully involved in the creation of a water Commons.

Commons legal framework

A Commons framework needs good law. As explained in this report, water is inexorably bound up in custom and the law. The law governs the control, use, disposal, protection and ownership of water and that law around the Great Lakes is currently a “colossal morass.” Rarely, for instance, does water law conform to hydrological realities; rivers and aquifers transcend state and provincial boundaries but many water laws do not. Change is necessary in our legal regime before a Commons approach to water can be achieved and it must be based on a proactive, positive approach to the context, governance, and boundaries beyond which no

“A Great Lakes Basin Commons Watershed Plan would establish the Commons principles that no one owns the waters of the Great Lakes.”



Mackinac Island, Lake Huron. Photo by Jill Smith / stock.XCHNG

private interest or person can go because of the nature of these magnificent waters and the ecosystem that surrounds them.

The Great Lakes Basin Commons needs a uniform and comprehensive set of rules for the good governance and protection of the Lakes. A *Great Lakes Basin Commons Watershed Plan* would establish the Commons principles that no one owns the waters of the Great Lakes; they must be equitably shared; the watershed itself has rights; and all the governments around them have an affirmative responsibility to govern in such a way that they are protected for all time.

Components of a Plan should include:

- A declaration that all the waters of the Great Lakes, including their groundwater and tributaries, are a public trust;
- A declaration that safe drinking water and sanitation is a basic human right of all the people living around the Basin;
- A process for citizens and communities living on the Basin to sue corporations and governments knowingly polluting their local water sources for violation of their human right to clean water;
- A declaration that water and wastewater services are public services to be equitably and affordably provided by governments;
- Integrated watershed planning and management; understanding that the Lakes, their tributaries and groundwater are all connected regardless of political jurisdiction and need watershed-wide governance;
- Collective watershed-wide assessment of the region's water resources and an assessment of the demands on the system, both short and long term;
- Intensive groundwater mapping and regulation to protect the long-term sustainability of current supplies;
- A process for priority allocation of the existing supplies based on a set of Commons values that must include ecosystem protection and the right to clean drinking water for all;
- The principle of local self-sufficiency; that no region will use more of the water resource than it supplies and will try to provide for the water footprint of its population with local water sources;
- Research on virtual water exports out of the Basin and new restrictions on water-intensive commodity production for export;
- Priority support for local sustainable food production to keep local water in the watershed basin;
- A plan for the capture and storage of water now leaving the watershed and long-term restoration of the Great Lakes watershed;
- Tough new restrictions on chemical, toxic and sewage pollution with serious enforcement standards and mechanisms;

- Strict new regulations on industrial food production to curb chemical run-off, including the input streams feeding the Lakes;
- Clear adoption of the precautionary principle in all federal, state and provincial laws pertaining to the Great Lakes;
- A program for wetland protection and restoration;
- A serious financial commitment to water and wastewater infrastructure to prevent the current loss of massive volumes of water due to old or non-existent systems;
- A moratorium on all oil and gas exploration in or near the Lakes and clear restrictions on all mineral exploration and extraction to ensure no damage to the Basin and its waters;
- A ban on all nuclear shipments on the Great Lakes;
- A ban on all bunker oil in ships travelling the Great Lakes;
- A ban on more tar sands pipelines carrying bitumen to the Great Lakes and the refining of it by industry near the Basin;
- Inflow protection for shorelines, not shipping, which will require allowing sufficient seasonal and year-to-year fluctuations in water levels to repair coastal wetlands in Lake Ontario and the upper St. Lawrence River;
- A moratorium on all ocean-going vessel access to the Great Lakes until a fool-proof plan is put in place to stop the influx of invasive species into the Basin;
- Open public access to all Great Lakes' shorelines to the public;
- A full ban on all commercial export of water from the Great Lakes;
- A full ban on bottled water extraction around the Great Lakes;
- Closure of the loopholes in the *Great Lakes Compact* so that water cannot be exported either in commercial bottled water operations or as containers marked "product";
- Removal of all references to water as a "good, investment or service" from all trade and investment agreements.

Commons governance

How might the *Great Lakes Basin Commons* be governed? First is the adoption of the notion and the need to protect the Lakes as a Commons, a Public Trust and a Protected Bioregion. Key to this of course, would be the widespread adoption of the principles outlined above as well as a *Great Lakes Basin Commons Watershed Plan* and legal framework by both the federal governments of Canada and the United States and all of the states and provinces that border the Lakes. Basin-wide regulatory agencies with the authority to enforce the law and who are accountable to local communities would be essential. This would have to be worked out between the two countries, neither of which would likely be willing to cede sovereign authority over their right to enforce their own laws. But as we have seen when big business

lobbies and governments from both sides of the border get together to promote common trade policies and standards for goods crossing the border, it is entirely possible to successfully cooperate on a larger project. Municipal buy-in would also be crucial and necessary for any success of the project.

Citizen participation is a cornerstone benchmark for success or failure. Active, meaningful public involvement is a critical component of a water Commons approach. Users of the resource must monitor public and private use of the water resource and publish the results of their monitoring.

Governments would need to provide local citizens with the tools they need to co-manage their water together with public authorities and empower citizen watershed councils with resources and coordination and provide tools for community capacity building. This means active encouragement, facilitation, funding, expert assistance, public education, information sharing, and outreach by public authorities for the purpose of citizen involvement. Empowering citizens must include providing legal standing for citizen watershed councils in their co-management and watchdog function. Given the broad range of interested parties, all interested sectors of civil society, including water operators, upstream water users, stewards within adjacent watersheds, and First Nations communities, should participate in citizen water councils. However public participation should not be seen as a substitute for strong regulatory agencies, but rather serve as a tool to strengthen them.

There are many current projects and examples that serve as models for the kind of local, state/provincial and federal cooperation that would be needed for the Great Lakes Basin Commons to succeed. The Detroit Peoples' Water Board was set up as a reaction to the water cut-offs and very effectively serves as a parallel citizen's board to the municipal board, advocating for access, protection and conservation of water. The Akwesasne Task Force on the Environment is a community-based, grassroots organization formed to address the water and other environmental issues of the Mohawk Nation. Its mandate is to conserve, protect and restore the natural and cultural resources of the community. The Tip of the Mitt Watershed Council of northern Michigan has organized local citizens for 30 years to monitor their water resources and advocate for their protection. Members use an extensive network to activate their base, educate the local community on water issues, and work with local governments to design comprehensive management plans for lakes and rivers.

The Hamilton Bay Restoration Council is a community non-profit group that works to clean up the Hamilton Ontario harbour and its watershed. It works with government, delivers school programs, and coordinates community planting and restoration events. The council has been credited with a major renewal plan to reclaim this once devastated harbour. The Ladies of the Lake is a dynamic organic grassroots organization made up of more than 100 women intent on bringing the community together to save Lake Simcoe, a sick body of water in the Lake Huron watershed, north of Toronto. Every year, they pose "in the buff" in a natural setting for a calendar that raises funds for their work. The ladies have become a household name in the region. The Blue Communities Project in Canada calls on local governments to adopt a Commons framework by passing municipal resolutions to ban the sale of bottled water in municipally-owned facilities and at municipal events, reject private-public partnerships for water and sanitation services, and recognize water as a human right. The Council of Canadians, Eau Secours and the Québec arm of the Canadian Union of Public Employees launched the project in Québec in November 2010.

Similar projects are active at the state/provincial and federal levels. More than 90 environmental groups on the U.S. side of the Lakes came together on the 50th anniversary of the Seaway to call for a ban on ocean-going tankers from entering the Great Lakes. Communities from all around the Lakes are coming together to stop the pending shipment of Bruce Power radioactive waste. U.S. public advocacy group Food and Water Watch is spearheading a campaign for a Clean Water Trust Fund that would finance badly needed municipal infrastructure repairs, allowing municipalities to keep their water services public. Food and Water Watch worries that cash-strapped municipalities are selling off their utilities to the private sector in the absence of federal funding to protect public services. Governments and non-governmental organizations such as the Stewardship Network of Ontario are working together to reclaim the almost 90 per cent of the Great Lakes wetlands that have been lost in that province. The Ontario government sponsors an introductory training course in wetland restoration for community volunteers who then act as partners with the government in a wetland restoration program that is very popular and has had some real successes.

The Obama administration has launched its Great Lakes Restoration Initiative, which, while not being adequately funded, does build on the Great Lakes Regional Collaboration Strategy, a wide-ranging cooperative effort among the Great Lakes states and the U.S. government to restore and protect the Great Lakes. The major focus areas of the initiative are toxic substances; invasive species; near shore health and nonpoint source pollution; habitat and wildlife protection and restoration; and accountability, educational monitoring, evaluation, communications and partnerships. This project could be greatly enhanced by a Commons framework.



Sandbanks Prov. Park, Lake Ontario. Photo by C. Löser / Wikimedia Commons - CC BY-SA 2.0

Conclusion

Clearly there is much goodwill to move to a new level of consciousness to save the Great Lakes of North America. But to be successful, these and other activities must take place as part of a cohesive whole, backed by strong and meaningful laws. It is the long-term goal of the network proposing the *Great Lakes Basin Commons* to eventually see a full treaty between Canada and the United States that declares the Great Lakes to be a lived Commons, Public Trust and Protected Bioregion, one that is also adopted by the states, provinces and First Nations of the Basin. We also believe that a high level summit will be necessary to ensure the full commitment and participation of all those levels of government needed to make this shared vision a reality.

However a treaty is not our starting point. Our starting point is in the cities, towns, villages, hamlets and farms that ring the Great Lakes, and with the people and communities that live on and love them. Our organizational goal is to get communities around the Great Lakes, as well as the myriad of existing community and environmental groups, to become better linked to one another through the connecting narrative of a Commons discourse. We need to create a vocabulary to connect the many millions of people who are not experts on the details of the environmental threats to the Great Lakes, but who care about them and are ready to feel “ownership” of them. We need to strengthen peoples’ cultural and visceral connection to the Great Lakes and promote their “right to care.” And we need to build on the great work of countless national, state, provincial and community groups that have toiled for decades to protect the Lakes and let them know they are not alone.

We invite you to join us in this great task to forge a participatory, legally-based process that is commensurate with the challenges to the Great Lakes region and the communities that depend on them. In the end, we, the people of the *Great Lakes Basin Commons* are the real hope for their survival.



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August 28, 2015

Jon Allan, Director
Emily Finnell, Senior Environmental Quality Specialist
Office of the Great Lakes
Michigan Department of Environmental Quality

RE: Comments on MDEQ Draft Water Strategy

Dear Mr. Allan and Ms. Finnell:

On behalf of Heart of the Lakes, thank you for this opportunity to submit comments on the Michigan Department of Environmental Quality's draft *Sustaining Michigan's Water Heritage: A Strategy for the Next Generation*. As you know, Heart of the Lakes is a state association of nonprofit land conservancies and other organizations dedicated to the conservation of Michigan's environmentally significant land and water.

We especially want to thank you again for the meeting held earlier this week with representatives from both Heart of the Lakes and the Michigan Environmental Council. Overall, we are impressed with the vision and scope of the Strategy as it effectively frames many of the challenges and opportunities we have in Michigan as guardians of this essential resource. Per our discussions and our member organizations' commitment to protecting the state's waters, we offer the following changes.

Goal 1, Recommendation #16—Elevate This Recommendation as a Higher Priority

Rationale: We believe the synergistic and innovative partnerships and planning needed to implement multiple goals of a Michigan Water Strategy are happening at the watershed level, and we are fortunate to have some outstanding watershed council and river restoration organizational models throughout the state. We urge that Recommendation #16 under Goal 1 (Michigan's aquatic ecosystems are healthy and functional) be a top priority of the plan:

Enhance financial and technical support of local stakeholder efforts to develop and implement watershed management plans to restore impaired waters, protect high quality waters, and develop and utilize water resource assets.

Goal 8—Include Watershed Councils/Organizations as Part of a Needed Governance Structure

New Recommendation Language:

Recommendation: Leverage and support watershed-based organizations to advance the goals and outcomes of the Water Strategy

Implementation Metric: All major watersheds in the state have active and community-supported organizations dedicated to improving water quality in the state

Lead Actor: Existing Watershed Councils/river restoration organizations

Rationale: For reasons stated above, we urge inclusion of watershed councils/organizations as critical to the governance structure needed to implement the Water Strategy.

Goal 1, Recommendations #14—Expand the Definition of Green Infrastructure

Revised Recommendation Language for #14:

Provide technical and financial support to communities **and their partners** to plan and implement green infrastructure techniques and low-impact development while preserving natural spaces **that contribute to water quality, including application of these techniques** in the design of new developments, redevelopments and road projects to ensure storm water management, improved hydrology, **and overall water quality.**

Rationale: Under Goal 1 (Protect and Restore Aquatic Ecosystems) and in the strategy as a whole, we believe greater emphasis needs to be placed on conservation and protection strategies that prevent pollution and are more cost effective than remediation and restoration, such as the protection of lands that protect water resources. Recommendation #14 under Goal 1, which is a top priority, addresses this in part but only in relation to existing or proposed development. Green infrastructure should be more broadly defined and applied at a larger landscape level with the proactive protection of natural areas and farmland that store and absorb rainwater and snow melt, provide groundwater recharging and cleansing services, and contribute to other strategy goals such as access to quality natural resources, recreation and cultural opportunities (Goal 4). For example, the Huron River Watershed Council attributes the cleanliness of this urban river to the fact that 44% is still forest, wetlands and fields and that the biggest threat to the river is the loss of natural areas.

There have been several watershed-based initiatives around the state to scientifically identify natural lands critical to the protection of water quality. Findings show that permanently protecting such lands through acquisition of conservation easements (legal agreements to protect conservation values entered into voluntarily by private landowners) is a cost effective strategy when compared to restoration or remediation.¹ This approach is illustrated through the Michigan Department of Environmental Quality's nonpoint grant program, which has made significant investments in the implementation of best management practices (BMP) in approved watershed plans, including the purchase of conservation easements to permanently protect natural and farm lands, thereby preventing conversion to other uses that can lead to greater nonpoint pollution problems. In these instances, the BMP is a permanent, not a temporary fix; landowners are compensated for the value of the easements; and land stays in private hands and on the tax rolls.

As an example, the Grand Traverse Regional Land Conservancy reports that conservation easements acquired in support of approved watershed management plans annually keeps 17,537 pounds of nitrogen, 2,308 pounds of phosphorus, and 225 tons of sediment out of northwest Michigan waters. To date, investments of \$3,672,422 from the state's Clean Michigan Initiative Fund and the Environmental Protection Agency's 319 program leveraged an additional \$7,343,016 in additional funds (local match such as partial donation of easement value, other sources) to protect 5,984 acres of land under conservation easement within the Conservancy's service area. Permanent, nonpoint pollution protection—as well as a host of other benefits—is achieved at approximately \$1,841 per acre. This cost

¹ Heart of the Lakes can provide sample studies that demonstrate this point

effective result is repeated by land conservancies and partners in some watersheds across the state, but needs to be supported and expanded.

For these reasons, green infrastructure recommendations should consider landscape or watershed level protection, including the identification and permanent protection of natural lands, and not just techniques in the context of new development, redevelopments and road projects—all of which require some “fix” as currently stated in the Recommendation #14. The Water Strategy and purposes of a proposed Water Fund should address the cost/benefits of pollution prevention—including strategic land protection on a watershed scale using innovative tools such as conservation easements—as a viable investment in the protection of Michigan’s ground and surface waters.

We urge that the narrative under Goal 1 address the application of green infrastructure in the larger context as described here. To that end, we offer the revised language in an attempt to expand the green infrastructure definition in the concise fashion as requested in our meeting. Again, thank you for the tremendous amount of work that has gone into the draft Strategy and for the opportunity to provide comments. We are happy to answer any questions our comments might raise. We look forward to the final Water Strategy as well as participation in next steps toward implementation.

Sincerely,

A handwritten signature in black ink, appearing to read "Jonathan Jarosz". The signature is fluid and cursive, with the first and last names being the most prominent.

Jonathan Jarosz
Executive Director

From: [Julie Stoneman](#)
To: [mi-waterstrategy](#)
Subject: Heart of the Lakes Comments re Draft Water Strategy
Date: Friday, August 28, 2015 2:56:19 PM
Attachments: [Heart of the Lakes Comments re DEQ Water Strategy.pdf](#)
[ATT00001.htm](#)

TO: Michigan Department of Environmental Quality / Office of the Great Lakes
FROM: Heart of the Lakes Center for Land Conservation Policy
RE: MDEQ Draft Water Strategy

On behalf of Heart of the Lakes, please find attached our comments on *Sustaining Michigan's Water Heritage: A Strategy for the Next Generation*. Thank you very much for the opportunity to comment.

Julie Stoneman

Associate Director
Heart of the Lakes
o: 989-292-3582, ext.102
f: 989-352-3152
julie@heartofthelakes.org
www.heartofthelakes.org

Register today for the September 21 Fall Conservation Summit in Bay City:
www.heartofthelakes.org/events



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From: [R DuBois](#)
To: [mi-waterstrategy](#)
Subject: Input on water strategy
Date: Monday, August 24, 2015 12:06:28 PM

Short and simple here is my input.

I live on a lake who's lake level drops in the late summer from lack of rain. I've talked with our local Kent County Drain Commission about water hold back in the spring when we have to much water slowly release it in the fall when we need it.

The drain commissioner is all about draining, get the water to the rivers as fast as he can, not about conserving water. His answer to the water shortage is to install pumps and suck the water from the from the ground, how short sighted and stupid can you get. Water hold back is the smart and sustainable solution.

I observed several wetland areas that have really good drainage from the drain commissions work. These wetland water levels need to be raised, just a few inches here and there can make a big difference in overall water for the state and the people. We need a plan that holds back more water to be absorbed in the ground, not what the DRAIN COMMISSION does, drain,drain,drain.

Put an end to the department of county Drain Commission and replace it with Water Conservation Commission with a whole different mandate, to save water not drain it away.

Randy DuBois
7218 Ketchel Dr
Comstock Park, MI 49321
616-784-2295

From: [Herbert, Georgeann](#)
To: [mi-waterstrategy](#)
Cc: [Jodee Raines](#); [Aimee LaLonde-Norman \(aimeeln@therouge.org\)](#); [Laura Rubin \(lrubin@hrwc.org\)](#); [michele@crwc.org](#); [Tricia Blicharski](#); [marmstrong@cleanwater.org](#); [Khalil Ligon \(kligon@greatlakes.org\)](#); [jerb@erbff.org](#); [Tanner, Cynthia](#)
Subject: Joint Response-MiWaterStrategy-Stewardship
Date: Friday, August 28, 2015 4:09:32 PM
Attachments: [Joint Response-MiWaterStrategy-Stewardship.docx](#)

Please accept these comments from a combined group of freshwater organizations, led by the Erb Family Foundation

Thank you.

Georgeann Herbert
Senior Vice President
Strategy and Community Engagement
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August 28, 2015

Mr. Jon Allan
Director, Office of the Great Lakes, DEQ,
P.O. Box 30473-7973
Lansing, Michigan 48909

RE: Comments on Chapter 9 of the Michigan Water Strategy

Dear Mr. Allan,

Thank you for the opportunity to comment on the Draft Water Strategy. We appreciate the time, effort and thought that went into the preparation of this document.

We have collaborated in reviewing the draft Strategy and, in particular, Chapter Nine titled "Inspire Stewardship for Clean Water."

This chapter states as its goal that Michigan citizens are stewards of clean water and healthy aquatic ecosystems, with a desired outcome that individuals and communities understand their responsibility for and make responsible decisions regarding water resources. It is the belief of the organizations signing onto these comments that the strategy outlined in this chapter needs to be strengthened to achieve the desired goal and outcome in Chapter Nine, and that other chapters within the strategy will suffer if insufficient attention is paid to building stewardship and water affinity among Michigan citizens.

We believe the existing recommendations can be significantly strengthened, that some additional recommendations need to be added, and that the state of Michigan can make rapid progress in this effort by leveraging the experience and expertise of the many freshwater organizations who have been working in the state for many years.

STRENGTHENING RECOMMENDATIONS WITHIN THE STRATEGY

Recommendation #1: The first recommendation in Chapter Nine calls for integrating "water literacy principles into place-based education." It also suggests that the water literacy principles be integrated into "State of Michigan curriculum standards tied to Science, Technology, Engineering and Math (STEM) principles across all grade levels."

- We are concerned that there is no mechanism or financial support outlined in the plan to build sustainability among organizations currently involved in place-based education

efforts or to expand the network of such organizations across the state. Such a mechanism needs to be identified.

- It is the consensus of our organizations that water literacy should be mandated in the state curriculum, along with an investment in the necessary professional development for Michigan teachers. Much curriculum work has already been done in the Michigan Environmental Literacy Plan (www.mielp.org), The Great Lakes Stewardship Initiative <http://www.glstewardship.org/> and by the Michigan Dept. of Environmental Quality [MEECS](#), among others.

Recommendation #2: The second recommendation calls for developing “a survey tool to assess behaviors and attitudes toward Michigan’s water resources to assess changes over time.”

- Currently the DEQ requires the use of [The Social Indicators Data Management and Analysis \(SIDMA\)](#) tool to measure behavior changes when using Clean Initiative Funds for public education. This tool is already in use by many watershed groups and has extensive data on behaviors and attitudes of the Michigan citizenry. Many surveys have already taken place using the survey tool and recur on an ongoing basis, fielded by various place-based organizations. We invite the state of Michigan to access and centralize data already in hand before going to the expense of fielding a new survey and are prepared to assist in this effort.

Recommendation #3: The third recommendation calls for expanding “opportunities to engage citizen volunteers and participation, such as the Michigan Clean Water Corps (MiCorps) program, in gathering water quality and quantity data, in restoration, in providing access and in maintenance of important water related resources.

- Many of our organizations are participants in the MiCorps program and recognize its value; where it has failed to reach its potential is in the lack of a centralized marketing campaign to draw more volunteers, a mechanism for referring them to agencies in their own communities, and the necessary resources to collect and process data collected by the volunteers.

We propose that an outreach campaign aligned with the Pure Michigan brand would quickly expand the impact of the MiCorps program far beyond the ability of small organizations to engage citizens or draw visibility to the opportunities. In addition, environmental volunteerism can be promoted with Michigan high school students seeking to fulfill community service

requirements for graduation. Those responding should be able to work through a user-friendly yet robust centralized system to be matched with volunteer opportunities to pursue.

In addition, the state should consider creating a series of data collection apps to help normalize data held in the state's central repository. Free and open access to this data and a comprehensive dashboard will help citizens measure progress against local, regional, and statewide water and environmental issues.

ADDITIONAL PROPOSALS TO STRENGTHEN THE RECOMMENDATIONS

In addition to strengthening the existing recommendations, we propose additional areas of focus to build stewardship for Michigan's Water Strategy.

While the recommendations focus on K-12 education, we believe there should be an effort to engage young people in environmental and water literacy opportunities beyond high school. The Michigan Department of Natural Resources offers a number of strong place-based education opportunities that should be recognized and supported by the strategy.

We are surprised that adult education in stewardship is not included as a recommendation, beyond the opportunity to engage in volunteer activities. Adults are key to driving the success of the strategy in both the near and long term, and we must all work together to tap into the affinity with water and the Great Lakes that make stewardship a way of life. Strategies we would suggest include recognizing the work already underway to build stewardship, being specific about what stewardship looks like, linking water stewardship to quality of life issues in Michigan, and developing programs to incentivize personal responsibility for environmental and aquatic impacts.

Perhaps the most important audience for water literacy education are the elected officials and decision makers who will be implementing – or failing to implement – the state's water strategy in the years to come. These men and women should be a priority for adult education and encouraged to lead the way for their constituents and stakeholders.

We would also like to see the strategy reflect social and cultural values around stewardship in more detail. We believe these deep-seated values are an important driver of stewardship, since they involve a deep-seated respect for water and treading softly on the earth. Similarly, we stress the need to focus on water conservation as an important aspect of stewardship.

Another concern arises from our desire to sustain the conversation between the state and our organizations around the implementation of the Michigan Water Strategy. The conversations should not end once the strategy is finalized; instead, we encourage the state to leverage our expertise to assist with implementation, sharing of information, and creating consistent

conversations statewide. To do this, we hope to see guidance on how best to implement the strategy and promoted stewardship, dashboards and feedback on the progress being made, and an easy interface among groups of similar interests and state officials.

In order to do align efforts most efficiently, we encourage Michigan to create a centralized digital presence where messaging, information, and data can be easily accessed and replicated on the sites of a wide variety of place-based and citizen-oriented organizations.

IN CONCLUSION

As we review the stewardship chapter of the draft Michigan Water Strategy, we find ourselves wondering why this important mobilization of citizen support is relegated to the very last chapter of the strategy, when all that comes before is clearly based on mobilizing public will to support water strategies that could have a significant impact on water bills, property values, as well as on clean drinking water, recreation, and healthy water-based economies. We find ourselves asking where the work of watershed organizations, educational groups, and water advocacy groups fit within the state strategy. What role should we play and what role should the state play as Michigan moves from strategy to action in water?

Our organizations believe the Michigan Water Strategy is an important document for the future of our state and for its leading role in the Great Lakes basin. We are prepared to stand with the Department of Environmental Quality, the Office of the Great Lakes, and Michigan's Department of Natural Resources to help bring the vision expressed in this document to reality.

Sincerely,

John Erb

President

The Erb Family Foundation

Michele Arquette-Palermo

Program Director

Clinton River Watershed Council

Laura Rubin

Executive Director

[Huron River Watershed Council](#)

Aimee LaLonde-Norman

Executive Director

Friends of the Rouge

David Howell

Chairman

Friends of the Detroit River

Robert Burns

Detroit Riverkeeper

Nic Clark

State Director

Michigan Clean Water Action

From: [Erin Johnston](#)
To: [mi-waterstrategy](#)
Cc: [Chris Swartz](#); [Catherine Laux](#); [Char Spruce](#)
Subject: KBIC Comments on the proposed Michigan Water Strategy
Date: Friday, August 28, 2015 3:47:50 PM
Attachments: [KBIC Comments MI Water Strategy 2015.pdf](#)
Importance: High

Please find attached comments from the Keweenaw Bay Indian Community on the proposed Michigan Water Strategy.

Thank you.

Erin Johnston
Lake Superior Program Coordinator
Keweenaw Bay Indian Community
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L'Anse, MI 49908

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Keweenaw Bay Indian Community
Natural Resources Department



August 28, 2015

Office of the Great Lakes
Michigan Department of Environmental Quality
P.O. Box 30473-7973
Lansing, MI 48909

RE: Michigan's proposed Water Strategy

Dear Mr. Allan,

The Keweenaw Bay Indian Community (Community), a federally recognized tribal nation submits the attached comments regarding the State of Michigan's (State) proposed Michigan Water Strategy: Sustaining Michigan's Water Heritage (Strategy). The Community is one of many tribes that have centuries of cultural and spiritual connections to the land, waters and fish in the streams and waterways of the Great Lakes. Under the 1842 Treaty of LaPointe, our Community reserved rights to hunt, fish, trap and gather on traditional homelands ceded to the United States. We thank you for the opportunity to comment on the content of the Michigan Water Strategy.

Tribal Involvement in the Process

The Community understands that the State does not possess the important historical trust responsibilities to Indian Tribes as the federal government as expressed and recognized within treaties and federal Indian Law. However, it is our expectation that the State, in accepting delegated responsibilities under the nation's Clean Water Act, also comply with federal standards and responsibilities for tribal consultation. Until now, there has been a lack of Tribal Government to Government consultation throughout this multi-year process. Furthermore, for effective and meaningful consultation, we urge the State of Michigan to allow Tribes to participate in any future conversations about the Strategy before a final draft of the strategy is published. The Community has had ongoing challenges towards achieving meaningful participation with the State to ensure adequate protection of our water, cultural resources, wildlife and other shared natural resources in accordance to tribal traditions and subsistence uses. The Community's position and authority as a sovereign entity should not only be relegated to public comment timeframes.

Upon reviewing the list of participants in the ten roundtables that were held throughout the State, the Region 5 roundtable hosted in Saginaw was the only roundtable with Tribal participation (Saginaw Chippewa Indian Tribe). During the Water Strategy webinar on August 17th, 2015 you stated that during the development process, the State "...had substantial and important conversations with our tribal sovereigns..." The Community does not feel that we were included in "substantial and important conversation" regarding this Strategy. Based on participant lists, it does not appear that substantial conversations took place across Indian County. We are wondering how and when Tribes were contacted during the Strategy development process.



Hatchery

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Ensure Clean and Safe Water

Discussion and recommendations within this chapter focus on legacy contamination, protection of drinking water, and emerging pollutants. We recommend additional attention be given to reducing sources of pollution from the extraction and burning of fossil fuels within Michigan. A recommendation could be added to this section requiring some level of conversion to renewable energy in support of statewide Clean Power initiatives.

Governance

The Strategy in its current draft fails to acknowledge the co-managerial role and responsibility of Tribes in the protection of Michigan's abundant and precious water resources. Throughout the Strategy there is reference to state, local and federal agencies, but no mention of Tribal governments in future implementation actions.

Within Chapter 8 there are several strong statements made expressing the need for the State to "exercise authority and autonomy over their [water and water resources] thoughtful management." These statements seem contradictory to an earlier statement (page 2 of the Strategy) that states "decisions made with regard to Michigan's water resources are subject to collaboration, consultation, oversight and regulation under a complex framework of regional governance structures and federal, state and tribal laws."

In addition, if the State intends to retain full authority under the Clean Water Act and continue to manage Michigan's water resources, we encourage the State to ensure that they have capacity and capability to be "good and thoughtful stewards of this global treasure" (Draft Strategy, page 36). Protecting 20% of the world's freshwater resources should not be taken lightly.

Ecosystem vs. Economy

Governor Snyder asked the Office of the Great Lakes to lead development of this Strategy for the state of Michigan based on an ecosystem approach. The first two Chapters of the current draft Strategy focus on protection and restoration of aquatic ecosystems and ensuring clean and safe water. However, the majority of the strategy focuses on economics and how the State can provide more access and encourage development along our water ways. The current draft strategy does not clearly define how the State intends to balance protection of water resources with promotion of use and development.



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Keweenaw Bay Indian Community
Natural Resources Department



Additional Topics to Address

For this Strategy to truly be comprehensive it should acknowledge highly important global environmental issues including Climate Change. The strategy is based on a 30 year vision emphasizing reduction of threats to aquatic ecosystems. Climate change is already impacting our water resources, both the Great Lakes and inland waters, and changes are predicted to increase in the next 50 to 100 years. Lack of discussion of climate change impacts on water quality and quantity and on water related infrastructure (dams, culverts, stormwater drainage, water treatment plants, waste water facilities, etc.) is a serious oversight in the current draft.

The Vision of the Community's Integrated Resource Management Plan is *"to live in harmony while enhancing and sustaining the resources of the Keweenaw Bay Indian Community for the Seventh Generation."* We encourage the State to consider expanding the scope of the Water Strategy of sustaining Michigan's water heritage not just for the next generation, but for seven generations and beyond.

In closing, we appreciate the opportunity to comment on the proposed Michigan Water Strategy. As this Strategy is still in draft form, there is ample opportunity for Tribal involvement. The Community urges the State to include Tribal governments in further development of the Strategy and planning for implementation. Please feel free to contact me with any questions or comments that you may have regarding this letter.

Sincerely,

Lori Ann Sherman, Natural Resources Director
Keweenaw Bay Indian Community

CC: Warren C. Swartz Jr., Tribal President
Catherine Laux, Water Resources Specialist
Char Spruce, Environmental Specialist



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