

Comments Received on Wisconsin DNR's draft 2022 Wisconsin Consolidated Assessment and Listing Methodology (WisCALM) Guidance Document

October – November 2020

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Paul La Liberte of Wisconsin's Green Fire – Voices for Conservation

From: Paul La Liberte <paul.lalib@charter.net>
Sent: Tuesday, November 17, 2020 12:45 PM
To: Beranek, Ashley E - DNR
Cc: Sarah Peterson; Nancy Larson; Minahan, Kristi L - DNR; Shupryt, Michael P - DNR; Giblin, Shawn M - DNR; Hein, Catherine L - DNR (Katie); Beranek, Ashley E - DNR; Willhite, Marcia T - DNR
Subject: WisCALM comments
Attachments: WGF comment on WisCALM 2022.pdf; WisCalm Guidance Comments Sullivan Marshall Baumann Feb 28 2019 Rev Oct 26 2020.pdf

Ashley,

Attached are comments on the WisCALM 2022 draft document by Wisconsin's Green Fire - Voices for Conservation. Thank you for the opportunity to comment and for the valuable conversations we had with DNR staff while preparing our comments.

Paul La Liberte





Comments to DNR on draft 2022 WisCALM guidance

November 16, 2020

These comments from Wisconsin's Green Fire – Voices for Conservation are specific to the Viewing Bucket Method for Estimating Algal Abundance in Wadeable Streams v3.3 in WisCALM.

The Viewing Bucket method of WisCALM provides a site-specific assessment of stream primary production. While the method appropriately specifies study conduct, it does not address the importance of site selection. The ability of flowing water to support primary production is dependent on several things in addition to nutrients in the water column. Suitable substrate is important to sustain periphytic growth as is tree canopy sufficiently open to allow sunlight to reach the stream. Streams are often diverse systems with varying combinations of substrate and canopy. Within a study area a stream could have 50% suitable substrate for periphytic growth. This could be small individual patches or larger reaches. Likewise the reach could have 50% of stream surface shaded by tree canopy. Given this situation it is possible to select study sites to either selectively show impact (suitable substrate with open canopy) or selectively fail to show impact (unsuitable substrate or with heavy tree canopy).

The use of the Viewing Bucket Protocol as the basis for a less stringent site specific criteria for phosphorus is a very important application. Bias in site selection during these investigations must be avoided. Additional detail should be provided in the Viewing Bucket Protocol to prevent intentional or unintentional biased results from unrepresentative site selection. Suggested language:

“Study sites should be selected to represent the canopy and substrate types prevalent in the study area. Comparisons of individual sites to assess biological impact of nutrient levels should have comparable canopy and substrate composition”

and

“Given the importance of the habitat components of canopy and substrate in determining the biological results of the Viewing Bucket method, data on these parameters should be collected at every transect in accordance with the methods specified in the Guidelines for Evaluating habitat in Wadeable Streams section of the WisCALM document.”

Developments in the field of quantifying solar radiation (and therefore canopy cover for streams) should be considered for future versions of Guidelines for Evaluating habitat in Wadeable Streams section of the WisCALM document. An example can be found at <https://www.solarpathfinder.com>

These comments from Wisconsin's Green Fire – Voices for Conservation stem from recent conversations about monitoring between Green Fire members and Mike Shupryt, Shawn Giblin and Kristi Minihan:

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PO Box 1206, Rhinelander, Wisconsin 54501 | Info@wgreenfire.org | 715.203.0384



We encourage DNR to begin gathering biology and chemistry data that will be useful for environmental condition assessments in backwater areas. The goal would be to establish the relationship between free floating plant (FFP) density and environmental conditions including nutrient and oxygen concentrations. This could include routine sampling in riverine backwaters and collection of additional environmental data during lake point intercept studies that encounter FFP.

Thank you for the opportunity to comment.

For further information contact:

Paul La Liberte, Environmental Rules and Water Resources Work Group

715-379-7048

paul.lalib@charter.net

Date: February 28, 2019 (Revised 10/26/2020)

To: Ashley Beranek, Bureau of Water Quality, Madison, WI

From: John Sullivan (Irishvoyageur@aol.com)

349 24th St. S, La Crosse, WI 54601 (home phone: 608-785-2194)

Dave Marshall (underh2ohab@mhtc.net)

Jim Baumann (kayakerjb@gmail.com)

Subject: Use of Free Floating Plants (filamentous algae & duckweeds) in WisCalm Guidance

Nutrient impairments in Wisconsin's waters have been identified as a serious problem impacting aquatic life and recreational uses as identified in Wisconsin's Impaired Waters Listings (Section 303d of the Clean Water Act). Wisconsin has taken critical steps to address nutrient-related problems with the adoption of water quality standards for phosphorus in December 2010. Although phosphorus has been identified as a key limiting nutrient, there is growing information indicating that excessive nitrogen may play an equally important role in nutrient impairments in surface waters. This has been especially identified in the Gulf of Mexico where hypoxic conditions (low dissolved oxygen) have been attributed to excessive nitrogen inputs. EPA, in working with States and other Federal agencies, developed a national goal to reduce nitrogen and phosphorus loadings to the Gulf by 45% (2008 Gulf Hypoxia Plan). Wisconsin and other States have developed strategies to achieve these goals and have identified mechanisms for load reductions from point and nonpoint sources. Monitoring and research on the Upper Mississippi River (UMR) and lower Wisconsin Rivers have also identified nitrogen or nitrogen and phosphorus (co-limitation) as the primary nutrients contributing to excessive growths of metaphyton (filamentous algae) and duckweeds in backwaters, sloughs and floodplain lakes (Sullivan 2008, Sullivan & Giblin 2012, Giblin et al. 2014 and Marshall 2013).

Although nutrient reduction strategies are an appropriate initial step to address the Gulf Hypoxia problem, EPA also recognizes a critical need for states to adopt numeric nutrient criteria for phosphorus and nitrogen for surface waters. Many states have or are working towards the adoption of surface water criteria for phosphorus to address eutrophication problems. However, there has been limited progress by states in the development of numeric nitrogen criteria even though initial EPA guidance for nitrogen criteria were proposed almost twenty years ago (USEPA 2000a & 2000b).

A critical step in the discovery of nutrient-related water quality problems is the identification of key biological response variables that are directly influenced by excessive nutrient inputs. The use of algal chlorophyll concentrations, harmful algae bloom frequency, cyanotoxins, algae cell counts and other metrics are clear examples. Another useful indicator of nutrient enrichment is the development of excessive filamentous algae (metaphyton) mats or thick coverings of duckweeds that develop in shallow aquatic systems including channel borders, backwaters, floodplain lakes and deep water wetlands (Sullivan 2008, Houser and Richardson 2010, Giblin et al. 2014). Floating mats of filamentous algae or duckweeds are free floating plants (FFP) that can negatively impact dissolved oxygen levels or contribute to significant shading of submersed aquatic vegetation beds through the attenuation of surface light. Thick growths of filamentous algae on submersed vegetation may negatively impact submersed vegetation due to the competition for nutrients, dissolved gases (O_2 & CO_2) and light and may contribute to a complete collapse of these important aquatic plant communities (Phillips et al. 1998 and Hilton et al. 2006). This was likely a factor in the massive decline of submersed aquatic vegetation in the UMR in the late 1980s and has recently been observed in floodplain lakes in the Lower Wisconsin River (Marshall 2013). Further, thick mats of filamentous algae or duckweeds seriously impact recreation use by making these areas difficult or impossible to traverse with a boat, especially paddlers. Example photos showing

excessive growths of these floating plants in aquatic areas of the Mississippi River are included in the attached file.

The Department needs to consider the impacts of nuisance growths of filamentous algae and duckweeds in the assessment of water quality use attainment. Fortunately, procedures have been developed (see attached file) and implemented to facilitate this process (Sullivan 2008, Marshall 2013 and Houser et al. 2014). However, specific impairment thresholds using FFP water quality indicators have not been adopted by the Department. We have drafted methodologies for identifying nutrient-related impairment problems using FFPs as a response factor (see table below). A tiered approach is recommended that would consider differences in surface water and use classification. We would urge the Department to consider these recommendations for Wisconsin’s Consolidated Assessment and Listing Methodology for Clean Water Act Reporting.

If you have any questions concerning this recommendation or need additional information, please contact John Sullivan.

Proposed nutrient-related water quality impairment criteria for free floating plants (FFP) including metaphyton (filamentous algae) and duckweeds.

Tier	Measurement	Surface Water & Use Class *	Basis
I	FFP Cover > 20% & Biomass > 10 g dry wt m ⁻²	ORW & ERW Waters Rivers, Streams, Lakes and associated waters supporting fish & aquatic life	Protect fish & aquatic life including rare or unique aquatic plant communities
II	FFP Cover > 40% & Biomass > 25 g dry wt m ⁻²	Rivers, Streams, Lakes and associated waters supporting fish & aquatic life	Light Shading of SAV Reduced surface re-aeration Recreational use impacts
III	FFP Cover > 60% & Biomass > 30 g dry wt m ⁻²	Deep Water Marshes supporting seasonal fish & aquatic life use	Light Shading of SAV Severe reduction in surface re-aeration

*Water depths > 0.5 m supporting submersed aquatic vegetation (SAV).

ERW - Exceptional Resource Waters

ORW - Outstanding Resource Waters

Additional Notes:

The 10 g dry wt m⁻² criteria for FFP biomass is point where surface light is reduced by more than 40%.

The 25 g dry wt m⁻² criteria for FFP biomass is point where surface light is reduced by more than 80%.

Duckweed cover > 40% associated mid-day dissolved oxygen < 5 mg/L.

The 30 g dry wt m⁻² criteria for FFP biomass is point where surface light is reduced by more than 90%.

Duckweed cover > 60% associated mid-day dissolved oxygen < 3 mg/L.

References

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- US EPA. 2000b. Ambient Water Quality Criteria Recommendations. Information Supporting the Development of State and Tribal Nutrient Criteria. Lakes and Reservoirs in Ecoregion VII. EPA 822-B-00-009. Washington, DC.

Dave Marshall, Retired DNR, member of WGF and FLOW Science Committee

From: underh2ohab@mhtc.net
Sent: Monday, October 19, 2020 2:55 PM
To: DNR Impaired Waters; Beranek, Ashley E - DNR
Cc: 'Paul La Liberte'; 'John Sullivan'; 'Jim Baumann'; 'John Lyons'; 'Jean Unmuth'; 'Timm Zumm'
Subject: Comments on proposed WISCALM 2022
Attachments: WGF Comments WisCALM floating plants 2019-2-28.pdf; Small LakesWISCALM2022.docx

Hi Ashley, please accept my comments on proposed WISCALM 2022 that reinforce criteria that John Sullivan developed for floodplain lake. TSI is not an effective assessment tool for these types of lakes. My comments primarily reflect the Lower Wisconsin Riverway oxbow lakes as examples where WISCALM cannot be used evaluate or recognize the existing water quality impairments to these ERW waterbodies. Thanks, Dave Marshall

October 19, 2020

To: Ashley Beranek, Bureau of Water Quality

From: Dave Marshall, Retired DNR and member of Wisconsin's GreenFire and Friends of the Lower Wisconsin Riverway (FLOW) Science Committee

Subject: Comments on the proposed 2022 Consolidated Assessment and Listing Methodology (WisCalm) Guidance for small floodplain lakes

In addition to the comments that John Sullivan previously submitted, including Jim Baumann and me (attached), I would like to expand on this issue primarily from the perspective of the Lower Wisconsin Riverway.

As you are likely aware, the State Riverway was recently added as the 6th RAMSAR Wetland of International Importance in Wisconsin. The Riverway is also classified as ERW, a designation modified from my original 1990 ORW proposal. Lyons (2005) describes the Riverway as one of the most biologically diverse large river ecosystems in the Midwest that supports 98 species of fish. The recent RAMSAR designation reflects a biologically diverse large river ecosystem that includes a braided channel river and floodplain with expansive wetlands and floodplain lakes. When I conducted surveys of the Wisconsin River from 1976-78, the dominant life form in many sections of the river at that time was filamentous bacteria, *Sphaerotilus natans* (WDNR Technical Bulletin No. 109 1978). Following implementation of the Clean Water Act and restored water quality in the river, recreational uses of the Lower Wisconsin River rapidly expanded. The 1989 Act 31 established the nation's only State Riverway.

It remained a mystery how the diverse fish populations that thrive in the Lower Wisconsin River had survived the worst periods of water pollution. Two key features of this large river ecosystem likely contributed to their survival. First, the braided river channel floodplain includes numerous cut off channel oxbow lakes, sloughs, delta ponds and beaver ponds. A "dynamic floodplain aquifer" dominates the hydrology of many of these off channel habitats. The aquifer flows beneath the Pleistocene sand terrace to various wetlands and oxbow lakes (Pfeiffer et al. 2005). The massive groundwater discharges create classic spring lake conditions among the many oxbow lakes. Lateral migrations likely allowed fish an escape to off channel refuges when water quality degradation was most severe.

WDNR Southern Region surveys conducted from 1998-2004 demonstrated that most floodplain lakes were pristine and supported many rare fish including the State Endangered starhead topminnow (*Fundulus dispar*), mud darter (*Etheostoma asprigene*), lake chubsucker (*Erimyzon sucetta*) and other uncommon fish species.

Working as a consultant from 2007 through 2012, I surveyed Lower Wisconsin River floodplain lakes along the entire 92-mile Riverway as part of Lake Planning Grant, River Planning Grant and State Wildlife Grant projects. The surveys were designed to collect information on off channel

fish species distributions, particularly SGCN, and collect basic information on water quality and habitat. Through 2010 the vast majority of oxbows displayed the pristine conditions that we observed working at DNR through 2004. The 2008 Norton Slough photo below is an example of typical oxbow spring lakes found along the Lower Wisconsin Riverway at that time.



Norton Slough 2008

However, by 2011 water quality in this oxbow (next photo) and others declined and it became entirely covered with duckweeds and filamentous algae; the same type of impairment that Sullivan (2008) described along the Mississippi River. From 2011 through 2013, these floating mat impairments expanded to other oxbow lakes, including Bakkens Pond State Natural Area.



Norton Slough 2011

Several of us from WDNR Southern Region sampled fish populations in Jones Slough in 2003-04 for fish. We had found numerous State Endangered starhead topminnows, mud darters, Iowa darters, and lake chubsuckers in this oxbow lake that we considered pristine. However, by 2008 the oxbow was becoming more degraded and by 2011 completely covered with floating mats of duckweeds and filamentous algae. Vertical profiles demonstrated loss of photosynthesis and anoxia in the next photo with profile attached. The water temperature profile demonstrates the discharge of groundwater from the Pleistocene sand terrace with a small open water section visible in an otherwise oxbow choked by floating mats. No darter species have been found in the oxbow since 2004 that may have perished due to anoxia below the floating mats or direct nitrate nitrogen toxicity (Camargo et al. 2005).

With additional Lake Program Grant funding, we conducted Diagnostic and Feasibility studies on four Sauk County oxbow lakes from 2013-2017 to determine causes of the water quality declines and seek options for restoration. Our studies demonstrated that changes in nutrient management across the sand terrace and high nitrate concentrations in groundwater had degraded the oxbow spring lakes. Our data were based a network of groundwater monitoring

wells we had installed across the floodplain. The data indicated nitrogen linked eutrophication rather than phosphorus where concentrations were generally within the mesotrophic range (Figure 1). The three oxbows (Jones, Norton and Bakkens) with mean nitrate concentrations exceeding the Drinking Water Standard of 10 mg/l had excessive mats of duckweeds and filamentous algae. Long Lake with lower nitrate levels did not have floating mats.

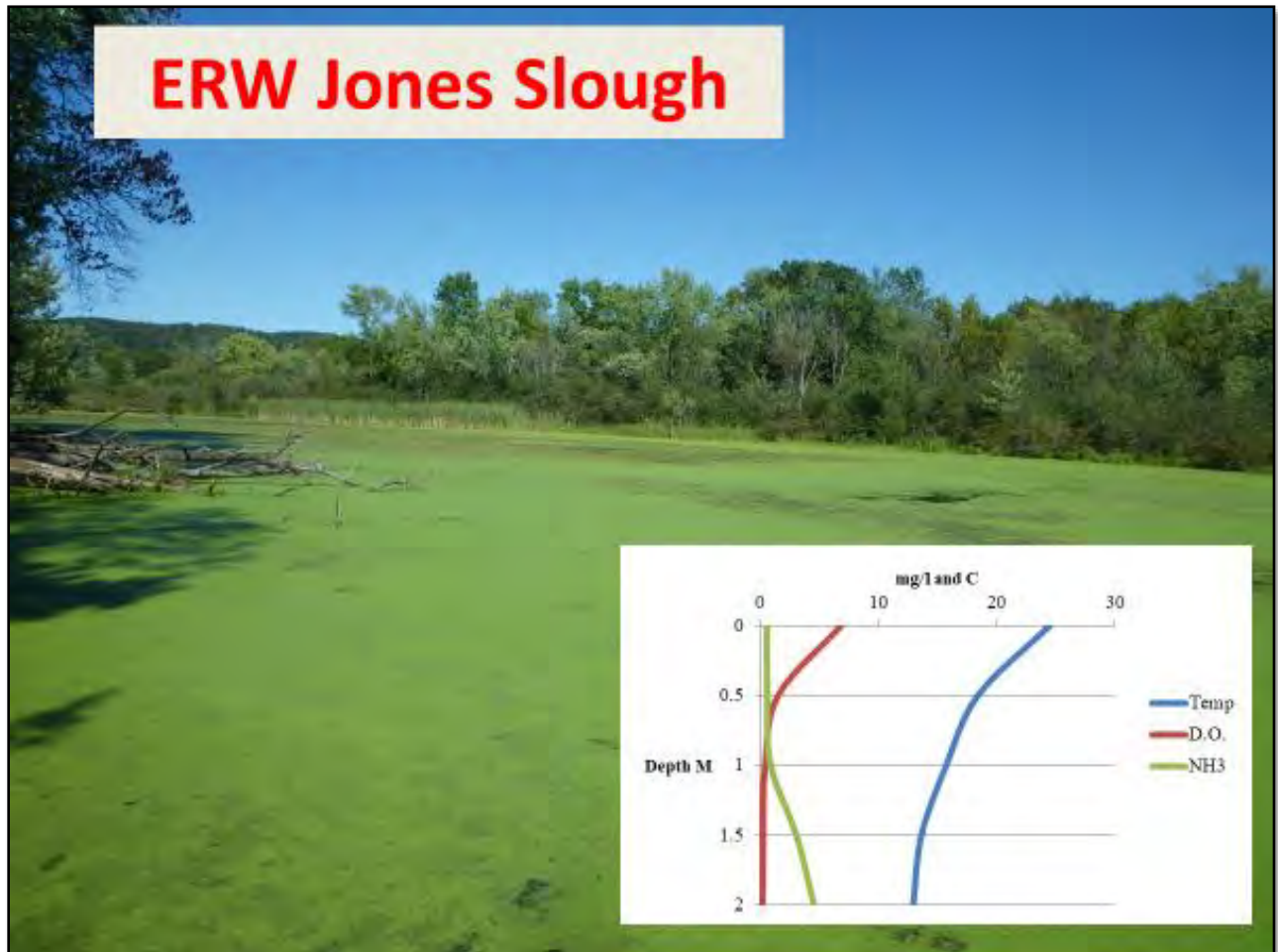
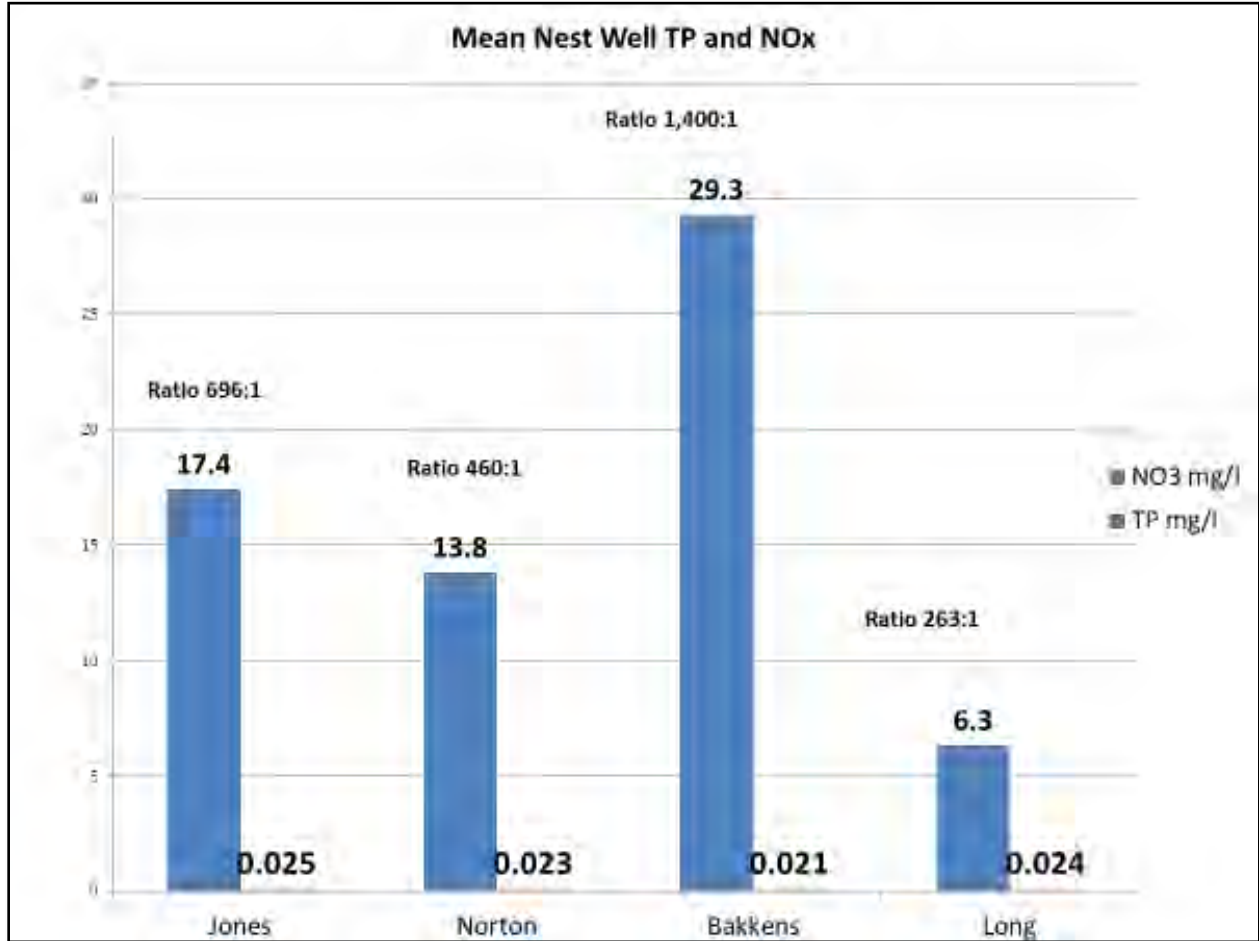


Figure 1: Mean TP and NO₃-N concentrations in wells adjacent to oxbow lakes



Discussion

The water quality impairment criteria that John Sullivan developed for free floating plants would accurately document the water quality problems in Lower Wisconsin River oxbow lakes. While using TSI chlorophyll-a and Total phosphorus works well for glacial lakes and most impoundments, the floating plant criteria should be adopted for floodplain lakes that behave differently. I worked almost three decades with WDNR Lakes Program and had prepared management plans for glacial lakes and impoundments based on TSI modeling. This approach will not work for most floodplain lakes. The statement below was copied from the proposed WisCalm 2022 draft. Canfield and Jones (1984) accurately demonstrated problems with using TSI as criteria for shallow weedy lakes and degraded shallow weedy lakes with excessive duckweeds and filamentous algae.

“Small Lakes – Lakes less than 10 acres are classified into the Small Lake community. These lakes are uniquely different from communities in larger lakes, and there is limited monitoring

data available in Wisconsin. Because data for lakes less than 10 acres is so limited, it is difficult to set quality thresholds for assessment. Currently, there are very few thresholds set for water quality, fisheries, or aquatic plants for lakes less than 10 acres. To address these small lakes in the future, Wisconsin may look to emerging wetland assessment tools for guidance.” We feel that John Sullivan’s criteria will work for floodplain lakes developing entirely new criteria is not necessary. If we rely on the proposed or existing WisCalm guidance, then the water quality problems and impairments that we documented along the Lower Wisconsin River will not be recognized or addressed.

The following reports previously submitted to WDNR document the water quality decline and impairments of ERW Lower Wisconsin River oxbow lakes linked to nitrate pollution.

Marshall, D.W. and K. Wade. 2017. Can Conservation Buffers Reduce Agricultural Sources of Nitrate Pollution and Restore Lower Wisconsin River Oxbow Lakes? Friends of the Lower Wisconsin Riverway Lake Planning Grants.

Marshall, D.W., K. Wade, J. Unmuth and E. Schlaudt. 2015. Restoring Lower Wisconsin State Riverway floodplain lakes, Phase 2 Diagnostic and Feasibility Study. River Alliance Lake Planning Grant Report.

Marshall, D.W. 2013. Lower Wisconsin River floodplain lakes water pollution investigation. Diagnostic and Feasibility Study Phase 1. River Alliance Lake Planning Grant Study Report.

Marshall, D.W. 2012. Surveys of River Floodplain Habitats for Fish Species with Inventory Needs, SGCN and Associated Off-channel Fish Populations. State Wildlife Grant (SWG-11) Final Report. 38 pp.

By 2006, WDNR had considered the Lower Wisconsin Riverway as well protected and a model for conservation (WDNR Land Legacy Report 2004, Marshall and Lyons 2008). Unfortunately, we did not anticipate changing agriculture, that became more intensive, along with increased nutrient applications across the Pleistocene sand terrace. The sand terrace aquifer and primary source of water for the floodplain lakes had become highly polluted with nitrate nitrogen.

For perhaps different reasons, the demise of both Lower Wisconsin River oxbow spring lakes and Mississippi River sloughs is largely the result of excessive floating mats of duckweeds and filamentous algae. As part of the State Wildlife Grant Program surveys of floodplain lakes that spanned from Pepin County across the state to Kenosha County, I reported to DNR that floodplain lakes appear to be the most degraded and threatened class of lakes in Wisconsin. Floodplain aggradation (Knox 2006) and nutrient loading have contributed to this problem. WisCalm 2022, as proposed, ignores this reality and should be revised to include duckweeds/filamentous algae mat criteria.

References

- Ball, J.R. and D.W. Marshall. 1978. Seston Characterization of Major Wisconsin Rivers (SLIME SURVEY). WDNR Technical Bulletin No. 109.
- Camargo, J.A., A. Alonso and A. Salamanca. 2005. Nitrate toxicity to aquatic animals: a review with new data for freshwater invertebrates. *Chemosphere* 58:1255-1267.
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Carrie Coy, Great Lakes Policy Specialist of the Little Traverse Bay Bands of Odawa Indians

From: Carrie O. Coy <CCoy@ltbbodawa-nsn.gov>
Sent: Tuesday, November 24, 2020 1:59 PM
To: DNR Impaired Waters
Cc: Caroline E. Moellering; Carrie O. Coy; Lauren M. Dey
Subject: 2022 WisCALM Guidance Report Comments
Attachments: LTBB Comment Letter - WisCALM 2022.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Please find attached comments on behalf of the Little Traverse Bay Bands of Odawa Indians.

Carrie Coy
Great Lakes Policy Specialist
Little Traverse Bay Bands of Odawa Indians
7500 Odawa Circle, Harbor Springs, MI 49740
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November 20, 2020

Ashley Beranek
Bureau of Water Quality WQ/3
Wisconsin Dept. of Natural Resources
P.O. Box 7921
Madison, WI 53707-7921

Re: 2022 WisCALM for CWA Section 303(d) and 305(b) Integrated Reporting

Dear Ms. Beranek:

On behalf of the Little Traverse Bay Bands of Odawa Indians (LTBB), please accept this comment letter pertaining to the draft 2022 WisCALM for CWA Section 303(d) and 305(b) Integrated Reporting guidance. LTBB appreciates this opportunity to provide feedback on this important proposal.

LTBB's traditional way of life, and rights to hunt, fish and gather in the Ceded Territory were reserved in the 1836 Treaty of Washington and reaffirmed by the Federal Court in the case of *United States v. Michigan* (WD MI Case 2: 73 CV 26). LTBB is party to the 2000 Great Lakes and 2007 Inland Consent Decrees entered in that case.

To allow for adequate review and substantive comments in a timely fashion, LTBB requests the Healthy and Impaired Waters Lists report waters based on large watersheds, such as which (if any) Great Lake the waters flow into. A mapping tool would also be helpful to visualize and locate the proposed healthy or impaired waters. LTBB is primarily concerned about the contaminants reaching Lake Michigan, so lists based on large watersheds and mapping would assist in our efforts to estimate the loads flowing into Lake Michigan.

LTBB is aware that the Impaired Waters List does not keep track of all of the contaminated waters. For example, if waters have mercury levels within the statewide advisory levels, those waters would be removed from the List. Is there a list which encompasses all currently impaired waters that do not meet threshold levels, even if they fall under general statewide advisories or have approved TMDL/restoration plans? This type of list would be very helpful when considering cumulative impacts on Lake Michigan waters and fish.

LTBB requests that the surface water assessment guidance provide clarity on how primarily point sources are identified if the source does not have and/or has never had a permit for discharge, such as a WPDES permit. LTBB requests the report consider new industries or permitting changes as causes for impairment as well.

Similarly, LTBB requests the exceedance frequency section mention that reasonable effort is put into determining and documenting what caused the exceedance, for the purpose of preventing

further exceedances. This effort is meant to rectify the situation rather than waiting to see if further exceedances occur to improve water quality as soon as possible.

LTBB is aware that the appendix states that a do not eat advisory is triggered when PFOS concentrations in fish are 700 ng/g or greater. A do not eat advisory for fish in Michigan is triggered at 300 ng/g PFOS. LTBB would like to know how the 700 ng/g level was determined and which data Wisconsin agencies considered to reach that level. Also in the PFOS fish consumption advisory section, the concentrations overlap between unlimited consumption, 1 meal per week, and 1 meal per month categories. LTBB would like to know how consumption guidance is determined since the concentration level in the fish does not appear to be the only factor.

LTBB appreciates the opportunity to comment on the assessment of Wisconsin surface waters, which could impact culturally-important species, Great Lakes water quality, community health, and treaty rights.

Sincerely,

Douglas Craven
Natural Resources Department, Director
Little Traverse Bay Bands of Odawa Indians

Julie Kinzelman, Laboratory Division Director, City of Racine Public Health Dept

From: Kinzelman, Julie <Julie.Kinzelman@cityofracine.org>
Sent: Friday, November 20, 2020 11:42 PM
To: DNR Impaired Waters
Cc: Kinzelman, Julie
Subject: Comments on updated surface water assessment guidance

Thank you for the opportunity to provide the following comment.

“7.3 Pathogens – E. coli”:

“The use of both GM and STV criteria protects against spikes in bacterial densities while allowing for natural variation in water quality. These criteria apply to lakes, reservoirs, impounded flowing waters, streams, rivers, inland beaches, and Great Lake beaches.”

The draft program guidance states that this replaces the previous fecal coliform standard. Fecal coliforms have not been used to regulate Great Lakes beaches for decades. Agencies responsible for regulatory monitoring of Great Lakes beaches have defaulted to an E. coli BAV (e.g. threshold limit of 235 MPN/100 ml in a single sample) as presented in the US EPA 2012 Recreational Water Quality Criteria and subsequent updates. How will the WI DNR reconcile this approach with the GM and STV threshold values stated herein and will beach managers be required to track these additional threshold values for beneficial use attainment? High priority beaches may monitor up to seven days per week during the swimming season vs. the 11 days stated in the program guidance. More frequent testing is likely to result in a single exceedance of the GM value within the specified 90-day period as a result of, for example, single extreme precipitation events. What are the ramifications for sites that have water quality that meets the BAV 95% of the time or greater? Will they be placed on the impaired waters list for a single exceedance of the GM value within the 90-day period? Please provide clarification within the program guidance as this may be confusing.

Regards,

Julie L. Kinzelman, PhD, MS, MT(ASCP)
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Donna Keclik, USEPA Region 5

From: Keclik, Donna <keclik.donna@epa.gov>
Sent: Wednesday, December 2, 2020 4:28 PM
To: Beranek, Ashley E - DNR
Subject: FW: comments on 2022 methodolgy
Attachments: Comments on Wisconsin.docx

Ashley,

Attached are EPA's comments on the 2022 methodology. Please let me know if you have any questions or would like to discuss.

Donna Keclik
U.S. EPA Region 5 (ww-16J)
77 W Jackson Blvd.
Chicago, Illinois 60604
312-886-6766 Phone
312-692-2999 Fax

"Those who dwell, as scientists or laymen, among the beauties and mysteries of the earth, are never alone or weary of life."

— Rachel Carson

1. Section 6.4 – Temperature page 38 discusses the Margin of Error in the probe. How did the state determine what the margin of error value should be?
2. Section 7.3 Pathogens – *E. coli* since the state is changing to *E. coli* will the state retain the fecal listings if there is not enough *E. coli* data at this point since the approval of the 2020 *E. coli* standard. Would these waters remain impaired for fecal or be changed to *E. coli* until there is enough evidence as discussed in the delisting for *E. coli*. (pages 45-46)? Has the state been collecting both prior to the approval of the new standard?
3. Section 8.1 on page 47 refers to the WHO guidelines, but EPA's recommended criteria document 2016 [EPA recommended recreational criteria](#) for microcystins and cylindrospermopsin provides a more recent review of the science and lower threshold values of 8 ug/L for microcystins (and 15 ug/L for cylindrospermopsin, which is not a part of WI's methodology at all). The document also provides information on duration and frequency that could be used to inform assessments of attainment in lieu of or in combination with professional judgment.
4. On page 57 under EPA Approved TMDL or Alternative Restoration Plan -When EPA approves a TMDL or alternative restoration plan, the water pollutants covered by the TMDL or plan are proposed for removal from EPA-approved list of impaired waters that require a TMDL (Category 5 waters). However, the water is still considered impaired until applicable WQS have been met. Waterbodies having completed TMDLs are moved to Category 4A and ones with alternative plans are moved to Category 4B (Table 27). These Category 4 Waters are considered the Restoration Waters List. Once the water is restored and meets applicable water quality criteria, it may be moved to Category 2 and the Healthy Waters List.

In section 11.2 Alternative Restoration Plans, page 60 states, TMDLs are the primary way to remove waters from the Impaired Waters List (Category 5) but alternative plans can potentially fulfill the CWA's TMDL requirement. A TMDL-level alternative plan has the same requirements for pollutant load allocations and permit implementation (Table 29). Alternative restoration plans, like 9-Key Watershed Plans, can be applied to waters in Category 5, but will not remove them from the Impaired Waters List. Listings covered by an alternative restoration plan are lower priority for TMDL development.

The state needs to clarify that they are referring to two different categories both which are identified as restoration plans. The first is referring to waters that are in the approved EPA 4B category waters with plans that are enforceable where the other is the EPA category 5 alt or (5 alternative) which is also reviewed and agreed upon that they may be placed in 5 alt. Calling both alternative restoration plans can be confusing. It may be helpful to include 4B and 5 alt in the definitions for clarity.

5. The Environmental Accountability Projects on page 61 are still listed in category 5 correct?

John Thomas, President and Bill Fristad, member of the Lake Mallalieu Association

From: j.t.4741944@gmail.com
Sent: Friday, November 20, 2020 1:57 PM
To: DNR Impaired Waters; Beranek, Ashley E - DNR
Cc: 'Bill Fristad'
Subject: WisCALM 2020 ::: Public Comments on Behalf od Lake Mallalieu
Attachments: Lake Mallallieu Comments on 2022 WisCALM.docx

Dear Ms. Beranek:

By way of background, Lake Mallalieu, located in St Croix County, is a 289-acre impoundment of the Willow River. The lake has recently received substantial nutrient and silt deposits from the breach of a dam located a few miles upstream. In addition, rapid changes have recently occurred in the watershed , including the conversion of small family dairy farms to grain production, loss of pasture acreage, removal of crop residue, and other changes resulting from the establishment of a CAFO in the watershed.

Consequently, all users of Lake Mallalieu are keenly attune to the quality of the water feeding into the lake. Attached please find our comments on the Department's proposed surface water quality evaluation guidelines. These were prepared by one of our members, Bill Fristad, a PhD chemist and active contributor to the DNR's Citizen Lake Monitoring Network. Feel free to contact him (715-245-7613) or me (952-484-9966) should you have any questions.

Thank you and stay well !
John Thomas, President
Lake Mallalieu Association

Lake Mallalieu Association Comments on the DNR 2022 WisCALM Draft Document

PDF

Page Comment/Question

- 10 Water bodies can be described as ORW and ERW (Outstanding and Exceptional Resource Waters). How is it possible to learn if a particular lake has been given one of these designations, e.g. Lake Mallalieu in St. Croix County? Should this be mentioned in this section?
- 12 Similar to the question above, how does one learn which of the “five condition categories” a particular lake has been given or not yet been given?
- 14 Some chemical parameters to determine the general condition of a water body are listed as temperature, total phosphorous (TP) and chloride. As part of the DNR Citizen Lake Monitoring (CLM) Program temperature and TP are monitored, but not chloride. Should chloride be added to the monthly CLM monitoring schedule to allow more of the relevant data to be available to determine a lake’s general condition since the other data is being regularly gathered and submitted in SWIMS?
- 17 “Citizen Based Monitoring Programs” are mentioned in the last paragraph of this page. Does this include the WDNR-CLM program? If so, the language could be changed to explicitly state this. This data does meet the Quality Assurance criteria and is entered into SWIMS, as mentioned on page 18.

General Comments

There is no specific reference to sediment build-up in a lake being a factor in overall lake health assessment. Sediment is mentioned on page 46 (Section 6.7) as a possible “other” factor to consider. On page 54 (section 8.3) contaminated sediment is considered as a possible factor, but simply the volume of sediment buildup is not specifically mentioned. Sediment covering vegetation and the lake bottom has a strong effect on vegetation growth and overall enjoyment (e.g. swimming and boating). This is obviously an issue that does affect Lake Mallalieu, as it is a drainage lake and a dam upstream has been removed and rebuilt in the past several years. This construction and breaching events have brought large amounts of sediment into Lake Mallalieu. Should sediment buildup be considered for watershed/reservoir lakes?

Another suggestion for watershed/reservoir lakes is that the water quality of the river that feeds the lake should be monitored to help determine if the water quality in the lake is totally, partially, or not at all controlled by the incoming feed water. For example, is the high phosphorous level in Lake Mallalieu totally due to the incoming water from the Willow River or is it more due to runoff from lakeside homes and cities. Stream measurements are made on the Willow River (e.g. temp., D.O., flow, clarity), but measure the phosphorous or nitrogen levels are not made.

November 20, 2020

Scott Manley, Executive Vice President, Government Affairs, WMC

From: Scott Manley <smanley@wmc.org>
Sent: Thursday, November 19, 2020 9:52 AM
To: DNR Impaired Waters; Beranek, Ashley E - DNR
Subject: Wisconsin Paper Council & WMC Comments on WisCALM Guidance
Attachments: Comments_WT-17-12_WY_23_13_WPC_WMC.pdf; WPC WMC Comments on WisCALM.pdf; Comments - WPC WMC WisCALM Guidance.pdf

Good morning Ashley. Attached are comments submitted jointly by the Wisconsin Paper Council and WMC with respect to the WisCALM Guidance. Also attached are two previous comment letters referenced in our joint comments. We appreciate the opportunity to provide input.

Please let me know if you have any questions, or would like additional information.

Best regards,

Scott Manley

Executive Vice President of Government
Relations



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[Questions about COVID-19? Visit WMC's Business Resource Center at wmc.org/coronavirus](http://www.wmc.org/coronavirus)



November 19, 2020

Department of Natural Resources
Bureau of Water Quality
Attn: Ashley Beranek
P.O. Box 7921
101 South Webster Street, WQ/3
Madison, WI 53707-7921
dnrmpairedwaters@wisconsin.gov
Sent Via Email

RE: Comments on WI 2022 Consolidated Assessment and Listing Methodology
(WisCALM Guidance)

Dear Ms. Beranek:

These comments are submitted on behalf of the Wisconsin Paper Council (WPC) and Wisconsin Manufacturers & Commerce (WMC).

WPC is the premier trade association that advocates for the papermaking industry before regulatory bodies, and state and federal legislatures to achieve positive policy outcomes. WPC also works to educate the general public about the social, environmental, and economic importance of paper, pulp, and forestry production in Wisconsin and throughout the Midwest.

The pulp and paper sector employs over 30,000 people in Wisconsin and has an annual payroll of \$2.5 billion. Wisconsin is the number one paper-producing state in the United States, with the output of paper manufactured products estimated to be over \$18 billion. Our members are dedicated to maintaining clean water in Wisconsin.

WMC is the state's largest general business trade association, representing roughly 3,800 members businesses of all sizes and throughout all regions of the state. WMC members do business in all sectors of the economy, including manufacturing, retail, financial services, healthcare, agriculture, and energy. Since its founding in 1911, WMC has advocated for policies that make Wisconsin the most competitive state in the nation to do business.

WPC and WMC appreciate the opportunity to comment on this proposed this guidance. Our comments are set forth below.

Initially, please note that WPC and WMC previously submitted comments on the proposed WisCALM Guidance on September 20, 2019. In addition, on that same date, we also submitted comments on the following two rule packages: “Waterbody Assessments, Biocriteria & Phosphorus Response Indicators (WY-23-13)” and “A Process for Developing Site-Specific Criteria for Phosphorus (WY-17-12).” We hereby incorporate by reference those previous comments. Copies of those comments are included with this electronic submittal.

The rule packages referenced above were submitted by DNR to the Legislature in early 2020. After a legislative hearing on these rule packages, DNR recalled the rules for further review. DNR has indicated on its website that it plans to resubmit these rules to the Legislature in 2021.

Presumably, DNR recalled these rules to address concerns raised during the legislative hearing. One of the significant concerns regarding these rules was the narrative standards contained in the rules, due to the vague nature of such standards. While the narrative standards in the rules were vague, DNR included specific numeric standards in the WisCALM guidance for determining when waters were impaired, which was also of concern.

DNR subsequently indicated in would adopt numeric standards in the rule. In fact, in DNR’s 2021-2023 Triennial Standards Review Document, DNR notes:

*In the fall of 2019, the DNR submitted a rule package to the legislature that included **narrative** biocriteria, which provide a general statement of expectations but do not provide **numeric** thresholds describing the level of quality expected from biological communities. Numeric biocriteria would provide a more precise set of metrics by which to assess water bodies’ health. The DNR is working with the EPA to review numeric thresholds for stream fish and aquatic insects. The DNR plans to revise previously applied thresholds and propose numeric biocriteria (to replace or in addition to the narrative criteria) in a future rule package. (Emphasis added)*

Triennial Standard Review Document, p. 12.

As noted in our previous comments, the WisCALM Guidance and the rules are misaligned. DNR must promulgate rules containing numeric standards rather than implementing standards through a guidance document.

Wis. Stat. § 227.01 defines a “rule” as “a regulation, standard, statement of policy, or general order of general application that has the force of law and that is issued by an agency to implement, interpret, or make specific legislation enforced or administered by the agency or to govern the organization or procedure of the agency. “Rule” includes a modification of a rule under s. [227.265](#).”

DNR acknowledges in the WisCALM Guidance that it is using unpromulgated thresholds to make “impairment” decisions:

*Impairment thresholds are applied to determine whether waterbodies should be placed on the impaired Waters List. These thresholds are usually expressed as ambient water concentrations of various substances based on numeric water quality criteria included in chs. NR 102-105, Wis. Adm. Code WDNR technical documents, and federal guidance...In some cases, qualitative thresholds based upon narrative standards may be used to make impairment decisions. In those cases, a thoroughly documented analysis of the contextual information should be used in conjunction with professional judgment to collectively support a decision. Impairment thresholds outlined in WisCALM guidance must be in line with the intent of the water quality criteria in code. **In some cases, WisCALM lists impairment thresholds for parameters for which water quality criteria have not been promulgated, for example, macroinvertebrate and fish indices of biotic integrity and chlorophyll concentration.** (Emphasis added)*

Proposed WisCALM Guidance, p 9-10.

Furthermore, the macroinvertebrate and fish indices of biological integrity (IBI) listed through Section 5.2 of the WisCALM guidance are standards that the Department purports to use to determine whether a waterbody meets the Aquatic Life (AL) designated use, and consequently, whether a waterbody is impaired.

Thus, DNR specifically notes that it is using, for example, macroinvertebrate and fish indices of biotic integrity (Sections 5.2 and 6.2) and chlorophyll concentration (Section 6.2) to make impairment decisions, in the absence of a promulgated water quality criteria. This is unlawful because, as noted above, standards are required to be promulgated as rules. Moreover, such decisions have significant regulatory consequences. Once identified as impaired, DNR proposes to include those waters on an “impaired waters” list pursuant to section 303(d) of the Clean Water Act. Once listed, states must develop “Total Maximum Daily Loads” (TMDL) for each pollutant/waterbody combination on the list. This TMDL represents the maximum amount of a pollutant that can occur in a waterbody and still meet the applicable water quality standards. The portion attributed to point source dischargers ultimately results in discharge limits in WPDES permits.

In addition, the WisCALM Guidance also discusses exceedance frequencies on numeric water quality criteria that are allowed under DNR administrative rules. The Guidance goes on to indicate: “In addition, allowable exceedance frequencies for some water quality or biological thresholds that are not included in Wis. Adm. Code are provided in the Lakes and Rivers/Streams chapters.” Again, DNR must go through rulemaking to establish such thresholds.

We appreciate the opportunity to comment on this important guidance, and please contact us if you would like to discuss this further.

Sincerely,


Scott Manley
Executive Vice President,
Government Affairs
Wisconsin Manufactures & Commerce

/s/ Scott Suder

Scott Suder
President
Wisconsin Paper Council