2016 Impaired Waters List

Summary of Public Comments and WDNR's Responses

A public comment period on the Draft 2016 Impaired Waters List was held from October 27, 2015 to November 25, 2015. A total of 27 entities commented on the draft 2016 Impaired Waters List. The following is a summary of comments and the Wisconsin Department of Natural Resources (WDNR) responses indicating any changes draft 2016 impaired waters list. This attachment is submitted to EPA for their review of the 2016 impaired waters list. After EPA has reviewed the list and this supporting documentation, additional changes may be made to ensure compliance with federal requirements.

This attachment contains:

Contents

PUBLIC NOTICE OF THE PUBLIC COMMENT PERIOD

News Release

NEWS RELEASE, October 27, 2015

DNR takes steps to restore more Wisconsin waterways

News Release Published: October 27, 2015 by the Central Office
Contact(s): Aaron Larson, DNR water resources management specialist, 608-264-6129, AaronM.Larson@wisconsin.gov; Jennifer Sereno, DNR communications, 608-770-8084, Jennifer.Sereno@wisconsin.gov

MADISON -- Wisconsin's surface water quality is good and improving in many areas, thanks to limits on wastewater dischargers and new approaches for controlling urban and rural runoff.

In fact, phosphorus, ammonia and sediment levels have decreased during the past 20 years in major rivers statewide as a result of stricter limits in wastewater, improved farming practices, construction site erosion control and urban storm water management.

At the same time, the Wisconsin Department of Natural Resources is taking the next step to identify new waterways that will be targeted for a pollution reduction plan. The DNR has listed 209 new waters that meet the criteria for being classified as impaired and is now asking for public comment.

"Before you can solve a problem, you have to identify it and acknowledge that it exists," said DNR Secretary Cathy Stepp. "The good news is, we are doing that by listing these new waterways so we can start working to restore them to their natural quality."

The public can learn more about these lakes and river stretches in a webinar set for November 3 said Susan Sylvester, director of DNR's water quality bureau. The public can then comment on the list through November 25.

"Overall, the long-term trend and satellite monitoring show that we are making progress with good overall water quality," said Sylvester. "Combined efforts including new regulatory approaches as well as strong partnerships with lake associations, local government and others have made a big difference. However, through expanded monitoring, we've identified lakes and rivers where more work is needed to improve water quality for fish to thrive and for people to enjoy them recreationally."

Over the past two years, Wisconsin has completed assessments on more than 2,400 additional waterways. The vast majority, approximately 70 percent of assessed waters, are in good condition and this list simply identifies waters that need additional management attention.

A majority of these new listings -- 130 -- are for lakes or river stretches that exceed new, more restrictive phosphorus standards that took effect in December 2010 and many are in areas with restoration plans already in development.

"The listing does not necessarily mean that phosphorus levels in these waters got worse," said Aaron Larson, a DNR water resources management specialist and coordinator of the listing process. "Phosphorus levels may be improving in some, but not enough yet to meet these new standards. At the same time, many of these waters were not assessed for previous listing cycles."

Listing waters as "impaired" requires the state to develop restoration plans for them and also may make them eligible for state and federal cleanup funds, which can help speed improvements.

For the 2016 listing cycle, 10 waterbodies are proposed to be removed from the list. Two streams, Pleasant Valley Branch in Dane County and Rush Creek in Iowa County, are being removed because restoration projects improved stream habitat and aquatic life conditions, Larson says.

"The good news is that identifying these issues through the Impaired Waters listing process helps concentrate efforts, attention and funding on these waters," he says. "It's an important first step on the road to working with partners to help restore these waters to where they should be to benefit fish, wildlife and people."

The Impaired Waters List is submitted to the U.S. Environmental Protection Agency every even-numbered year under Section 303(d) of the Clean Water Act (40 C.F.R. s. 130.7(b)). DNR follows standard procedures to assess waterbodies against water quality standards, these are known as Wisconsin Consolidated Assessment and Listings Methods (WisCALM).

Following the department's assessment, the federal rules require public involvement to develop the final list.

The Webinar on November 3 at 11 a.m. will provide citizens and stakeholders with the opportunity to learn more about the process DNR used to develop the list and to ask any questions about that process and specific findings. Comments can be emailed to DNR at DNRImpairedWaters@wisconsin.gov or sent by U.S. mail to Aaron Larson, DNR, Water Evaluation Section (WY/3), Box 7921, Madison, WI 53707. Comments postmarked or received by Nov. 25 will be considered before submitting the final draft list to the U.S. Environmental Protection Agency for approval.

The draft list and related materials are available on the Wisconsin DNR website at dnr.wi.gov, by searching for "impaired waters and then clicking on the link for "see 2016 update."

LIST OF COMMENTERS

#	Name	Affiliation	Topic	Specifics
1	Ruben A Griess	Citizen	Specific Waterbody	Ahnapee River (94800), Crescent Beach (AU 1452585)
2	Dick Swanson	Citizen	Specific Waterbody	Ahnapee River (94800), Crescent Beach (AU 1452585)
3	Gary Krzysiak	Citizen	Specific Waterbody	Ahnapee River (94800), Crescent Beach (AU 1452585)
4	Paul Lakto	Citizen	Specific Waterbody	Ahnapee River (94800), Crescent Beach (AU 1452585)
5	Cathy Pabich	Friends of Crescent Beach	Specific Waterbody	Ahnapee River (94800), Crescent Beach (AU 1452585)
6	Phillip M. Steffen	Citizen	Specific Waterbody	Ahnapee River (94800)
7	Ron Welch	City Community Development Committee, Algoma Mainstreet Board Member, Kewaunee County Economic Development Business Retention Committee, an Algoma Lions Club and Optimists Club member, Children's Promise Board Member, and concerned citizen	Specific Waterbody	Ahnapee River (94800)
8	Robyn Mullhaney	The Flying Pig, LLC; Owner	Specific Waterbody	Ahnapee River (94800)
9	John Pabich	Friends of Crescent Beach	Specific Waterbody	Ahnapee River (94800), Crescent Beach (AU 1452585)
10	Barb & Barry Rodgers	Citizens	Specific Waterbody	Ahnapee River (94800), Crescent Beach (AU 1452585)
11	Kristine Ruehl	Hotel Stebbins; Owner	Specific Waterbody	Ahnapee River (94800), Crescent Beach (AU 1452585)
12	Melissa Dupke	Denmark Community School; Lead Teacher	Specific Waterbody	Ahnapee River (94800), Crescent Beach (AU 1452585)
13	Gareth & Donna Gridley	Natural Light Studio; Owner	Specific Waterbody	Ahnapee River (94800), Crescent Beach (AU 1452585)
14	Sue & Dan Hass	Citizens	Specific Waterbody	Ahnapee River (94800), Crescent Beach (AU 1452585)
15	Jacque Jadin	Citizen	Specific Waterbody	Ahnapee River (94800)
16	Joann Wiesner	Citizen	Specific Waterbody	Ahnapee River (94800), Crescent Beach (AU 1452585)
17	John M. Kirsch	Lakeshore Natural Resource Partnership; Board President	Specific Waterbody	Ahnapee River (94800), Crescent Beach (AU 1452585)
18	Mary Margaret Naysmith	Citizen	Specific Waterbody	Ahnapee River (94800)
19	Joe & Sandy Weimer	Ahnapee River Trails Campground; Owner	Specific Waterbody	Ahnapee River (94800)

20	Patrick Clark	Wells Fargo Advisors; Associate Vice President - Investments	Specific Waterbody	Beaver Dam Lake (835100)
21	Jane Zabrowski	Citizen	Specific Waterbody	Black River (50300)
22	Susan M. Lehnhardt	Lower Sugar River Watershed Association; President	Specific Waterbody	Sugar River Basin
23	Brent Brown	CH2M	Chlorides	Methodology
24	Cheryl Nenn	Milwaukee Riverkeeper; Riverkeeper	Chlorides	Ulao Creek (21200), Lilly Creek (18400), Grantosa Creek (5035175), Underwood Creek (16700)
25	Randy A. Lehr	Northland College; Distinguished Professor of Environmental Science and Management Burke Center for Freshwater Innovation; Co-director	Specific Waterbodies, Methodology	South Fish Creek (2889900), Chequamegon Bay (2753770), Lake Namekagon (2732600)
26	Kris W. Sivertson	COLA; President	Specific Waterbodies; Methodology	Sissabagama Lake (2393500), Lac Courte Oreilles (2390800), Whitefish Lake (2392000); TP criteria
27		Environmental Protection Agency		

COMMENTS AND RESPONSES

Specific Waterbodies

AHNAPEE RIVER AND CRESCENT BEACH – (WBICs 94800 and 2751220/AU 1452585) Concern over the designation of the Ahnapee River as a low priority for Total Maximum Daily Load (TMDL) development was expressed by several citizens and business owners in Algoma, WI (19 emails were received). It was brought to the WDNR's attention that business, recreation, and public health in Algoma are influenced by the pollution of the Ahnapee River and Crescent Beach. It was requested that the Ahnapee River be placed as a high priority for TMDL development so that the sources of pollution could be identified and the river and beach could be restored. **(Commenters 1 – 19)**

> **RESPONSE**: WDNR thanks the commenters for their interest in the development of a TMDL for the Ahnapee River total phosphorus impairment. The Ahnapee River total phosphorus listing (segment 1; river miles 0-7.86) on the draft 2016 impaired waters list was identified as a "medium" priority for future TMDL development based on computer modeling tools to identify areas with predicted poor ecological health or high phosphorus yields and instream concentrations. The "medium" priority status is a higher priority than was originally assigned in the 2014 list when the phosphorus impairment listing was first added (originally a "low" priority for TMDL development). High priority waters on the draft 2016 impaired waters list are those where TMDLs are currently being developed for pollutants of concern and will be completed within two years following the April 1, 2016 submittal of the draft 2016 impaired waters list.

BEAVER DAM LAKE – (WBIC 835100) "This body of water is listed on the draft list as a lake, when in fact it is just a widening of the Beaver Dam River. It should be listed as a river, as is it certainly is not a lake. The lake (impoundment or flowage) is a dammed up 15 mile stretch of the Beaver Dam River. The water quality standard criteria in this impoundment is impossible to obtain. Historically the riverine system is a river running through a wetland, which by nature is a nutrient trap. Thus, the body is simply a wetland with too much water above it. You cannot improve water quality with this condition. Too much taxpayer money has already been spent on this wetland (trying to create the impossible). With the problems of global warming the water must be removed and let nature take over growing back the original vegetation to let this nutrient trap naturally reduce pollutants and have the vegetation collect greenhouse gases. Under the Clean Water Act, the dam should be opened slowly letting the impoundment drain, remove the dam at the owners expense and therefore avoiding a environmental justice lawsuit that the owner is greatly liable for obviously." **(Patrick Clark, Wells Fargo Advisors)**

> **RESPONSE**: Beaver Dam Lake in Dodge County was added to the impaired waters list in 2010 based on total phosphorus (TP) concentrations causing excess algal growth. Beaver Dam Lake is classified as a shallow lowland drainage lake with an applicable total phosphorus (TP) criterion of 40 ug/L. Based on available TP data used in the most recent assessment, the lake continues to exceed the applicable criterion. The impaired waters list represents a product of the biennial assessments of surface water quality data against applicable criteria and current conditions. If the dam impounding Beaver Dam Lake is removed in the future, assessments would be based on potentially updated waterbody classification and associated criteria.

BLACK RIVER – (WBIC 50300) "I have reviewed the draft 2016 Impaired waters list. I note the Black River in Sheboygan County is an impaired Waterway listed in the Level 2 restoration plan. The Black River is in an area of the state which receives a poor aquatic ecosystem health score and high vulnerability rating.

The Black River is impaired due to one or more pollutants and associated quality impacts. At least one macroinvertebrate or fish Index of Biotic Integrity (IBI) scored in the poor condition category.

Of significance is the fact the Black Rivers flows into Lake Michigan. The Black River forms the western border of several hundred acres owned by the Kohler Company. The Kohler Company has proposed a golf course for their property. As this is a very contentious project, I am sure you are aware of their request for state owned land to be included with their proposed golf course.

I question how the Black River can improve if Kohler Company is allowed to build a golf course in this rare ecosystem. What testing will be put in place to protect the already failing Black River?" **(Jane Zabrowski, Citizen)**

> **RESPONSE**: Segment 1 (river miles 0-11.4) of the Black River in Sheboygan County was included on the 2014 impaired waters list due to degraded biological conditions and measured total phosphorus (TP) concentrations exceeding the applicable statewide TP criteria. In the 2016 draft impaired waters list updates, the priority status for the development of a Total Maximum Daily Load (TMDL) restoration plan was elevated from "low" to "medium" due to the model-predicted severity of impairment. When a TMDL study is completed for the Black River impaired segment, the sources of impairment will be identified and quantified through water quality monitoring and computer modeling. From this analysis, pollutant load reductions and allocations will be assigned to all significant sources of impairment in a final EPA-approved TMDL document.

SOUTH FISH CREEK, BAY CITY CREEK, AND UNNAMED TRIBUTARY – (WBICs 2889900, 2891100, and 2890200) "Data collected to date suggest that TP concentrations in south Fish Creek (and adjacent Bay City Creek) are significantly higher than other tributaries draining to Chequamegon Bay and that ambient concentrations are above the state water quality criterion (Figure 2). When the WDNR WisCALM criteria/protocol for determining impaired water status is applied, data collected between 2014 and 2015 suggest that south Fish Creek (and likely adjacent Bay City Creek) meet the criteria for impaired waters designation." **(Randy Lehr, Northland College, Burke Center for Freshwater Innovation)**

> **RESPONSE**: With the data and quality assurance documentation submitted by Northland College for South Fish Creek and other tributaries to Chequamegon Bay, WDNR was able to assess these waters. South Fish Creek, Bay City Creek, and the Unnamed Tributary to South Fish Creek exceeded total phosphorus (TP) criteria of 75 ug/L. Associated biology (macroinvertebrate and/or fish indices of biological integrity) were not impaired for South Fish Creek and the Unnamed Tributary so these waters were proposed for listing based on TP alone (Category 5P). Bay City Creek had a macroinvertebrate index of biological integrity score in the "poor" condition category, so this water was proposed for a TP/Degraded Biological Community listing (5A).

CHEQUAMEGON BAY – (WBIC 2753770) "Data from Chequamegon Bay suggest that existing phosphorus concentrations were at, or above, the state water quality criterion (TP ≤ 5 ug/L) in 2014 and 2015 and have been observed to potentially exceed the water quality criterion in select years (e.g., 2008) by a significant margin (Figure 4). However, evaluation of Chequamegon Bay for impairment is highly dependent on the extent of the data included in the assessment. (Table 1). If all data from all 11 sites, collected on a monthly basis by Northland College between June and August are averaged, the resulting TP concentration is 5.7 ug/L. If two "open lake" sites (CB 10 and CB 11) are excluded from the analysis, the average TP concentration increases to 6.5 ug/L. If only sites inside the breakwall are considered in the analysis, the average TP concentration increases to 9.3 ug/L. When data from USEPA from 2008 are included in the analysis, the average TP concentration observed across these areas approximately doubles."

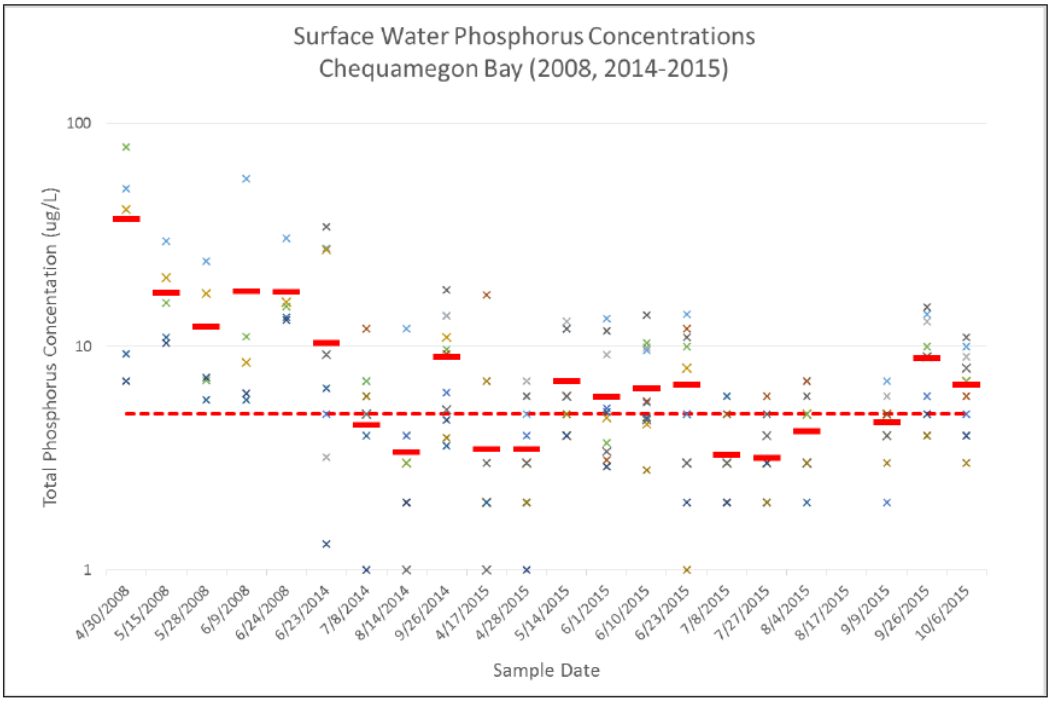

Figure 4. Surface water phosphorus concentrations collected from a range of sites located throughout the Chequamegon Bay as compared to the state water quality criterion. Data from 2008 were collected by the USEPA. Data from 2014-2015 were collected by Northland College. Red bars represent daily average from all 11 sites. Red dotted line represents total phosphorus water quality criterion of 5 ug/L.

(Randy Lehr, Northland College, Burke Center for Freshwater Innovation)

RESPONSE: The comment alludes to several challenges with characterizing and interpreting these data. Uncertainties revolve around spatial and temporal components in summarizing the information. WDNR currently does not have an established protocol for assessment of Great Lake open or nearshore waters against the applicable total phosphorus criteria or a clear means to delineate an area of impact. Without these two assessment method elements, nearshore data cannot be assessed for the 2016 listing cycle.

NAMEKAGON, JACKSON, AND GARDEN LAKES – (WBICs 2732600, 2734200, and 2735500) "A variety of data exist to describe water quality conditions in lakes throughout the Namakagon Chain of Lakes. TP data from Lake Namakagon (WBIC 2732600), Garden Lake (WBIC 2735500) and Jackson Lake (WBIC 2734200) have been collected by different groups over the past 15 years. These data suggest that the annual growing season (June –August) TP concentrations in Lake Namakagon (20 ug/L) and Garden Lake (24 ug/L) are below the corresponding water quality criterion of 30 ug/L for a stratified drainage lake, and thus should not be listed as impaired waterbodies. The annual growing season average TP concentration for Jackson Lake is 51 ug/L, which is over the 40 ug/L criterion for un-stratified drainage lakes. However, this elevated TP concentration is likely a result of continual wind mixing of the water column (see Figure 6) and not of a specific pollutant source (particularly given the limited development throughout the watershed). All data presented below for the Namakagon Chain of Lakes were access from the WDNR Surface Water Viewer/SWIMS database in August of 2015." **(Randy Lehr, Northland College, Burke Center for Freshwater Innovation)**

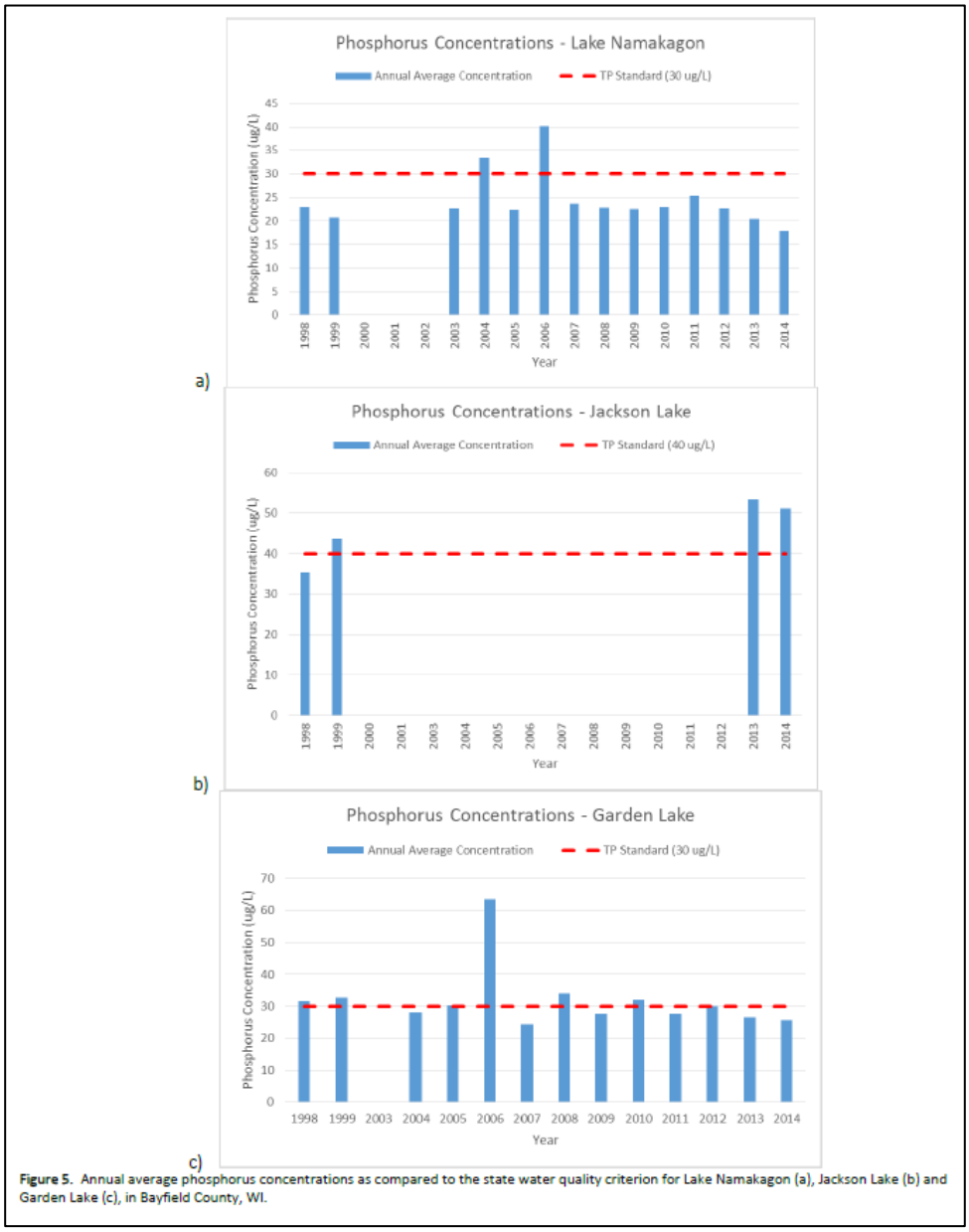

Figure 5. Annual average phosphorus concentrations as compared to the state water quality criterion for Lake Namakagon (a), Jackson Lake (b) and Garden Lake (c), in Bayfield County, WI.

RESPONSE: Lake Namekagon is classified as a Two-Story Fishery lake which has an associated total phosphorus (TP) criterion of 15 µg/L. TP sample data clearly exceed this criterion, which is the basis of this impairment listing.

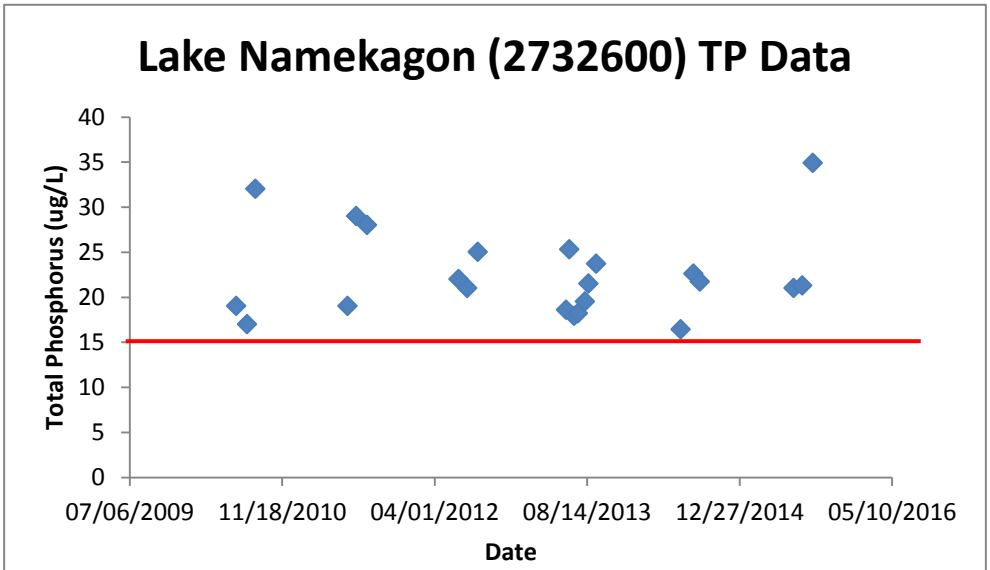

Figure 1: Raw total phosphorus data from 2010 – 2014 used in the phosphorus assessments for Lake Namekagon. The red line marks the TP criterion of 15 µg/L associated with Two-Story Fishery lakes.

Garden Lake is currently classified as a Shallow Lowland Drainage lake and has a criterion of 40 µg/L. Total phosphorus data for this lake were clearly below the criteria. Garden Lake is not proposed for listing and is considered fully meeting its Recreation and Fish and Aquatic Life uses. The temperature profile data for 2013 and 2014 included here indicate that Garden Lake is thermally stratified. Considering this information, Deep Lowland Drainage lake may be a more appropriate classification. The associated criterion for this classification is 30 µg/L, which Garden Lake also does not exceed.

Jackson Lake is also classified as a Shallow Lowland Drainage lake with the criterion of 40 µg/L. There was only 2013 data available for this lake, which resulted in insufficient data to do a full assessment. Preliminary calculations indicate that TP data clearly exceeds the criteria. This lake is recommended for further monitoring. It is unclear where the 2014 data in the graph for Jackson Lake originated as there are no 2014 TP data for Jackson Lake in WNDR's SWIMS database.

UNDERWOOD CREEK – (WBIC 16700**) "**We question delisting of phosphorus for Underwood Creek from the mouth to the South Branch. That seems suspect, and we don't understand the criteria by which it is being delisted. Is it due to the new WisCALM guidance that emphasizes confidence intervals? Our monitoring at Gravel Sholes Park on Underwood Creek has shown that we have had several exceedances in the last two years (standard is 0.075 mg/L): Total Phosphorus, SWIMS 10031613, Underwood Creek at Gravel Sholes Park; Our samples exceed standard for 06/26/2014 (0.174) and 5/31/2015 (0.0782)." **(Cheryl Nenn, Milwaukee Riverkeepers)**

RESPONSE: In determining if total phosphorus data meet or exceed criteria, the 2016 WisCALM guidance uses a confidence interval comparison (see Figure 2 below). This method was adopted in the 2014 WisCALM guidance. The upper 90% confidence interval at station 10031613 was 65 µg/L, which is clearly below the standard of 75 µg/L. This is the basis of the delisting. The delisting calculations used data from 2013 because there was a full season of data (monthly samples May – September). With the additional data from 2014 and 2015 available in the SWIMS database the upper 90% confidence interval remains below the standard (upper 90% confidence interval = 70 µg/L). Underwood Creek will remain listed for Degraded Biological Community because both the macroinvertebrate and fish indices of biological integrity scored in the Poor condition category. A temperature impairment listing was also added to this water during the 2016 cycle.

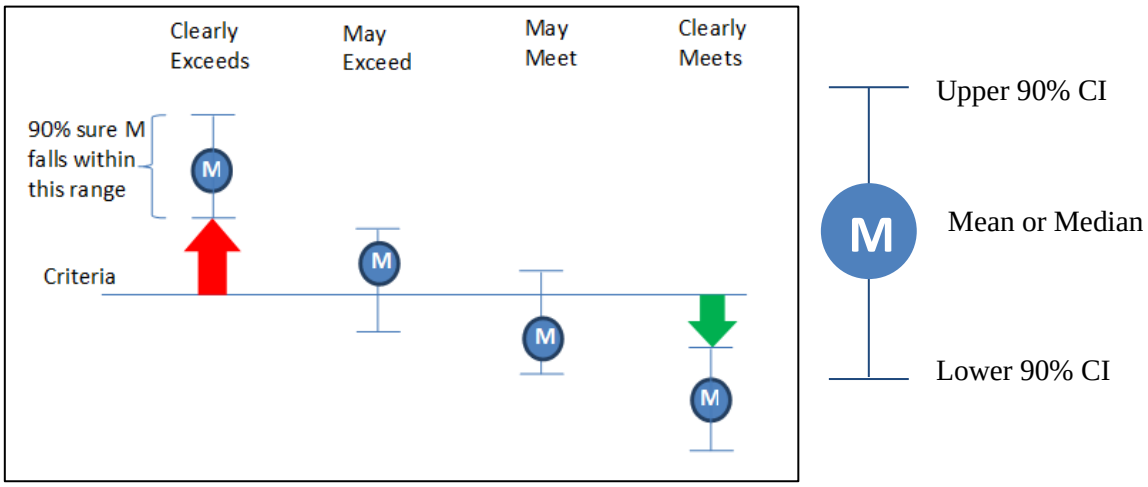

Figure 2: Figure from the 2016 WisCALM guidance document (page 28) illustrating the comparison of confidence intervals to the criteria for total phosphorus. If the lower 90% confidence interval is above the criteria then the data clearly exceeds. If the upper 90% confidence interval is below the criteria then the data clearly meets the criteria.

ULAO CREEK, LILLY CREEK, AND LITTLE MENOMONEE RIVER – (WBICs 21200, 18400, and 17600) "We'd like to submit brief comments in support of the proposed listings for chloride for Ulao and Lilly Creeks. Our citizen monitoring of chloride support these proposed listings. We are also concerned about the Little Menomonee River, which was very close to exceeding chronic criteria for chloride last year. We will continue to monitor that creek this year, as well as expand testing to other small creeks in the Milwaukee River Basin." **(Cheryl Nenn, Milwaukee Riverkeepers)**

RESPONSE: Your comments in support of this proposed listing have been noted. Little Menomonee River is also proposed for listing for chlorides in the 2016 cycle.

GRANTOSA CREEK – (WBIC 5035175) "We also support the proposed listing of Grantosa Creek for phosphorus in 2016." **(Cheryl Nenn, Milwaukee Riverkeepers)**

RESPONSE: Your comments in support of this proposed listing have been noted.

SISSABAGAMA LAKE – (WBIC 2393500) "WDNR has not provided the rationale or supporting information as to why the DNR Category should change from 5A to 5C. In addition, COLA comments that during the 2012 listing process, WDNR, in response to comment(s) received, vigorously defended its proposed DNR Category 5A listing for Sissabagama Lake[…]COLA requests that WDNR retain the DNR Category 5A listing for Sissabagama Lake until such time as either a TMDL is completed or a site specific criterion is approved."

"WDNR has placed Sissabagama Lake under Source Category- PS/NPS implying that a combination of point source and non-point source discharges are causing the total phosphorus impairment of Sissabagama Lake[…]COLA also requests that WDNR address the "Source Category" comment above. In the Department's response to comments, please identify the point source(s) the Department believes are contributing to the impairment of Sissabagama Lake."

(Kris W. Sivertson, The Courte Oreilles Lakes Association (COLA))

RESPONSE: Upon review of the 2016 total phosphorus (TP) assessment for Sissabagama Lake, it was determined that the TP pollutant listing should be removed because the upper 90% confidence limit value of 19.8 µg/L is clearly below the criteria of 30 µg/L. Current chlorophyll concentrations continue to exceed the listing thresholds, so this lake will remain listed for excess algal growth.

The source category of "PS/NPS" is the default category used when known sources have yet to be documented. This default category assignment for Sissabagama Lake was reviewed by the regional biologist and no changes were recommended based on available information.

WHITEFISH LAKE – (WBIC 2392000) "WDNR is proposing to list Whitefish Lake, Sawyer County as an impaired water because the total phosphorus criterion has been exceeded. COLA agrees with this assessment and supports the listing of Whitefish Lake.

WDNR also proposes to place Whitefish Lake in DNR Category 5P, (total phosphorus criteria exceeded/biological impairment has not been demonstrated). COLA comments that there is a well-documented case history of biological impairment in the Lake Fishery Files of the WDNR, Hayward Service Center. This documentation includes reports of lake whitefish fish kills, concerns raised regarding loss of cold water fishery habitat, reports on catastrophic run-off events depositing sediment in the lake and AIS infestation (Eurasian water milfoil) impeding navigation and recreation.

Based on review of the Hayward Service Center files, COLA believes there is sufficient evidence/documentation of biological impairment of Whitefish Lake and requests that WDNR list Whitefish Lake in DNR Category 5A in the final 2016 impaired water list that is submitted to U.S. EPA.

Finally, WDNR's proposed 2016 listing places Whitefish Lake in Source Category-PS/NPS. COLA requests that WDNR identify the point source(s) the Department believes are contributing to the impairment of Whitefish Lake in the Department's response to comments." **(Kris W. Sivertson, The Courte Oreilles Lakes Association (COLA))**

> **RESPONSE**: WDNR currently assesses lakes for biological impairment using algae and plant metrics. WDNR has not developed assessment methods for data or information regarding lake fisheries, so impairment assessments of those data cannot be completed at this time. Therefore, this listing will remain in Category 5P on the draft 2016 list.
>
> The source category of "PS/NPS" is the default category used when known sources have yet to be documented. This default category assignment for Whitefish Lake was reviewed by the regional biologist and no changes were recommended based on available information.

MUSKY BAY, LAC COURTE OREILLE – (WBIC 2390800) "In the draft 2016 impaired water list WDNR continues to perpetuate the myth that Musky Bay of LCO is a separate body of water from the rest of the lake, with no connection or mutual influence between waters of LCO and Musky Bay.

Even more disturbing is the determination by WDNR to apply a lake classification to Musky Bay that is different from the classification that is applied to the rest of LCO, in order to apply a phosphorus criterion that is less protective than for the rest of the Lake. COLA can only deduce that these arbitrary determinations made by WDNR are intended to protect the cranberry operations that discharge into Musky Bay and that have, in large part, caused the impairment of Musky Bay.

COLA completely rejects these determinations on the part of the WDNR.

COLA requests that WDNR remove "Musky Bay" under the Local Name category and substitute with: Lac Courte Oreilles and remove "Bay/harbor" under the Water Type category and substitute with: Lake.

In addition, as WDNR knows from their participation in scoping, COLA provided regular updates, WDNR review of draft documents and WDNR provided funding, COLA has undertaken an LCO wide Total Daily Maximum Load study as required by the section 303(d) of the Federal Clean Water Act.

Since a draft TMDL has been prepared, COLA requests that WDNR change the designation from "Low" to "High" under the TMDL Priority category in the final 2016 impaired water list that is submitted to U.S. EPA.

Finally, WDNR's proposed 2016 listing places Lac Courte Oreilles in Source Category –PS/NPS. COLA requests that WDNR identify the point source(s) the Department believes are contributing to the impairment of Lac Courte Oreilles in the Department's response to comments." **(Kris W. Sivertson, The Courte Oreilles Lakes Association (COLA))**

> **RESPONSE**: WisCALM Section 4.3 under 'Whole Lake vs. Partial Lake Assessment' it reads, "[I]n cases where a known or suspected localized pollution source is believed to cause impairment in only one portion of a lake (such as an isolated bay or well-defined lobe), biologists may consider assessing and listing that portion as impaired separate from the larger lake." The

specific inputs into Musky Bay, in addition to the bay being a well-defined lobe, allow WDNR to consider the bay separately. The WDNR continues to assess Musky Bay separately from the larger Lac Courte Oreilles, and the Musky Bay listing remains unchanged since it was added in 2012 for impairments related to non-native aquatic plant growths attributed to excess total phosphorus concentrations.

The TMDL development priority status for this listing was kept at a low priority in the draft 2016 list, because it is WDNR's understanding that a non-TMDL alternative restoration plan (e.g., 9-key element plan) will be pursued to address this impairment.

The source category of "PS/NPS" is the default category used when known sources have yet to be documented. This default category assignment for Musky Bay was reviewed by the regional biologist and no changes were recommended based on available information.

LAC COURTE OREILLE – (WBIC 2390800) "An analysis of the last 5 years (2011-2015) of dissolved oxygen data in Lac Courte Oreilles (WBIC 2390800) suggests that LCO is impaired (see attached LCO Hypolimnion Dissolved Oxygen). The table below summarizes the assessment of the dissolved oxygen measurements in the hypolimnion of LCO. Based on this assessment, COLA requests WDNR to include LCO on the 2016 303(d) list as impaired in Category 5A, in accordance with WisCALM. While phosphorus data does not support an impairment decision based on WisCALM methodologies (see comment 4 above), it is clear that excess algal productivity resulting from anthropogenic phosphorus loads to LCO is contributing to dissolved oxygen depletion. As an Outstanding Resource Water, LCO requires immediate attention to restore water quality and protect it from further degradation. LCO is one of only 5 inland lakes in Wisconsin to have both cisco and lake whitefish reported present. Sufficient dissolved oxygen in the hypolimnion is critical to protecting this fishery."

Percent of individual dissolved oxygen measurements in the hypolimnion during the ice-free period with concentrations less than 6 mg/L.

Location	Year					
	2011	2012	2013	2014	2015	2011-2015
LCO-2 (West Basin)	64%	85%	68%	60%	51%	66%
LCO-3 (Central Basin)	68%	82%	59%	55%	44%	62%
LCO-4 (East Basin)	34%	78%	62%	48%	33%	54%
Lake-wide (West, Central and East Basins)	53%	81%	63%	53%	41%	60%

Percent of average hypolimnion dissolved oxygen concentrations during the ice-free period with concentrations less than 6 mg/L.

Location	Year					
	2011	2012	2013	2014	2015	2011-2015
LCO-2 (West Basin)	75%	88%	74%	71%	70%	77%
LCO-3 (Central Basin)	75%	88%	68%	57%	50%	70%
LCO-4 (East Basin)	50%	87%	68%	57%	50%	67%
Lake-wide (West, Central and East Basins)	67%	87%	70%	62%	57%	71%

(Kris W. Sivertson, The Courte Oreilles Lakes Association (COLA))

RESPONSE: The current standard protocol (WisCALM, 2016) for assessing concentrations of dissolved oxygen (DO) for all lake types uses **epilimnetic** DO measurements collected during ice-free time periods. The assessment provided by the commenter used data from the lake's hypolimnion only, which is not consistent with the current assessment method. WDNR followed the standard protocol to assess the epilimnetic values in the submitted dataset and found that all assessed stations meet applicable DO criteria; therefore, Lac Courte Oreilles was not added to the draft impaired waters list.

WDNR is currently reevaluating its DO assessment protocols for two-story fishery lakes. The protocol may be revised to consider both water temperature and dissolved oxygen data simultaneously in assessing the habitat suitability and condition of two-story lakes for coldwater fishes.

SUGAR RIVER BASIN – "In keeping with the State's new prioritization goal (WDNR and WQ/WMB 2015), the LSRWA is eager to contribute as a partner in advancing the next steps of the Impaired Waters process, which we understand may involve developing a TMDL for each water body and undertaking watershed planning and implementation for these waterbodies to remove them from the list over time. It is also our understanding that, due to limited resources, initiating this process across the various geographies of the state requires prioritization based on a number of criteria, among those 1) available willing partners, 2) value of the surface water resource, and 3) risk of further or imminent deterioration due to development and land use pressures. We…make the case that the Lower Sugar River and the Sugar River drainage as a whole should be prioritized for the next steps in the process for addressing the impaired waters of Wisconsin." **(Susan M. Lehnhardt, Lower Sugar River Watershed Association)**

RESPONSE: Thank you for providing comments on the TMDL development priority status for listed waters in the Sugar River drainage area and for your interest in the development of Total Maximum Daily Load (TMDL) restoration plans for these listed waters. Based on your comment letter and documentation, WDNR has assigned a "medium" TMDL development priority status for all 28 named tributaries or Sugar River mainstem reaches, and one impoundment located on the Sugar River mainstem that were identified in your comments. Please note that "high" priority waters on the draft 2016 impaired waters list are those where TMDLs are currently being developed for pollutants of concern and will be completed within two years following the April 1, 2016 submittal of the draft 2016 impaired waters list. WDNR looks forward to continued collaboration and future discussion regarding proposed restoration planning for impaired waters in the Sugar River drainage area, as WNDR staff and fiscal resources allow.

General Comments

CHLORIDE METHODOLOGY – "1. In reviewing the data used for assessing chloride impairments, a value of 359 mg/L was used instead of the criterion of 395 mg/L. This error results in listing waterbodies that do not meet WisCALM criteria.

2. Listing criteria in WisCALM for chlorides is the same for acute and chronic criteria. It requires only 2 values in 3 years. Chlorides is different than other "toxics" in that it is event driven with snowmelt and winter-time liquid precipitation. Alternative listing criteria should be developed in WisCALM, at a minimum for chronic criteria, that eliminates bias associated with event-based sampling, such as event sampling for chlorides following runoff events in winter. Simple event based sampling for runoff-driven toxics, especially for chronic criteria, is not an accurate representation of water quality conditions and an impairment." **(Brent Brown, CM2H)**

> **RESPONSE:** Thank you for identifying the typographic error of the applied criterion. This error was corrected and the chloride assessments redone. As a result, two waterbody segments were removed from the draft 2016 303(d) list: the entire length of the Pewaukee River (WBIC 771700) and the Root River (WBIC 2900) from just north of Hwy 38 to County Highway V (13th St). WDNR may consider alternative methods for evaluating chloride data against applicable chronic criteria in a future update to WisCALM to ensure that representative water sample data are used to compare against the criteria.

TOTAL PHOSPHORUS METHODOLOGY – "The WisCALM assessment approach currently applied by WDNR requires an evaluation of the confidence interval around the mean of monthly average total phosphorus concentrations during the growing season (June 1 through September 15). For a lake to be included on the 303(d) list as impaired and to have priority put on the development of a TMDL, using only total phosphorus data, the lower 90th percentile of the confidence interval around the mean must exceed the phosphorus criterion by more than 1.5 times. This basically means that for Lac Courte Oreilles (WBIC 2390800) to be listed as impaired based solely on total phosphorus data, there must be 95% certainty that the average monthly total phosphorus concentration is more than 150% of the current 15 µg/L criterion, or greater than 22.5 µg/L. Being 95% sure that total phosphorus is averaging greater than 22.5 µg/L in LCO is a high bar for determining impairment and taking needed steps to restore and protect the resource, especially considering LCO is an Outstanding Resource Water (ORW). The current WisCALM approach leads to a high probability that LCO will not be listed as impaired until it has already undergone significant degradation. This is clearly not the intent of the impairment thresholds, which, as stated in WisCALM, "must be in line with the intent of the water quality criteria in code." The impairment assessment methodology should be revised to provide sufficient protection for ORWs such as LCO." **(Kris W. Sivertson, The Courte Oreilles Lakes Association (COLA))**

> **RESPONSE:** Current WisCALM methodology requires a lake be listed as impaired in subcategory 5P due to total phosphorus concentrations if the lower 90th percentile of the sample concentrations exceeds the criteria. A water that exceeds by 1.5 times the total phosphorus criteria or has an observed biological impairment will be assigned subcategory 5A. All Category 5 waters require TMDL development. A practical distinction between category 5P and 5A is that waters designated 5P are generally lower priority for TMDL development unless otherwise noted.

EPA Comments

DEAD PIKE LAKE – (WBIC 2316600) Total Phosphorus/ Impairment Unknown, Proposed for list. "Should this be addition since this segment is already listed for Mercury?"

> **RESPONSE:** Yes, this should have been an Addition rather than Proposed for List. This has been changed in our database.

MENDOTA COUNTY PARK BEACH – (WBIC 805400) E. coli/Recreational Restrictions – Pathogens. "Correction needs to be made in official Waterbody name column"

> **RESPONSE:** WDNR will update the final draft list to reflect the correct waterbody name.

FIFTH LAKE – (WBIC 1571100) Mercury/Contaminated Fish Tissue, 303(d) Listed. "On 2014 list. However this is not on 2016 or indicated proposed for delisting or deletion. And does not indicated that there is a TMDL developed."

> **RESPONSE:** This was a database error and has been fixed.

BIG GREEN LAKE – (WBIC 146100) PCBs/Contaminated Fish Tissue, TMDL Development. "This is listed twice for PCB should one be listed for TP?"

> **RESPONSE:** This was a database error and has been fixed.

LAKE DUBAY – (WBIC 1412200) Unknown Pollutant/Excess Algal Growth, 303(d) Listed. "On 2016 impaired waters list also on the deletions tab. Where does the water belong?"

> **RESPONSE:** This listing belongs on the deletion list.

LAKE REDSTONE – (WBIC 1280400) Total Phosphorus/Eutrophication, TMDL Development. "In 2014 was listed twice one listing for TP and excess Algae. The second listing was for an unknown pollutant and Eutrophication. Now it is listed as TP and Eutrophication. Should this also be listed for excessive Algae?"

> **RESPONSE:** This was a listing error. In 2014 it was listed for Total Phosphorus/Eutrophication when it should have been listed as TP/Excess Algal Growth and Unknown Pollutant/Eutrophication. This listing was confirmed in the 2016 assessments. This will be corrected for the final 2016 list submittal.

ROUND LAKE – (WBIC 2640100) Unknown Pollutant/Eutrophication, 303(d) Listed. "Should this be an addition? List for Mercury - FCA and TP with algal growth."

> **RESPONSE:** This listing was supposed to be added in 2014. For the draft 2016 list, the listing status has been changed to an "addition."

LAKE WINGRA – (WBIC 805000) Total Phosphorus/Impairment Unknown, 303(d) Listed. "Should this be addition since this segment is already listed for PCB's?"

RESPONSE: This listing was meant to be added in 2012. The 2016 TP assessment indicated that this water clearly met criteria, so this listing will be removed from the draft list.

LAKE POYGAN – (WBIC 242800) PCBs/Contaminated Fish Tissue, TMDL Development. "Listed twice for PCB's should this also include a listing for TP?"

RESPONSE: This was a database error and has been fixed.

ROOT RIVER – (WBIC 2900) Sediment/Total Suspended Solids/Low DO, 303(d) Listed and Total Phosphorus/Low DO, Degraded Biological Community, 303(d) Listed. "Not on 2014 list for this segment is this an addition or proposed listing?"

RESPONSE: This segment (miles 20.48 – 25.80) had the incorrect WATERS ID on the 2014 list, but the miles were shown. Not an addition or proposed, these stream miles have been listed since 1998.

RUSH CREEK – (WBIC 1240100) Sediment/Total Suspended Solids/Degraded Habitat, TMDL Development. "On impaired waters list and delisting sheet where should this be placed?"

RESPONSE: This belongs on the delisting list.

UNNAMED (TRIB TO CRAWFORD CREEK) – (WBIC NA) Creosote/Chronic Aquatic Toxicity, 303(d) Listed. "Correction needs to be made in official Waterbody name column"

RESPONSE: WDNR will update the final draft list to reflect the correct waterbody name.

WISCONSIN RIVER – (WBIC 1179900) Dioxin/Contaminated Fish Tissue, 303(d) Listed. "On impaired waters list and deletion sheet where should this be placed?"

RESPONSE: This listing belongs on the deletion list.

EPA Comments on WDNR's 2016 Consolidated Assessment and Listing Methodology (WisCALM)

1. Wisconsin 2016 Consolidated Assessment and Listing Methodology for CWA Section 303(d) and 305(b) Integrated Reporting [hereafter WisCALM], Section 6.0, "Public Health and Welfare Uses applicable to all waterbody types," page 52: We recommend clarifying the phrase "unreasonable incremental risk of cancer" by adding the following parenthetical statement: "(no more than one additional case of cancer in a population of one hundred thousand)." We recommend that the same clarification be added to clarify the term as used in the first paragraph on Page 55.

   RESPONSE: The 2016 version of WisCALM was finalized on March 26, 2015 after considering comments from the EPA and the public during a 30-day comment period. WDNR will make these corrections to WisCALM in the next update of the guidance (2018 WisCALM).

2. WisCALM, Section 6.3, "Public Water Supply Use Assessment," "Cyanobacteria," page 54: Now that EPA has developed Health Advisories for Microcystins and Cylindrospermopsin, we recommend that the WDNR consider updating its previous use of World Health Organization (WHO) guidelines to incorporate EPA's Health Advisory values and to determine if these represent a better indicator than the single WHO value for Microcystin LR.

   RESPONSE: The 2016 version of WisCALM was finalized on March 26, 2015 after considering comments from the EPA and the public during a 30-day comment period. WDNR will make these corrections to WisCALM in the next update of the guidance (2018 WisCALM).

3. WisCALM, Section 4.2, "Lake General Condition Assessment," page 17: In its February 17, 2015 comment on the draft 2016 WisCALM, EPA raised concerns regarding discrepancies between phosphorus assessment thresholds for lakes and WDNR's total phosphorous water quality criteria (E-mail from Donna Keclik, EPA to Aaron Larson, WDNR, February 17, 2015, Enclosure, "Comments on Wisconsin's Draft 2016 WisCALM document Public Notice date December 2014," Section III.5, p. 1 of EPA's comments.) In response to this concern raised by EPA, WDNR committed to evaluating its application of the Carlson Trophic State Index (TSI) thresholds for consistency with the total phosphorous criteria. EPA would like to continue working with WDNR on this issue and would like a chance to review the updated draft methodology prior to finalization.

   RESPONSE: The 2016 version of WisCALM was finalized on March 26, 2015 after considering comments from the EPA and the public during a 30-day comment period. As stated in the previous response to comments, WDNR will continue working with EPA to evaluate the TSI thresholds for consistency with the endpoints described in the "Wisconsin Phosphorus Water Quality Standards Criteria: Technical Support Document."

4. WisCALM, Section 4.4, "Lake Impairment Assessment: Fish & Aquatic Life (FAL) Uses," Table 5, "Fish & Aquatic Life Use Impairment Thresholds for Lake Natural Communities," page 33: In its

February 17, 2015 comment letter on the draft 2016 WisCALM, comment Section III.9, p. 1 EPA noted that the values in the table did not appear to be consistent with the thresholds identified as signaling impairment in the Technical Support Document. WDNR committed to reevaluating the FAL use thresholds and to provide more information in future updates to the WisCALM. EPA would like to continue working with WDNR on this issue and would like a chance to review the updated draft methodology prior to finalization.

RESPONSE: The 2016 version of WisCALM was finalized on March 26, 2015 after considering comments from the EPA and the public during a 30-day comment period. As stated in the previous response to comments, WDNR will continue working with EPA to evaluate the FAL use thresholds for consistency with codified water quality criteria.

5. Region 5 will continue to work with WDNR to address the issues raised in past comments on the listing methodology regarding biological thresholds that are used in the assessment process.

   RESPONSE: WDNR will continue working with EPA to address their concerns with the FAL use biological indicator thresholds and may make changes to WisCALM in a future update of the guidance.

6. WisCALM: page 51, Table 15, "Fish and Aquatic Life Use Aquatic Toxicity Impairment Thresholds for Rivers/Streams":
   a. This table should also include Selenium. Please include this as one of the parameters measured.
   b. It appears that criteria listed in the table that had "chlor" as their root were replaced with chlorophyll and resulted in Chlorophylloride, Pentachlorophyllorophenol, Chlorophyllorine, and Chlorophyllorpyrifos.

   Response: Thank you for identifying the omission and typographic errors. The 2016 version of WisCALM was finalized on March 26, 2015 after considering comments from the EPA and the public during a 30-day comment period. WDNR will make these corrections to WisCALM in the next update of the guidance (2018 WisCALM).