



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

MAR 25 2015

REPLY TO THE ATTENTION OF:

WW-16J

Diana Klemens, Chief
Surface Water Assessment Section
Water Resources Division
Michigan Department Environmental Quality
P.O. Box 30273
Lansing, Michigan 48909-7773

Dear Ms. Klemens:

The U.S. Environmental Protection Agency has conducted a review of the Michigan Department of Environmental Quality's (MDEQ) draft 2016 Assessment Methodology, which was on public notice from February 23, 2015 to March 23, 2015. Please find enclosed our comments on the draft Methodology.

We appreciate that MDEQ has taken significant steps to refine its methodology for assessing water quality impairments in response to EPA recommendations. We continue to have concerns regarding the use of best professional judgment in certain circumstances, and MDEQ's approach for establishing biological thresholds. These concerns are outlined in the enclosed comments. We look forward to continued discussions to ensure MDEQ's Assessment Methodology supports full assessment of Michigan's waters.

Thank you for the opportunity to review this draft Methodology. Please let me know if you have questions regarding our comments.

Sincerely,

A handwritten signature in black ink that reads "Peter Swenson". The signature is written in a cursive style.

Peter Swenson, Chief
Watersheds and Wetlands Branch

Enclosure

cc: Kevin Goodwin, MDEQ
Gary Kohlhepp, MDEQ

**U.S. Environmental Protection Agency Comments to MDEQ
regarding draft 2016 Assessment Methodology
March 26, 2015 DRAFT**

I. General comments

1. EPA Region 5 appreciates the opportunity to review and comment on Michigan's Draft 2016 Assessment Methodology. The Region may review subsequent versions of the 2016 Michigan Assessment Methodology in conjunction with its review of the draft and final 2016 303(d) lists.
2. It is difficult to determine the time frame of data used by the state for listing. In many cases states use the most recent 5-10 years of data for making the listing determination for conventional pollutants. We recommend Michigan add information indicating the time frame of data used for listing.

II. Data and information Used to Determine Designated Use Support

1. Section 4.2, 7th Bullet, p. 4. We recommend Michigan consider other external data sources in the assessment of Public Water Supply (PWS) source waters. One source which is directly related to the methodology presented in Section 4.9.1.3, and could be listed here, is taste and odor complaints. Other data sources include: source water ambient data collected by the public water systems for operational or compliance purposes and post-treatment compliance sampling (see comment under Section 4.9.1.1 below).
2. Section 4.2, p. 5 states: "Generally, data that are collected to determine compliance with permitted activities, such as NPDES discharge data, are not used to determine designated use support; however, ambient data that are collected for this purpose **may be** [emphasis added] considered." EPA notes that all ambient data collected need to be considered for assessment determination.

III. Warmwater Fishery and Coldwater Fishery.

1. The draft Methodology describes various measurements the state may consider in making assessments, particularly the application of the 10% exceedance rate for conventional pollutants (such as dissolved oxygen, temperature, pH, and dissolved solids). EPA recommends that the state ensure the portion of the standard which states "never to be exceeded" is being implemented to protect the aquatic life use with the appropriate duration and frequency components to make a determination of the status of the water.
2. Section 4.5.1.3 [Ammonia (un-ionized) concentration], p. 7: Ammonia is a toxic pollutant. EPA's 2013 Update of ambient water quality criteria for ammonia states that freshwater aquatic life should be protected if:

the highest four-day average within the 30-day period does not exceed 2.5 times the CCC.¹

In response to EPA's comments on this issue during our review of Michigan's 2014 Assessment Methodology², Michigan indicated that it would consider including the 4-day average condition in the 2016 methodology. EPA would like to continue discussions with Michigan on the state's process for updating water quality values for ammonia in its Mich. Admin. Code R. 323.1057 (Toxic Substances) (hereafter Rule 57), and what steps are necessary to make the assessment methodology consistent with EPA's 2013 criteria.

This section states that, "It is conceivable, although likely infrequent, that in using BPJ [Best Professional Judgment], a water body may be assessed with a less rigorous set of data (e.g., than the preferred continuous monitoring over a two-week period)..." suggesting that continuous data for ammonia is routinely collected over a two week period. This statement is appropriate if MDEQ generally collects two weeks of continuous data at monitored locations. This statement should be modified, however, if this does not reflect the amount of data routinely collected.

This section also refers to a period of review: "In general, a decision of 'not supporting' for un-ionized ammonia will be based on more than one exceedance of the monthly average (chronic) WQS per R 323.1057 over the period of review following USEPA guidance (USEPA, 1999)." We recommend the methodology be revised to include the review time frame that would be used.

IV. Biological Attainment Thresholds

Sections 4.5.2.1 and 4.6.2.1 [Fish Community, Macroinvertebrate Community], pp. 8 and 11: The Draft Methodology includes attainment thresholds for wadeable streams that categorize waters into excellent, acceptable, and poor categories. In prior communications³, EPA has expressed concern about whether MDEQ's biological thresholds meet the minimum goal in the CWA § 101(a)(2) of protection and propagation of fish, shellfish, and wildlife. The EPA evaluation performed over the last reporting cycle, which was provided to MDEQ, suggests that the current thresholds are not within an acceptable amount of departure from reference condition. EPA looks forward to continuing our work with MDEQ to evaluate and resolve this issue.

¹ EPA, Office of Water, "Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, 2013," EPA 822-R-13-001, April 2013.

² See Response to comments letters from Kevin Goodwin, MDEQ to Peter Swenson, EPA, December 4, 2013 comment I.1 at page 3, and March 27, 2014 comment I.1 at page 2.

³ See EPA comments on MDEQ's 2014 methodology in a letters dated May 30, 2013 and January 31, 2014 between Peter Swenson, EPA and Diana Klemens, MDEQ, and comments on MDEQ's 2012 methodology in a letters dated August 5, 2011 and January 13, 2012 between Peter Swenson, EPA and Diana Klemens, MDEQ.

V. Other Indigenous Aquatic Life and Wildlife

1. Section 4.6.1.1 [Water Column Toxic Substance Concentrations], pp. 9-11 and figures 4.1a and 4.1b, indicates that there must be ≥ 4 samples to assess toxic substances. The draft methodology cites to EPA 2002 CALM guidance. Chapter 6 table 6-1 suggests that ≥ 4 samples be collected, but the guidance also discusses the use of adequate statistical data sets. EPA has not specified a minimum number of data sets required to assess toxic substances. If MDEQ requires a minimum of 4 data sets to make assessments, MDEQ should be collecting at a minimum 4 data sets to enable it to make listing determinations. Please confirm that MDEQ collects a minimum of 4 samples over the course of time needed to make a listing determination.
2. Section 4.6.1.1 [Water Column Toxic Substance Concentrations], pp. 9-11: This section develops an analysis for water column toxic substance concentrations that appears to be drawn from EPA's guidelines for conventional pollutants. EPA's Consolidated Assessment and Listing Methodology (CALM) provides at Appendix C, Section C.2.2 (EDA Example 1 (Assessing Normality of Continuous Data)) the use of the geometric mean to normalize the data used for a conventional pollutant. As discussed in CALM Chapter 4 (Using Chemical Data as Indicators of Water Quality), pp. 4-6, however, a four day average is recommended for toxic substances: "The chronic criterion (criteria continuous concentration, CCC) equals the highest concentration of a pollutant to which the aquatic species can be exposed for an extended period of time (4 days) without deleterious effects." The guidance goes on to state "EPA recommended that acute and chronic aquatic life criteria for toxics not be exceeded more than once every 3-year period on the average." (id.) However, the draft methodology does not indicate what period of review MDEQ intends to use to assess Bioaccumulative Chemicals of Concern (BCC). The methodology should be revised to clarify the review time frame, either 3 years or some other period.
3. Section 4.6.2.1 [Macroinvertebrate Community], p. 13, states that "A determination of not supporting or, infrequently, insufficient information is made for water bodies with macroinvertebrate communities rated poor...." The Methodology should be revised to clarify whether waters that are determined to be "infrequently" rated poor would be considered supporting or not supporting and whether such waters would be placed in category 5?

VI. Fish Consumption

1. Section 4.2.1.1 [Water Column and Fish tissue Mercury Concentrations], Figure 4.3: The third diamond "Is the geometric mean* > 1.8 ng/l+?" indicates there are notes associated with this sentence (*, +). Please add the associated notes.

VII. Public Water Supply

1. Section 4.9 [Designated Use: Public Water Supply]: As a general matter, we note that the constituents identified in Section 4.6.2.2 (bacteria, algae, macrophytes, and fungi) could also be used to make support decisions for the PWS use, especially given that there are currently no criteria for algal toxins. We

- recommend that Michigan consider adding a methodology to the Public Water Supply section (Section 4.9) which would assess these constituents, including for Great Lakes waters.
2. Section 4.9.1.1 [Toxic Substances in Water Column], p. 12, indicates that “In rare instances, limited data (less than 4 data points) demonstrating extreme exceedance of WQS may be used to assess a water body as not supporting the public water supply use; if so, the basis for these decisions will be reflected in the [Assessment Database] ADB.” Adding this information to ADB is helpful for EPA, however, we note that the public does not have access to the ADB. Therefore, EPA recommends that this information also be placed in the MiSWIMS data base or other relevant data base to provide public access to the information.
 3. Section 4.9.1. We recommend that the methodology include nitrate, due to its ubiquitous occurrence, removal difficulties with conventional treatment, available data and resulting shorter-term/acute health effects (in infants). Several other states utilize nitrate as one of their primary indicators for determining PWS use impairments. Also, while the MCL of 10 mg/L is typically used to make impairment determinations, some states also flag source waters that exceed a threshold level of 5 mg/L to watch or follow more closely.
 4. Section 4.9.1.1 [Toxic Substances in Water Column], p. 20. The rationale provided in this section for selecting non-bioaccumulative criteria and MCLs as surrogate criteria for bioaccumulative pollutants is reasonable. As an additional source of data that would fit into this section (top of page 21) we recommend you consider public water system compliance data (i.e., MCL violations). Except for disinfection by-products, one can assume that any post-treatment MCL violations are indicative of source water conditions not meeting the use, or at a minimum, that would require further investigation.
 5. Section 4.9.1.2 [Dissolved Solids], p. 21. We found this section a little hard to follow. For example, use support determinations using dissolved solids data will be made where “one or more representative monthly average calculations” can be made and compared to [Mich. Admin. Code] R. 323.1051(2).” This referenced provision only contains chloride criteria whereas Mich. Admin. Code R. 323.1051(1) contains TDS criteria. We recommend this be clarified. We also recommend a clearer description of the meaning of “one or more representative monthly average calculations” be provided.
 6. Section 4.9.1.3 [Taste and Odor] pp 21-22. Instead of relying solely on customer complaints regarding taste and odor, we recommend Michigan consider utilizing numeric secondary MCLs, which would improve the bases for these assessments. Many secondary MCLs (copper, iron, manganese, sulfate, zinc, TDS) are set at levels where taste and odor or other aesthetic problems would occur.



RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING



DAN WYANT
DIRECTOR

December 23, 2015

Mr. Peter Swenson, Chief
Watersheds and Wetlands Branch
United States Environmental Protection Agency
Region 5
77 West Jackson Boulevard (WW-16J)
Chicago, Illinois 60604-3507

Dear Mr. Swenson:

Thank you for submitting comments on the Water Quality and Pollution Control in Michigan, 2016 Sections 303(d), 305(b), and 314 Integrated Report (IR) Draft Assessment Methodology. The following is in response to those comments dated March 25, 2015. The Michigan Department of Environmental Quality (MDEQ) appreciates the timely input on our Assessment Methodology as it continues to evolve and the United States Environmental Protection Agency (USEPA) support with regard to outstanding and emerging issues involving this, and future development of assessment methodologies. Our responses are below in italicized text following the USEPA's comments.

USEPA Comment I. 2.: It is difficult to determine the time frame of data used by the state for listing. In many cases states use the most recent 5-10 years of data for making the listing determination for conventional pollutants. We recommend Michigan add information indicating the time frame of data used for listing.

MDEQ Response: *Our review period for new listing determinations, conventional or otherwise, is typically the most recent 2 years of data. This is stated in Section 4.2 of the Draft IR, but has also been added to Sections 4.5.1.3 and 4.6.1.1 to clarify. Specifically regarding conventional pollutants, data collection to make listing determinations is typically part of a specific, intensive study conducted during relevant critical periods to collect data of sufficient quality to make assessments following our methodology. As such, the data used for conventional pollutant assessments are generally a single study data set collected fairly recently, versus the compilation of screening-level data collected over a number of years.*

USEPA Comment II. 1.: Section 4.2, 7th Bullet, p. 4. We recommend Michigan consider other external data sources in the assessment of Public Water Supply (PWS) source waters. One source which is directly related to the methodology presented in Section 4.9.1.3, and could be listed here, is taste and odor complaints. Other data sources include: source water ambient data

collected by the public water systems for operational or compliance purposes and post-treatment compliance sampling (see comment under Section 4.9.1.1 below).

MDEQ Response: *Because the bulleted list under Section 4.2 is not intended to be exhaustive, there are numerous possible sources of assessment data. Other data possibilities, such as those suggested, are already able to be considered (e.g., taste and odor complaints as noted in Section 4.9.1.3) or will continue to be vetted for inclusion in future Assessment Methodologies (e.g., various public water supply system data, as discussed below under Section 4.9.1.1). No change is proposed based on this comment.*

USEPA Comment II. 2.: Section 4.2, p. 5 states: "Generally, data that are collected to determine compliance with permitted activities, such as NPDES discharge data, are not used to determine designated use support; however, ambient data that are collected for this purpose may be [emphasis added] considered." EPA notes that all ambient data collected need to be considered for assessment determination.

MDEQ Response: *Section 4.2 has been reworded to clarify that "...ambient data that are collected for this purpose **will be** (emphasis added) considered."*

USEPA Comment III. 1.: The draft Methodology describes various measurements the state may consider in making assessments, particularly the application of the 10% exceedance rate for conventional pollutants (such as dissolved oxygen, temperature, pH, and dissolved solids). EPA recommends that the state ensure the portion of the standard which states "never to be exceeded" is being implemented to protect the aquatic life use with the appropriate duration and frequency components to make a determination of the status of the water.

MDEQ Response: *Based on this comment, the MDEQ evaluated our assessment processes particularly as they relate to acute toxic substance. Based on this review and to be protective of acute Aquatic Maximum Values (AMV) it was decided to change the decision point at which a 'not supporting' decision is made to 'one or more' exceedance of the AMV for both Bioaccumulative Chemicals of Concern (BCC) and non-BCC toxics (versus the 'greater than one' that has been used). This change is better reflective of the intent behind the "shall not" as it relates to exceeding AMVs under R 323.1057 of the Part 4 Rules, Water Quality Standards (WQS), and the protection that affords against acute effects under all frequencies and durations. We are continuing to use a 10% exceedance rate for conventional pollutants and the 'greater than one' exceedance trigger for Chronic Values for toxic pollutants as protective based on impacts associate with the more frequent or repeated exposure.*

USEPA Comment III. 2.: Section 4.5.1.3 [Ammonia (un-ionized) concentration], p.7: Ammonia is a toxic pollutant. EPA's 2013 Update of ambient water quality criteria for ammonia states that freshwater aquatic life should be protected if: the highest four-day average within the 30-day period does not exceed 2.5 times the CCC¹.

In response to EPA's comments on this issue during our review of Michigan's 2014 Assessment Methodology, Michigan indicated that it would consider including the 4-day average condition in

the 2016 methodology. EPA would like to continue discussions with Michigan on the state's process for updating water quality values for ammonia in its Mich. Admin. Code R. 323.1057 (Toxic Substances) (hereafter Rule 57), and what steps are necessary to make the assessment methodology consistent with EPA's 2013 criteria.

This section states that, "It is conceivable, although likely infrequent, that in using BPJ [Best Professional Judgment], a water body may be assessed with a less rigorous set of data (e.g., than the preferred continuous monitoring over a two week period)..." suggesting that continuous data for ammonia is routinely collected over a two week period. This statement is appropriate if MDEQ generally collects two weeks of continuous data at monitored locations. This statement should be modified, however, if this does not reflect the amount of data routinely collected.

This section also refers to a period of review: "In general, a decision of 'not supporting' for un-ionized ammonia will be based on more than one exceedance of the monthly average (chronic) WQS per R 323.1057 over the period of review following USEPA guidance (USEPA, 1999)." We recommend the methodology be revised to include the review time frame that would be used.

MDEQ Response: *Michigan will continue discussions with the USEPA on updating ammonia WQS and, if it does so, will also update the assessment methodology to ensure consistency with updated criteria.*

With regard to the amount of ammonia data routinely collected to make assessment determinations, where there are particular water quality concerns related to ammonia, it is routine that two weeks of continuous data are collected. No change is proposed based on this comment.

As stated earlier, clarification has been added to Section 4.5.1.3 that the period of review for ammonia data is typically two years.

USEPA Comment IV.: Sections 4.5.2.1 and 4.6.2.1 [Fish Community, Macroinvertebrate Community], pp. 8 and 11: The Draft Methodology includes attainment thresholds for wadeable streams that categorize waters into excellent, acceptable, and poor categories. In prior communications, EPA has expressed concern about whether MDEQ's biological thresholds meet the minimum goal in the CWA § 101(a)(2) of protection and propagation of fish, shellfish, and wildlife. The EPA evaluation performed over the last reporting cycle, which was provided to MDEQ, suggests that the current thresholds are not within an acceptable amount of departure from reference condition. EPA looks forward to continuing our work with MDEQ to evaluate and resolve this issue.

MDEQ Response: *The MDEQ plans on continuing the evaluation of our biological attainment threshold related to Procedure 51 biological monitoring and discussions with the USEPA. This issue is something that the MDEQ is undertaking, not only based on past comments and concerns by the USEPA, but based on our own evaluation of the protectiveness of the threshold. The additional information that comes from the recent Tetra Tech study comparing*

assessment indices between Ohio, Indiana, and Michigan will be informative in this process as well.

USEPA Comment V. 1.: Section 4.6.1.1 [Water Column Toxic Substance Concentrations], pp. 9-11 and figures 4.1a and 4.1b, indicates that there must be > 4 samples to assess toxic substances. The draft methodology cites to EPA 2002 CALM guidance. Chapter 6 table 6-1 suggests that > 4 samples be collected, but the guidance also discusses the use of adequate statistical data sets. EPA has not specified a minimum number of data sets required to assess toxic substances. If MDEQ requires a minimum of 4 data sets to make assessments, MDEQ should be collecting at a minimum 4 data sets to enable it to make listing determinations. Please confirm that MDEQ collects a minimum of 4 samples over the course of time needed to make a listing determination.

MDEQ Response: *The minimum data set collected through our Water Chemistry Monitoring Program consists of four quarterly samples and is the minimum used to assess a designated use based on water column toxics following Section 4.6.1.1 (i.e., one data set, consisting of four samples over time). Based on the methodology spelled out in Section 4.6.1.1, assessments are made based on one set of four data points, at a minimum. No change is proposed based on this comment.*

USEPA Comment V. 2.: Section 4.6.1.1 [Water Column Toxic Substance Concentrations], pp. 9-11: This section develops an analysis for water column toxic substance concentrations that appears to be drawn from EPA's guidelines for conventional pollutants. EPA's Consolidated Assessment and Listing Methodology (CALM) provides at Appendix C, Section C.2.2 (EDA Example 1 (Assessing Normality of Continuous Data)) the use of the geometric mean to normalize the data used for a conventional pollutant. As discussed in CALM Chapter 4 (Using Chemical Data as Indicators of Water Quality), pp. 4-6, however, a four day average is recommended for toxic substances: "The chronic criterion (criteria continuous concentration, CCC) equals the highest concentration of a pollutant to which the aquatic species can be exposed for an extended period of time (4 days) without deleterious effects." The guidance goes on to state " EPA recommended that acute and chronic aquatic life criteria for toxics not be exceeded more than once ever}' 3-year period on the average." (id.) However, the draft methodology does not indicate what period of review MDEQ intends to use to assess BCCs. The methodology should be revised to clarify the review time frame, either 3 years or some other period.

MDEQ Response: *As stated earlier, language has been added to Section 4.6.1.1 to clarify that the MDEQ uses a review period of typically the most recent two years of data for water column toxics, both for BCCs and non-BCCs.*

USEPA Comment V. 3.: Section 4.6.2.1 [Macroinvertebrate Community], p. 13, states that " A determination of not supporting or, infrequently, insufficient information is made for water bodies with macroinvertebrate communities rated poor...." The Methodology should be revised to clarify whether waters that are determined to be "infrequently" rated poor would be considered supporting or not supporting and whether such waters would be placed in category 5?

MDEQ Response: *To clarify the language used in Section 4.6.2.1, the term 'infrequently' refers to the rare occasion in which a site rates poor using bioassessment protocols (typically Procedure 51), but additional information brings into question the quality or applicability of the survey data (e.g., surveys conducted during high-water events or in a system that is more*

reflective of wetland conditions, either of which may be determined to be inappropriate for the sampling methods used at the time due to efficiency or relevance, respectively). The use of 'infrequently' is not intended to refer to the frequency that a specific site rates poor using appropriate sampling methods; a single rating of a site as poor using bioassessment protocols will typically result in an assessment of not supporting, as stated in 4.6.2.1. No change is proposed based on this comment.

USEPA Comment VI. 1.: Section 4.2.1.1 [Water Column and Fish tissue Mercury Concentrations], Figure 4.3: The third diamond "Is the geometric mean* > 1.8 ng/l+?" indicates there are notes associated with this sentence (*, +). Please add the associated notes.

MDEQ Response: *The superscripts noted in Section 4.8.1.1 (sic) have been removed; they had been inadvertently left in from earlier drafts.*

USEPA Comment VII. 1: Section 4.9 [Designated Use: Public Water Supply]: As a general matter, we note that the constituents identified in Section 4.6.2.2 (bacteria, algae, macrophytes, and fungi) could also be used to make support decisions for the PWS use, especially given that there are currently no criteria for algal toxins. We recommend that Michigan consider adding a methodology to the Public Water Supply section (Section 4.9) which would assess these constituents, including for Great Lakes waters.

MDEQ Response: *We agree that there are likely additional indicators and data that may be useful in assessing the Public Water Supply designated use. We will continue to work with our MDEQ Drinking Water staff and the public water supply community to develop and enhance the related assessment methods to this use for future Integrated Reporting cycles and will consider comments received from the USEPA in these discussions. At this point, no change is proposed based on this comment.*

USEPA Comment VII. 2: Section 4.9.1.1 [Toxic Substances in Water Column], p. 12, indicates that "In rare instances, limited data (less than 4 data points) demonstrating extreme exceedance of WQS may be used to assess a water body as not supporting the public water supply use; if so, the basis for these decisions will be reflected in the [Assessment Database] ADB." Adding this information to ADB is helpful for EPA, however, we note that the public does not have access to the ADB. Therefore, EPA recommends that this information also be placed in the MiSWIMS data base or other relevant data base to provide public access to the information.

MDEQ Response: *We agree that public access to this level of detail is important. Starting with the 2014 IR cycle the ADB use-specific comment fields were uploaded to MiSWIMS to facilitate this information sharing; this will be continued for this 2016 IR cycle. No change is proposed based on this comment.*

USEPA Comment VII. 3: Section 4.9.1. We recommend that the methodology include nitrate, due to its ubiquitous occurrence, removal difficulties with conventional treatment, available data and resulting shorter-term/acute health effects (in infants). Several other states utilize nitrate as one of their primary indicators for determining PWS use impairments. Also, while the MCL of 10 mg/L is typically used to make impairment determinations, some states also flag source waters that exceed a threshold level of 5 mg/L to watch or follow more closely.

MDEQ Response: *A nitrate WQS of 10 mg/L for drinking water was developed under the MDEQ's R 323.1057, Toxic Substances, of the Part 4 Rules. As such, available data for this parameter are screened against the WQS as part of the Toxic Substances in Water Column data review. No change is proposed based on this comment.*

USEPA Comment VII. 4: Section 4.9.1.1 [Toxic Substances in Water Column], p. 20. The rationale provided in this section for selecting non-bioaccumulative criteria and MCLs as surrogate criteria for bioaccumulative pollutants is reasonable. As an additional source of data that would fit into this section (top of page 21) we recommend you consider public water system compliance data (i.e., MCL violations). Except for disinfection by-products, one can assume that any post-treatment MCL violations are indicative of source water conditions not meeting the use, or at a minimum, that would require further investigation.

MDEQ Response: *This comment presents a reasonable approach to discuss with our Drinking Water program staff and the public water supply community as a possible additional enhancement to Public Water Supply assessment methods for future Integrated Reporting cycles. At this point, no change is proposed based on this comment.*

USEPA Comment VII. 5: Section 4.9.1.2 [Dissolved Solids], p. 21. We found this section a little hard to follow. For example, use support determinations using dissolved solids data will be made where "one or more representative monthly average calculations" can be made and compared to [Mich. Admin. Code] R. 323.1051(2)." This referenced provision only contains chloride criteria whereas Mich. Admin. Code R. 323.1051(1) contains TDS criteria. We recommend this be clarified. We also recommend a clearer description of the meaning of "one or more representative monthly average calculations" be provided.

MDEQ Response: *We agree that this Section's wording was confusing; changes have been made to Section 4.9.1.2 to reflect the intent that this section apply to chlorides only as an indicator, in keeping with the reference to R 323.1051(2). We will be working with Drinking Water program staff to understand data availability and to help better define what our expectations are for data to be considered a 'representative monthly average' for future Integrated Reporting cycles.*

USEPA Comment VII. 6: Section 4.9.1.3 [Taste and Odor] pp 21-22. Instead of relying solely on customer complaints regarding taste and odor, we recommend Michigan consider utilizing numeric secondary MCLs. which would improve the bases for these assessments. Many secondary MCLs (copper, iron, manganese, sulfate, zinc, TDS) are set at levels where taste and odor or other aesthetic problems would occur.

MDEQ Response: *We will consider this suggestion in consultation with Drinking Water program staff for future Integrated Reporting cycles. At this point, no change is proposed based on this comment.*

Appendix E

The Public Comment period for the Draft 2016 Integrated Report is running December 2, 2015, through January 8, 2016, and is posted on the MDEQ's calendar and Web page at http://www.michigan.gov/deq/0,4561,7-135-3313_3681_3686_3728-12711--,00.html. We submitted a link to the electronic copy of the Draft 2016 Integrated Report directly to Ms. Donna Keclik of your office on December 2, 2015, for review and comment. If you have additional questions or concerns, please contact me at 517-284-5552 or goodwink@michigan.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Kevin R. Goodwin". The signature is written in a cursive style with a large, stylized initial "K".

Kevin R. Goodwin
Lakes Erie, Huron, and Superior Unit
Surface Water Assessment Section
Water Resources Division

cc: Ms. Diana Klemans, MDEQ
Mr. Michael Alexander, MDEQ
Water Body System File, MDEQ

Alliance for the Great Lakes – Michigan League of Conservation Voters

January 8, 2016

VIA EMAIL to Kevin Goodwin at goodwink@michigan.gov

Michigan DEQ, WRD
525 West Allegan Street
P.O. Box 30458
Lansing, Michigan 48909-7773

Re: Comments on Michigan's Draft Water Quality and Pollution Control in Michigan, 2016 Sections 303(d), 305(b), and 314 Integrated Report

Dear Michigan DEQ:

The Great Lakes are a global treasure – their waters sustain millions of people, thousands of communities, a vibrant economy and a truly remarkable ecosystem. Harmful and nuisance algal blooms caused by excess nutrient runoff are among the top threats to the Great Lakes, posing risks to drinking water supplies, quality of life and economic vitality. Nowhere is this more obvious than in the western Lake Erie basin and Saginaw Bay.

Michigan's water quality standards require that "nutrients shall be limited to prevent stimulation of growths of aquatic plants, fungi or bacteria which are or may become injurious to the designated uses of the surface waters of the state." The 303(d) list is an important part of meeting Michigan's water quality standards and working towards the Clean Water Act's goal of fishable and swimmable waters. Algal blooms resulting from excessive nutrients in the near shore regions are unsightly, odorous, and detrimental to recreation. Algae may also interfere with drinking water treatment and some types of algae can produce toxins harmful to humans and wildlife.

We urge Michigan to review and strengthen the draft report on nutrient and algal pollution in the following areas:

- 1. Michigan improperly avoids making a listing decision on nutrients and algae impairment of western Lake Erie and Saginaw Bay.** Michigan continues to report 1,262 square miles of Saginaw Bay and western Lake Erie as not having sufficient information to determine whether designated uses are supported due to algae and nutrient pollution. Michigan's failure to make an impairment determination for these areas is improper since Michigan is required to evaluate and list all waters failing to meet any applicable water quality standard. Michigan should assemble and evaluate all existing and readily available water quality-related data and information against its narrative standards. In particular, Michigan should address data on Lake Erie's phosphorus and algae conditions summarized in the May 2015 report "Recommended Phosphorus Loading Targets for Lake Erie" developed under the Great Lakes Water Quality Agreement and available online at: <http://binational.net/wp-content/uploads/2015/06/nutrients-TT-report-en-sm.pdf>. Based on these data, Michigan should list western Lake Erie as impaired by nutrients and algae and develop a TMDL to address the pollution. Michigan should also make a determination on nutrient and algae impairment of Saginaw Bay or explain what additional data is required and set a timetable to obtain the data and make a listing determination.
- 2. Maumee River basin tributaries.** Additional effort should be made to address nonpoint agricultural runoff into Lake Erie, particularly from sources in the Maumee River basin. Michigan

needs to prioritize its work to target nutrient reductions in the Maumee River basin because the contribution from the headwaters is important—the headwaters have been shown to be moderately to high phosphorus yielding areas and have moderately high to high soil runoff potential. (See the Northeast-Midwest Institute report online at www.nemw.org/lake-erie-report). Additional monitoring is needed, especially in unmonitored high priority watersheds. In particular, Michigan should increase monitoring of total and dissolved reactive phosphorus on Bean Creek and the St. Joseph River since there is very limited monitoring data for either tributary. Michigan should acknowledge and evaluate the substantial impact of agricultural non-point source runoff in its work in the Maumee River basin, including addressing CAFOs. Eight CAFOs use about 21,000 acres for land application in Michigan’s section of the Maumee River basin. Nutrient contributions from these sources should be evaluated. For both existing and new water quality monitoring sites, sampling should be maintained for a minimum of ten years after new agricultural management practices are installed to evaluate their effectiveness in reducing nutrient loading.

3. **Raisin River.** Michigan should continue to monitor and implement actions to reduce phosphorus discharge from Raisin River. More information should be provided on the potential for reduced limits for total phosphorus and dissolved reactive phosphorus discharged by the Monroe POTW. Michigan should focus on nonpoint source contributions. Nutrient contributions from other watersheds and the Huron-Erie corridor should be considered and appropriate steps taken to reduce total and dissolved reactive phosphorus loads from all sources.
4. **Huron River watershed TMDLs.** Michigan should monitor existing nutrient TMDLs and accelerate completion of nutrient TMDLs within the Huron River watershed. For example, there are TMDLs for nutrients now scheduled for 2024 (Letts Creek and Smith Creek/Silver Creek); this schedule should be accelerated. Monitoring of nutrients in Ford Lake and Belleville Lake where nutrient TMDLs have been completed is needed for both total and dissolved reactive phosphorus; this data can help show the effectiveness of these TMDLs.
5. **Monitoring and assessment of harmful algae blooms (HABs).** We are pleased Michigan plans additional HAB monitoring and assessment in 2016. (See Draft report, pp. 29). Michigan should work with other Lake Erie jurisdictions to develop consistent and coordinated monitoring efforts. In particular, the plan should adopt and implement the US EPA’s Algal Toxin Risk Assessment and Management Strategic Plan for Drinking Water (Nov. 2015) which lays out the strategy for monitoring and addressing causes and impacts of harmful algal blooms.

Thank you for considering our comments. Should you have any questions about these comments, please do not hesitate to contact any of the undersigned.

Sincerely,

Molly M. Flanagan
Vice President, Policy
Alliance for the Great Lakes

Charlotte Jameson
Policy Manager
Michigan League of Conservation Voters

Appendix E

Thank you for providing an opportunity to comment on the Draft Integrated report for the 2016 cycle. Please consider the following comments from Bay County:

- 1) The table of contents (TOC) does not reflect the actual page and contents within the document. This is a housekeeping issue but please do check and remedy this as it is significant in places. For example Chapter 2 is titled Water Protection Activities and then presents 16 pages of 26 programs and funding activities that might be better presented in tabular form.
- 2) The TOC shows 2.25.2 as the Saginaw Bay Coastal Initiative under Water Protection Special Initiatives but is actually missing from the document. The Saginaw Bay Coastal Initiative was created with encouragement from the DEQ and is a unique local grass roots collaborative working with DEQ and other agencies to improve and protect water quality and shoreline use of the Saginaw Bay. It should be included in the Integrated Report (IR) as it is still active and previous versions of the IR described activities undertaken and an update could be provided if requested.
- 3) If TOC 2.26 Cost/Benefit Assessment is to remain in the document, the contribution of local funding, support and operations should be included and expanded to reflect the real local costs of water treatment, wastewater treatment, on-going maintenance of water protection systems, and the value of local stewardship as reported (at minimum) in DEQ grant records.
- 4) The TOC 4.7 **Designated Use: Recreation Assessment Type: Physical/Chemical** should include language here to address the Water Quality Standard that requires the state's surface waters not have any **physical "deposits" in "unnatural quantities which are or may become injurious to any designated use."** **And include "Muck" here where currently only pH is presented.**
- 5) At 5.1 and 5.3 Trophic Status..as in all previous IR's, the Saginaw Bay is listed as Eutrophic, having a high nutrient load, yet as we have previously commented in earlier IR's there still is no TMDL proposed to control nutrient loading into the Saginaw River and Bay. As no modifications have been made, we will submit again our previous community comments from the earlier IR's as they are still unchanged: **"The MDEQ needs to revisit the State of Michigan Phosphorus Reduction Strategy for the Michigan Portion of Lake Erie and Saginaw Bay which has not been updated since 1991 or start over. This Strategy is not an adequate measure to address the serious nutrient and phosphorus problems in Saginaw Bay and western Lake Erie. The MDEQ needs to include Saginaw Bay and western Lake Erie on the Section 303(d) list of waters that do not support their designated uses and require the development of Total Maximum Daily Loads (TMDLs). The MDEQ should move to a TMDL strategy for the Saginaw Bay/Lake Huron nearshore areas to address the nutrient overload."**
- 6) At 5.5 Beaches and 5.6 Decaying Organic Matter Deposits - when decaying matter presents along the public beachfront in such quantities that shoes get pulled off feet attempting to reach the water's edge, and small children or pets are physically entrained at the shoreline, then it constitutes unnatural qualities which are or may become injurious for use. **" To further add injury at the public beachfront at the Bay City State Recreational Area, the landowner Michigan Department of Natural Resources (DNR) Parks is prohibited from removing the muck on the shore or otherwise disturbing the non-vegetated sandy shoreline due to deed restrictions the US Army Corps of Engineers required to be placed along 82% of the public beachfront at the state park for "Non Disturbance Area" to prevent muck removal.**

Appendix E

The shoreline of the Saginaw Bay at the designated public use area at the Bay City State Recreation Area is certainly impaired for use by large unnatural quantities of muck decaying on the shore. DNR Parks has extensive historic records that show a decline in use after they were prohibited from beach grooming and muck removal – as every other state park in Michigan is allowed to do. State Park records show this had been the most heavily used popular white sandy beach in Michigan. The regulatory spin zone that the Great Lakes Bay Region experiences regarding this beach is an environmental injustice; the federal US Army Corps of Engineers prohibits a permit for beach grooming and muck removal by the public landowner DNR Parks, yet the Department of Environmental Quality (DEQ) refuses to list the shoreline as impaired due to the heavy accumulation of algal muck impairing use at the shoreline. One or the other. Either the agencies should remove the deed restrictions and allow for a beach grooming permit to remove the muck – and we will enjoy the use of the public beach, or if muck removal continues to be prohibited at the beachfront then the DEQ must deem it impaired for use.

Thank you,

Laura Ogar, Bay County Director
Environmental Affairs and Community Development
Bay County Building
515 Center Avenue, Suite 500
Bay City, Michigan 48708
T 989-895-4135
F 989-895-4068
ogarl@baycounty.net

Appendix E

Dear Mr. Goodwin,

Thank you for the opportunity to comment on Michigan's [Draft 2016 Clean Water Act Sections 303\(d\), 305\(b\), and 314 Integrated Report](#). Michigan Farm Bureau is our state's largest general farm organization with more than 45,000 farming family members. Farmers all over the state care deeply about protection of our vital water resources and use practices to improve their environmental stewardship. Hundreds of thousands of acres of farmland have conservation practices on them assisted by Natural Resources Conservation Service programs, and farmers participating in the voluntary [Michigan Agriculture Environmental Assurance Program](#) have stopped enough nutrients from entering Michigan waterways to grow more than 1 million tons of algae. DEQ's biannual report is a valuable tool for assessing the status of our state's waters, and identifying regions of impairment where farm stewardship practices can help agriculture do its part to protect and improve water quality. We appreciate being able to see the Department's assessment of sources and causes for impairment of those waters, and would like to have the opportunity to discuss further DEQ's process for identifying how different nonpoint sources contribute to overall water quality.

New in this year's report is DEQ's "[TMDL Vision](#)" for a statewide Total Maximum Daily Load on *E coli*. Our understanding of this new vision includes applying to the Environmental Protection Agency with a statewide plan for setting limits and improving the water quality of waters impaired by this pathogen. Under this plan it appears that when a water undergoes the state's already-established protocol for identifying *E coli* impairment, that the water that the water could then be placed in the category of impaired waters with plans to set limits and work with permitted facilities and local communities on improvement. This would shorten the current lengthy (multi-year) process of identifying each impaired water, developing and submitting individual plans and submitting them to EPA for approval before funding and action can begin. Michigan Farm Bureau looks forward to discussing further how this Vision will be implemented and what changes farmers and landowners might see to DEQ's compliance assistance and permitting programs. We request to be kept informed and to have the ability to participate in the development of any implementation plans for this new Vision that might affect how farmers in Michigan operate as a part of the landscape.

Thank you again for allowing interested parties to comment on DEQ's draft Integrated Report. We look forward to continuing to partner with the Department to both preserve Michigan's agricultural productivity and protect water resources. Please feel free to contact me with any questions or to discuss further.

Laura A. Campbell
Manager, Ag Ecology Department
Michigan Farm Bureau
Office: 517-679-5332 Cell: 517-420-7936
Email: lcampbe@michfb.com

GREAT LAKES INDIAN FISH & WILDLIFE COMMISSION

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MICHIGAN

Bay Mills Community
Keweenaw Bay Community
Lac Vieux Desert Band

WISCONSIN

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

MINNESOTA

Fond du Lac Band
Mille Lacs Band

January 8, 2016

Kevin Goodwin
Upper Peninsula District Supervisor
Water Resources Division
Michigan Department of Environmental Quality
525 West Allegan St. PO Box 30458
Lansing, MI 48909

Dear Mr. Goodwin,

The Great Lakes Indian Fish and Wildlife Commission (GLIFWC) is an intertribal agency exercising delegated authority from 11 federally recognized Ojibwe (or Chippewa) tribes in Wisconsin, Michigan and Minnesota.¹ Those tribes have reserved hunting, fishing and gathering rights in territories ceded in various treaties with the United States. GLIFWC's mission is to assist its member tribes in the conservation and management of natural resources and to protect habitats and ecosystems that support those resources.

GLIFWC staff, in cooperation with Scott Cardiff of the University of Wisconsin-Madison, have conducted water quality sampling and field investigations in several areas of the Michigan Upper Peninsula. Our review of the draft listing for 2016 Michigan Impaired Waters is informed by that work. We are concerned about inadequacies in the

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

current draft listing for 2016 Michigan Impaired Waters for the Escanaba River system as well as gaps in monitoring data in other areas of the Upper Peninsula.

GLIFWC is concerned about selenium impairments because selenium levels in excess of the 5 µg/L chronic criterion can be toxic, particularly to egg-laying aquatic organisms such as fish. Primary impacts include decreased growth, survival, and reproductive success, which can lead to population level effects. GLIFWC's member tribes rely on the harvest of fish from Michigan ceded territory waters to meet subsistence, economic, and cultural needs. In waters where selenium exceeds the chronic criterion, selenium may accumulate in fish to levels that can impact reproduction, leading to population declines and a subsequent decrease in the quantity and quality of fish available to tribes. Tribes are disproportionately affected by these declines in fish populations because they harvest and consume fish at a rate well above that of the general population.

In addition to the direct impacts to fish health, selenium contamination can also lead to negative impacts on human health. Consumption of fish or other foods that are very high in selenium over a significant time period can lead to disruption of endocrine function, hepatotoxicity, gastrointestinal disorders, and other toxic effects. In order to protect the health of both aquatic organisms and their human consumers, it is imperative that selenium be monitored, particularly in mining impacted regions, and Impaired Water status be applied where necessary.

Data currently available to the DEQ support listing at least the following sites as impaired for selenium in the 2016 list:

Goose Lake Inlet/Outlet (Site 1 in Fig. 1)

Both Goose Lake Inlet and Goose Lake Outlet exceed the selenium chronic criterion of 5 µg/l. However, only one of them is listed as Not Supporting Other Indigenous Aquatic Life and Wildlife (OI) use in the 2014 report and not supporting OI or Cold Water Fishery (CWF) use in the draft 2016 report. Monitoring that we conducted in 2015 showed that selenium exceeds 5 µg/l in both those reaches. DEQ monitoring conducted in 2008 also documented selenium exceeding the chronic criterion in Goose Lake Inlet and Outlet (DEQ 2009a; Fig 1). The Cliffs selenium mass balance report (2015) reported selenium concentrations over the chronic criterion from Goose Lake Inlet and Outlet. We note that the DEQ reports, combined with available DEQ GIS data, are unclear about the particular reach that is listed as impaired and additional specificity in the document is required. Finally, the Michigan Department of Health and Human Services has issued a selenium-based fish consumption advisory for the Escanaba River (including Goose Lake Inlet and Outlet) in order to protect the health of human consumers of fish.

Warner Creek upstream of Palmer (Site 2 in Fig. 1)

Cliffs' selenium mass balance report (2015) reported selenium levels above the criterion from that upper portion of Warner Creek. This information clearly indicates that listing the reach in the 2016 list is necessary. Additional water quality samples we collected also indicate that Warner Creek upstream of Palmer should be included in the 2016 list as impaired for selenium (Fig. 1).

Data collected by UW-Madison and GLIFWC staff support listing at least the additional sites below as impaired for selenium in the 2016 list. These areas have seemingly not been sampled by the DEQ for selenium in recent years and therefore our data help fill an apparent gap in information in this area.

Green Creek (Site 3 in Fig. 1)

Monitoring that we conducted in 2015 showed selenium concentrations above the chronic criterion downstream of the tailings outfall in Green Creek (Fig. 1). Green Creek is also part of the Michigan selenium-based fish consumption advisory.

East Branch of the Escanaba River (Site 4 in fig. 1)

Monitoring that we conducted in 2015 showed that selenium concentrations above the chronic criterion continued downstream at least as far as Gwinn (Fig. 1). Additional monitoring is needed to determine the extent of non-compliance downstream of Gwinn. The entire East Branch of the Escanaba River is also part of the Michigan selenium-based fish consumption advisory.

It is important to note that UW/GLIFWC data collection did not sample selenium during the periods when it would most likely have been at its highest concentrations. Selenium was correlated with specific conductance, which increased significantly in August when we did not sample for selenium. Therefore, we believe that our 2015 observed selenium concentrations are not maximum values. It is likely that selenium above the applicable standard persists downstream of Gwinn into the main branch of the Escanaba River under conditions we observed in August.

Based on existing data and field observations, it is evident that the draft 2016 list is not complete and that there are gaps in the water quality data used to develop the draft list.

Inadequate Timeframes for TMDL Development

GLIFWC staff are concerned with the proposed timelines for addressing the water quality standard exceedances through the development of a TMDL. The DEQ detected selenium above 5 µg/l in Warner Creek as early as 2000 (DEQ 2002) and high selenium

concentrations in well water since the mid-1990s (DEQ 2009b). In the 303d reports of the last five years, the DEQ has delayed the deadline for a TMDL for selenium for the listed reaches in the watershed from 2021 (2010 and 2012 reports), to 2022 (2014 report), to > 2022 (draft 2016 report). Combined with the lack of discussion of the selenium problem in the text of the draft 2016 report, this suggests inadequate consideration of this water quality problem.

Lack of Characterization of Stamp Sand Impacts

Migration of stamp sands poses significant environmental hazards. Leaching of trace metals from stamp sands throughout the Keweenaw Peninsula has been well documented. Research has shown that many areas of stamp sands are unable to support vegetation. In addition, lakes into which stamp sands have been dumped have been found to be nearly devoid of benthic animals and concentrations of mercury and copper in sediments are high compared to uncontaminated areas of the lake. Concentrations of metals in water have been found above toxicity thresholds for many animal and plant species and mining wastes have been identified in the Lake Superior Lakewide Management Plan 2000 as a principal stress to aquatic habitat in Lake Superior. In addition, the habitat objective for Lake Superior established in the Fish Community Objectives calls for no net loss of the productive capacity of habitat supporting Lake Superior fishes. Of equal concern are the effects that the addition of large amounts of fine material may have on the habitat of the region. Fish species often depend on interstitial spaces and small openings in the rock to provide shelter for eggs and young fish. The filling of these spaces by an influx of stamp sands could drastically reduce suitable habitat.

The discussion and characterization of stamp sand impacts in the draft listing for 2016 Michigan Impaired Waters is inadequate. The report mentions impacts to Torch Lake and Crooked Lake and nothing more. Stamp sands are, in point of fact, severely impacting the nearshore areas of Lake Superior throughout the Keweenaw Peninsula. Impacts to fish habitat in Buffalo Reef near Gay, MI have been documented. The loss of Buffalo Reef would reduce genetic diversity in Lake Superior whitefish by 10%. In the Keweenaw Bay region, stamp sands have covered beaches and impacted the Keweenaw Bay Indian Community Reservation.

The DEQ must provide adequate characterizations of the impacts that these historic mine waste deposits have had on water quality to the rivers and streams of the Keweenaw Peninsula as well as a thorough description of the condition of the nearshore environments of Lake Superior.

Please contact me at 608-263-2873 or Dawn White at 715-682-6619 if you have any questions or need additional information.

Sincerely,

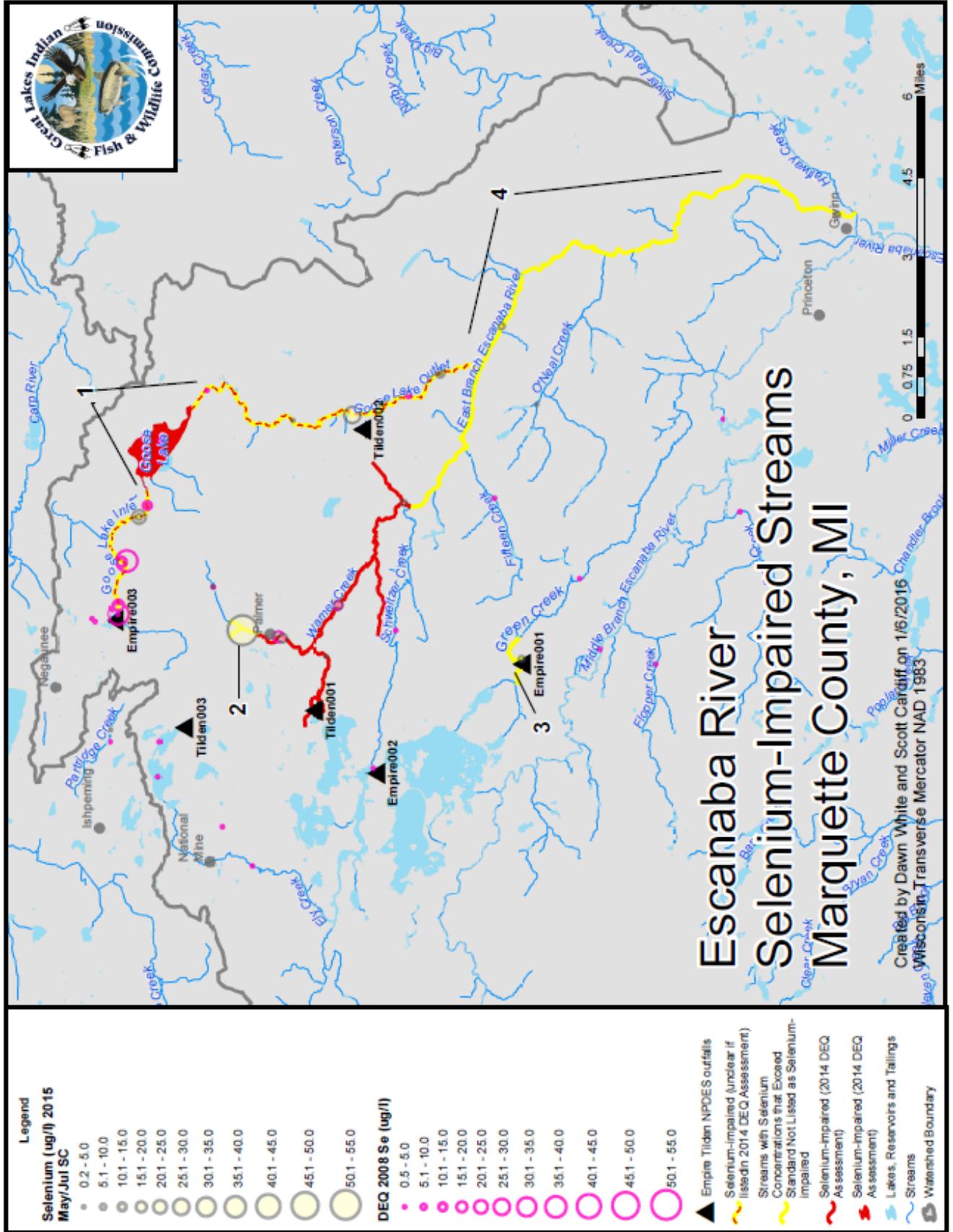
A handwritten signature in cursive script that reads "Esteban Chiriboga".

Esteban Chiriboga
GLIFWC Environmental Specialist

- cc. Neil Kmiecik, GLIFWC Biological Services Director
- Ann McCammon Soltis, GLIFWC Director of Intergovernmental Affairs
- John Coleman, GLIFWC Environmental Section Leader
- Krista McKim, EPA Region 5

References

- DEQ 2002. A biological survey of the Escanaba River watershed Marquette, Dickinson, and Delta Counties. August 2000. Staff Report MI/DEQ/SWQ-01/010.
- DEQ 2009a. An assessment of environmental selenium levels around Empire and Tilden mines, Marquette County, Michigan. Selenium Monitoring Work Group, June 2009. MI/DEQ/WB-09/038.
- DEQ 2009b. Report on status of selenium in water wells at and around the Empire and Tilden mines. MDEQ-Water Bureau Report by Chuck Thomas. 04 November 2009.





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www.hrwc.org

January 8, 2016

Kevin Goodwin
Michigan Department of Environmental Quality
Water Resources Division

Dear Kevin,

Thank you for the opportunity to comment on the 2016 Integrated Report by the MDEQ, including the new TMDL Vision (Appendix F). The Huron River Watershed Council (HRWC) is a coalition of Huron Valley residents, businesses, and local governments established in 1965 under Michigan's Local River Management Act. The Council protects and restores the river for healthy and vibrant communities. To achieve that, we work with a collaborative and inclusive spirit to give all partners the opportunity to become stewards; we generate science-based, trustworthy information for decision makers to ensure reliable supplies of clean water and resilient natural systems; and we passionately advocate for the health of the river and the lands around it.

In summary our comments are as follows:

1. We appreciate the new listings of bacteria impairments in Mill Creek in Appendix C and D2. From our water quality monitoring, we have observed increasing concentrations of *E. coli* and shared this data with you. We have completed some limited source tracking as well (also shared with MDEQ), but more work is needed to determine sources.
2. Have you received any updated information on the Wagner-Pink Drain *E. coli* impairment? Our understanding is that the cause was a discharge violation from many years ago and some work was done in collaboration with the Monroe County Drain Commissioner. We have not received any updates. Is further enforcement action warranted?
3. In the 2014 Integrated Report, the broad listings for PCB and Mercury impairments were listed for TMDL development in 2014. Now they are listed for 2022. The TMDL Vision indicates that the statewide PCB TMDL is completed and being reviewed by U.S. EPA, however, it does not appear to be publicly available. Please share.
4. Many of the impaired waters listings do not have TMDL development dates listed (e.g. Appendix B, p. B-2821). Why is that? It would be helpful for us to have a better understanding of why those sections are listed as impaired, but there is no plan to address the impairments.
5. We applaud your efforts to take a fresh look at your TMDL strategy in the TMDL Vision. We agree that a shift in focus on outcomes rather than regulatory document production represents an improvement. As you may be aware, HRWC has a strong track record of working with MDEQ to develop and execute implementation plans following TMDL development, and monitoring impaired waters for changes in conditions. We hope that this new focus will allow DEQ staff to allocate more time to monitoring, implementation assistance and enforcement.
6. We believe that the proposal to develop a statewide *E. coli* TMDL to address outstanding waters impaired by high bacteria levels is, in general, a sound strategy. Since there is no appropriate "load" to allocate, a blanket TMDL referencing state water quality standards can be utilized effectively.

Appendix E

The focus can then turn to source identification and remediation or enforcement action. We hope those follow-up steps will be undertaken in impairment areas.

7. We find it appalling that the State of Michigan is only able to commit 1.5 FTE addressing impaired waters across the entire state through the TMDL regulatory program. We understand the WRD has little input into the budgeting process, but we recognize that it represents a great misalignment in priorities.
8. It would be very helpful if MDEQ published GIS layers that include AUID segments and impairment attribute information. We only recently obtained 2014 impairment layers and find them very useful in our work to improve our water resources.

Please feel free to contact me with any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Ric Lawson". The signature is fluid and cursive, with a large initial "R" and a long, sweeping underline.

Ric Lawson
Watershed Planner



January 8, 2016

Kevin Goodwin
Michigan Department of Environmental Quality
PO Box 30458
Lansing, MI 48909-7773

via email

Dear Mr. Goodwin,

We appreciate the opportunity to comment on the draft Water Quality and Pollution Control in Michigan, 2016 Sections 303(d), 305(b), and 314 Integrated Report (Integrated Report). The TMDL Vision contained in Appendix F is the subject of our comments for the Integrated Report.

We are in agreement that the TMDL process needs improvements that address efficiencies, funding and prioritization. We also recognize the value and importance of linking the TMDL priorities with the Water Resource Division's goals and measures of success. At the same time, we offer comment regarding this updated process to support a collaborative approach between the state and local agencies. More specific comments relative to the actions identified in the TMDL Vision include:

1. Overall, the TMDL Vision is outlining a process that eliminates the watershed-based approach for improving the quality of our region's water resources while transferring the responsibility of defining the water quality problem to the local level through the NPDES program. Local agencies are not equipped to define the extent of the water quality problem in an approach similar to that of the MDEQ historically. TMDLs have historically defined the watershed, sources, loading capacity of the water body and have provided an estimate of the loading distribution by both point and nonpoint sources using the *E. coli* concentration standard as a target. Local agencies do not have the tools, staffing nor the financial resources to develop such a detailed assessment.

We are not supportive of eliminating the watershed approach and simply establishing a concentration requirement to include in NPDES permits without supportive clarification indicating how the MDEQ will define progress in meeting the target within these permits. If both the state and local agencies do not have data defining the extent of the pathogen problem, how can it be presumed that the NPDES program will address the problem effectively and efficiently? How can the MDEQ be assured that local permittees will make the correct and efficient decisions about solving a problem that is not clearly defined? What requirements will be placed on local agencies within the NPDES permits that lead to the conclusion that the MS4 permit program will lead to faster restoration? Without this level of detail in the TMDL Vision, how can the document conclude that it will achieve WRD Goal #1 Enhance Recreational Waters?

Please include a description that summarizes the anticipated NPDES permit requirements that will be placed on local agencies and what tools will be provided in order to more effectively understand how the MDEQ anticipates achieving WRD Goal #1 Enhance Recreational Waters.

2. As a prioritization framework, this document should clearly state how the MDEQ will identify priority areas and determine funding allocations for monitoring activities, especially relating to

1001 Woodward, Suite 1400 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869 • semcog.org

Jeffrey Jenks
Chairperson
Commissioner,
Huntington Woods

Rodriok Green
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Trustee,
Superior Township

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Vice Chairperson
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Immediate Past Chair
Commissioner,
Macomb County

Kathleen Lomako
Executive Director

the Statewide Pathogen TMDL. The inability to define the statewide pathogen problem is evident by the lack of historical monitoring as compared to the needs for monitoring. Only 413 public beaches were monitored in 2013, but the state has 615 public beaches, 602 inland lake beaches and approximately 76,000 miles of rivers.

Given the lack of resources for defining the extent of the problem, it is important to prioritize the efficient use of public funds for this task. Thus, we recommend the TMDL Vision include the following additional level of detail:

- a. Describe how the MDEQ will prioritize assessment and monitoring of the beaches, inland lakes and rivers; (We encourage the prioritization be based largely on amount of recreational use of the waterbody).
- b. Provide a clear detail on the level of existing monitoring and TMDL development funding as compared to the anticipated additional funds that will be directed to these tasks through the cost-savings described with the statewide TMDL.
- c. Outline the factors that will be used to determine funding allocation to different areas of the state; and
- d. Summarize how the MDEQ will collaborate with local agencies on monitoring and implementation activities and describe the tools and assistance that will support local efforts.

MDEQ staff have repeatedly referenced this approach as a cost-savings; however, it should be clearly noted in the vision that the cost savings of this approach will be focused on increased monitoring to assist in implementation activities.

3. Finally, the discussion about the proposed statewide pathogen TMDL should include the relevance and connection to the AOC program and specifically the Beach Closings Beneficial Use Impairment. Conversations with MDEQ staff have implied that once Beach Closings BUI is removed, then the statewide *E. coli* TMDL can include those beach areas. The impacts to removing the Beach Closings BUIs while there is still an *E. coli* problem are significant. First of all, there will be confusion amongst local agencies and the public as to what has actually been achieved.

Secondly, when the statewide TMDL is implemented through the NPDES program as a permit requirement, then those beach areas will no longer be eligible for various sources of funding. If the state places a high priority on cleaning up Michigan's beaches for recreation and tourism, then the state should not be eliminating potential sources of funding for AOC restoration while thinking that local compliance requirements through the NPDES program will solve the problem.

We appreciate your consideration of these comments. Please feel free to contact me at (313) 324-3350 with any questions.

Sincerely,



Amy Mangus
Manager, Plan Implementation

Appendix E

Michigan Public Notice of the 2016 listing methodology December 2015
EPA comments dated February 18, 2016

1. Section 4.1 [Introduction], p 34 states "Michigan's assessment methodology describes the data and information used to determine designated use support, explains how these data and information are used to determine designated use support for surface waters of the state, and describes how surface water resources are reported using five categories (fully supporting, partially supporting, not supporting, insufficient information, or not assessed)." The final methodology should indicate the circumstances under which Michigan uses the partially supporting category, and whether the State would list waters in that category as impaired.
2. Section 4.2 [Data and information used to Determine Designated Use Support], p. 35 6th bullet in this section identifies the solicitation for data from the general public for data consideration for the 2016 list. In this section MDEQ also states data usage time frames and types of data reviewed for making listing determinations. However this discussion does not indicate whether any data were received from the public, and if so which data were used. Please identify any data received during the solicitation of data and how these data were used. If the data were not used, please explain why.
3. Section 4.2 also states that "For the 2016 IR [Integrated Report], the MDEQ considered all new readily available and quality-checked water quality data and information collected by the MDEQ and its grantees/contractors within the two-year period immediately following the cutoff date considered for the 2014 IR. In other words, data collected during the period from January 1, 2013, to December 31, 2014, were considered for the 2016 IR."

EPA agrees that MDEQ should be using this new data to make listing determinations. However, the state should not limit its review of data to only two years. EPA's Consolidated Assessment and Listing Methodology (CALM) states: "The chronic criterion (criteria continuous concentration, CCC) equals the highest concentration of a pollutant to which the aquatic species can be exposed for an extended period of time (4 days) without deleterious effects." CALM, Chapter 4 (Using Chemical Data as Indicators of Water Quality), pp. 4-6. The guidance goes on to state "EPA recommended that acute and chronic aquatic life criteria for toxics not be exceeded more than once every 3-year period on the average." (id.) In order to ensure that the return frequency of not more than one exceedence in a three year period is met, EPA recommends that MDEQ evaluate data over at least a three year period.

4. Section 4.5.1.3 [Ammonia (un-ionized) concentration], p.38: EPA has several concerns in the impairment identification for this pollutant in the 2016 IR. EPA first concern is the time frame of data used; secondly is the frequency of measurement; and thirdly is the Ammonia criterion that Michigan is using in making listing decisions. Each of these concerns are discussed below in more detail.
 - A. Time frame of data used: It appears that Michigan is only using the most recent two years of data to make an impairment determination. Michigan should be using the longer time frame (three years) as discussed in comment 3 above for making listing decisions for ammonia listing determinations.

Appendix E

- B. Frequency of measurement: EPA's 2013 Update of ambient water quality criteria for ammonia identifies three measurement frequencies which should be considered for aquatic life, a 30 day average, a 4 day average and a one hour. EPA's 2013 Update of ambient water quality criteria for ammonia states that freshwater aquatic life should be protected if: the highest four-day average within the 30-day period does not exceed 2.5 times the CCC¹.

In response to EPA's comments on this issue during our review of Michigan's 2014 Assessment Methodology², Michigan indicated that it would consider including the 4-day average condition in the 2016 methodology. However there is no discussion of the 4-day average condition in the 2016 IR methodology. EPA would like to continue the discussion for the 4 day average use in the 2018 listing cycle.

- C. Ammonia criterion: EPA would like to continue discussions with Michigan on the state's process for updating water quality values for ammonia in Mich. Admin. Code R. 323.1057 (Toxic Substances) (commonly referred to as Rule 57), and on the steps necessary to make the 2018 assessment methodology consistent with EPA's 2013 criteria.
5. EPA would like to work with MDEQ to develop assessment methodologies to make support decisions for the Public Water Supply (PWS) use for the constituents identified in Section 4.6.2.2 (bacteria, algae, macrophytes, and fungi) in the 2018 listing cycle. We recommend that Michigan add a methodology to the Public Water Supply section (Section 4.9) which would assess these constituents, including for Great Lakes waters.
6. Sections 4.5.2.1 and 4.6.2.1 [Fish and Macroinvertebrate Communities, pp 40, 44]: In previous correspondence EPA has expressed concern about the MDEQ's biological thresholds meeting the minimum goal in CWA §101(a)(2) of protection and propagation of fish, shellfish, and wildlife. EPA has been working with and would like to continue working with MDEQ concerning the biological thresholds to determine the appropriate levels to meet the goals of the CWA. EPA would like to continue this action with the goal of resolving any remaining issues by 2018, the next listing cycle.
7. EPA has concerns regarding Michigan's practice of making listing determination for copper and other metals using *The Michigan Department of Environmental Quality Surface Water Quality Division – Great Lakes and Environmental Assessment Section Final Report*, December 22, 1999. It is EPA's understanding that this report was developed for the use in developing permit limits and is a methodology for the translation of values from total to dissolved fractions of metals. It is unclear how Michigan is using this report in making listing determinations. If Michigan is

¹ EPA, Office of Water, "Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater, 2013," EPA 822-R-13-001, April 2013. Michigan is currently using only the most recent two years of data.

² See Response to comments letters from Kevin Goodwin, MDEQ to Peter Swenson, EPA, December 4, 2013 comment 1.1 at page 3, and March 27, 2014 comment 1.1 at page 2

Appendix E

using this report as part of its listing methodology, please explain how the information is being used and how this is consistent with R323.1057 (Rule 57). EPA would like to discuss the use of this or any other document use to translate standard values for impairment determination purposes.

8. Appendix D1 identifies the waters and impairment combinations which are being removed from the 2014 impaired waters list. This appendix should include the rationales for the delistings.