

Comments Received on Draft Assessment Methodology  
Posted for public comment June 6, 2011 through July 15, 2011.

Comments Received from:

- Alliance of the Great Lakes
- Michigan Manufacturers Association
- U.S. EPA Region 5

## Goodwin, Kevin (DNRE)

**From:** Lyman Welch [LWelch@greatlakes.org]  
**Sent:** Tuesday, July 19, 2011 1:09 PM  
**To:** Goodwin, Kevin (DNRE)  
**Subject:** JUNE 2011 DRAFT ASSESSMENT METHODOLOGY--2012 SECTIONS 303(d), 305(b), AND 314 INTEGRATED REPORT

**Follow Up Flag:** Follow up

**Flag Status:** Red

Dear Kevin,

Concerning the Michigan June 2011 Draft Assessment Methodology, I have the following concerns/questions:

1. The method does not adequately describe how algae impairments such as Cladophora are to be measured in Great Lakes nearshore shoreline areas. More specifics should be provided. For example, EPA recommends measurement of algae levels in both nearshore waters and on the beach and tracking the color and odor of algae found, and measures algae levels using the following percentages: none, low (1%-20%), moderate (20%-50%) and high (>50%) in EPA's beach sanitary survey. Michigan DEQ could use a similar method to determine whether waters are impaired by algae. If algae cover more than 20% of the nearshore water or shoreline, the water body could be deemed impaired.
2. It is unclear whether DEQ will consider information collected concerning beach health in making impairment decisions. Most health departments in Michigan collect E coli data and are using EPA's beach sanitary survey form in one form or another at their beaches. This sanitary survey form allows beach managers to record the amount of algae present both on the beach and in near shore areas in the water. These beach sanitary survey forms recorded by beach managers are a readily available data source that must be used by DEQ in developing its impaired waters list. We understand that the health departments are currently keeping track of their own sanitary survey data and DEQ has asked the health departments to keep their beach sanitary survey data on hand. We believe that some health departments have sent this data to DEQ in hardcopy or electronically and DEQ stores the data in files or saves it electronically.
3. Michigan's procedure for listing impaired waters is based on geometric means of *E. coli* values collected from monitoring data. Michigan should also consider listing beaches as impaired when they the number of beach actions days exceeds 10 percent of total beach days. This method is used by Ohio.
4. Michigan should make the 303(d) list available in format this is more easily accessible and easily comprehensible to the public. DEQ currently has no one document that contains a complete account of every water body on the impaired waters list, making it difficult to track down a water body of interest. The public should be able to easily reach information on healthy or unsafe waters.
5. I am also disappointed that DEQ did not reach out to the Alliance so that we could submit our volunteer-collected data for consideration. Working with the Alliance's award winning Adopt-a-Beach™ program, volunteers adopt beaches and shoreline areas in their local community to conduct litter removal, monitoring and water quality testing. Adopters work with the Alliance to locate a beach to adopt and log the information they gather into our online database. Through this data collection effort, the Alliance has beach data collected in Michigan in 2008-2010 that should be considered. I would be happy to provide this data and

QA/QC information to DEQ for consideration.

Sincerely,

Lyman Welch

Lyman C. Welch | Water Quality Program Manager | [lwelch@greatlakes.org](mailto:lwelch@greatlakes.org)  
Alliance for the Great Lakes | [www.greatlakes.org](http://www.greatlakes.org)  
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RICK SNYDER  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
LANSING



DAN WYANT  
DIRECTOR

December 20, 2011

Mr. Lyman Welch, Water Quality Program Manager  
Alliance for the Great Lakes  
17 North State Street, Suite 1390  
Chicago, Illinois 60602

Dear Mr. Welch:

Thank you for submitting comments on the Water Quality and Pollution Control in Michigan, 2012 Sections 303(d), 305(b), and 314 Integrated Report (IR) Draft Assessment Methodology. The following is in response to your comments dated July 19, 2011:

1. The method does not adequately describe how algae impairments such as Cladophora are to be measured in Great Lakes nearshore shoreline areas. More specifics should be provided. For example, the United States Environmental Protection Agency (USEPA) recommends measurement of algae levels in both nearshore waters and on the beach and tracking the color and odor of algae found, and measures algae levels using the following percentages: none, low (1-20 percent), moderate (20-50 percent) and high (>50 percent) in the USEPA's beach sanitary survey. The Michigan Department of Environmental Quality (MDEQ) could use a similar method to determine whether waters are impaired by algae. If algae cover more than 20 percent of the nearshore water or shoreline, the water body could be deemed impaired.

*MDEQ Response:*

*As you have pointed out, the current assessment methodology does not address nearshore Great Lakes shoreline algal buildup; this due to the lack of an appropriate assessment methodology for organic matter deposits on beaches.*

*As stated in our response to comments received from the Alliance for the Great Lakes during the 2010 IR public comment period, the MDEQ recognizes that shoreline deposits of algae and other decaying organic matter are a problem and may interfere with beach use and access to the water in some places along Great Lakes shorelines. The Water Quality Standards (WQS) require that the surface waters of the state not have any "deposits" in "unnatural quantities which are or may become injurious to any designated use." While algae and deposits of decaying organic material occur naturally in aquatic systems, including the Great Lakes and inland lakes, there is currently no measure to determine what "unnatural quantities" are.*

*Any process used to make such a determination needs to be transferable and meaningful to all areas of the Great Lakes and inland lakes. The MDEQ does not have enough information to begin to establish that measurement.*

*As you may understand, the MDEQ began development of a study plan to assess Great Lakes shorelines in 2008. This plan expanded to include research and survey components and was funded by a Great Lakes Restoration Initiative grant in late 2010.*

*This funding is being used to increase beach monitoring through local health departments and create a database accessible through BeachGuard to store the information collected. While there is no standard against which to compare algal density on beaches or in nearshore waters, data such as these can be helpful in highlighting problem areas for additional monitoring and can serve as a resource for these decisions in the future. This data collection and access will be important in understanding of the issue of nearshore algal buildup and provide information to help achieve a workable solution.*

2. It is unclear whether the MDEQ will consider information collected concerning beach health in making impairment decisions. Most health departments in Michigan collect *E. coli* data and are using the USEPA's beach sanitary survey form in one form or another at their beaches. This sanitary survey form allows beach managers to record the amount of algae present both on the beach and in nearshore areas in the water. These beach sanitary survey forms recorded by beach managers are a readily available data source that must be used by the MDEQ in developing its impaired waters list. We understand that the health departments are currently keeping track of their own sanitary survey data and the MDEQ has asked the health departments to keep their beach sanitary survey data on hand. We believe that some health departments have sent this data to the MDEQ in hardcopy or electronically and the MDEQ stores the data in files or saves it electronically.

*MDEQ Response:*

*As stated in our above response, based on recent Great Lakes Restoration Initiative funding, BeachGuard now has a database linked to it and Web pages created to collect, store, and display this beach sanitary survey information. However, sanitary survey information currently is not a data type that is able to be used to make impairment decisions for the reasons highlighted in response 1, above. With the increased accessibility of the sanitary survey data in BeachGuard, this information may be useful in future assessment processes for providing supportive information relating impairments to sources and causes, as well as screening beaches for the need for additional monitoring.*

3. Michigan's procedure for listing impaired waters is based on geometric means of *E. coli* values collected from monitoring data. Michigan should also consider listing beaches as impaired when the number of beach action days exceeds ten percent of total beach days. This method is used by Ohio.

*MDEQ Response:*

*The MDEQ bases its current assessment methodology for beaches on WQS (primarily *E. coli* data) because it is a standardized method and not biased by policy decisions made at various levels of government based on other program goals. We recognize that beach closures and other action days are a real expression of the recreational loss, but may be due to causes other than exceedances of WQS.*

4. Michigan should make the Section 303(d) list available in [sic] format; this is more easily accessible and easily comprehensible to the public. The MDEQ currently has no one document that contains a complete account of every water body on the impaired waters list, making it difficult to track down a water body of interest. The public should be able to easily reach information on healthy or unsafe waters.

*MDEQ Response:*

*Because the volume of information captured in the assessment and listing process is so large, the listing of assessed waters of all categories (Sections 305(b) and 303(d)) is*

*typically split into two documents and available electronically (e.g., Appendices B1 and B2 in the 2010 IR). These documents, while large, are text searchable, thereby allowing quick access to locations or water bodies of interest. A single appendix of all impaired water bodies requiring the development of a total maximum daily load is also available (Appendix C – Detail, in the 2010 IR) and similarly searchable.*

*Additionally, the Alliance for the Great Lakes should be aware that all assessments are available on the MDEQ's Michigan Surface Water Information Management System Web site, at: <http://www.mcgi.state.mi.us/miswims/>. Within this system a user is able to conduct either text (water body name, county, place, watershed, STORET ID, or assessment unit ID) or map-based searches for specific water bodies of interest, map things like sites of environmental monitoring or permitted dischargers, and identify those sites and gain access to the data associated with it. This system also allows for mapping the assessment category of all designated uses and access to the detailed listing information regarding those assessments.*

5. I am also disappointed that the MDEQ did not reach out to the Alliance so that we could submit our volunteer-collected data for consideration. Working with the Alliance's award winning Adopt-a-Beach™ program, volunteers adopt beaches and shoreline areas in their local community to conduct litter removal, monitoring, and water quality testing. Adopters work with the Alliance to locate a beach to adopt and log the information they gather into our online database. Through this data collection effort, the Alliance has beach data collected in Michigan in 2008-2010 that should be considered. I would be happy to provide this data and quality analysis/quality control information to the MDEQ for consideration.

*MDEQ Response:*

*We are disappointed to hear that you were not aware of the call for data submission that was extended for the 2012 IR assessment process. The 30-day notice was posted on the MDEQ Calendar on April 11, April 25, May 9, and May 23, 2011, with all water quality data due to the MDEQ, Water Resources Division, before June 27, 2011, to provide enough time for thorough review and consideration in the assessments. The Alliance for the Great Lakes will be added to a list of direct contacts for data submission requests so that notice will be provided directly to you for future IR cycles.*

As you may be aware, a public comment period for the Draft 2012 IR is scheduled to run through January 13, 2012, and is posted on the MDEQ Calendar. The draft report is posted on our Web page at [http://www.michigan.gov/deq/0,4561,7-135-3308\\_3325---,00.html](http://www.michigan.gov/deq/0,4561,7-135-3308_3325---,00.html), or you can click on "News and Events" from our home page then "Calendar." We appreciate your engagement and willingness to participate and provide comment throughout this important process.

Mr. Lyman Welch

4

December 20, 2011

If you have additional questions or concerns, please contact me at 517-335-4185 or [goodwink@michigan.gov](mailto:goodwink@michigan.gov).

Sincerely,



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

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

July 14, 2011

Mr. Kevin Goodwin  
Michigan Department of Environmental Quality  
Water Resources Division  
P.O. Box 30458  
Lansing, Michigan 48909-7958

RECEIVED  
WRD-SWAS

JUL 15 2011

Re: Comments on proposed Assessment Methodology for Water Quality and Pollution Control in Michigan

MMA is pleased to offer comments on the draft Assessment Methodology for the Water Quality and Pollution Control in Michigan, 2012 Sections 303(d), 305(b), And 314 Integrated Report. (i.e. the draft Assessment" found at the following link;  
[http://www.michigan.gov/documents/deq/wrd-ir2012-draft-methodology\\_354804\\_7.pdf](http://www.michigan.gov/documents/deq/wrd-ir2012-draft-methodology_354804_7.pdf)).

The draft Assessment establishes the procedures that will be used to designate impaired water bodies. Many of these procedures are contrary to promulgated regulations. For instance the Part 4 Water Quality Standards establishes the procedure for deriving mercury criteria. Rather than using the promulgated Part 4 criteria, the draft rule uses other unpromulgated criteria.

All impaired water bodies must have a Total Maximum Daily Load established. The DEQ's most recent 2010 listing contained over 1000 impaired water bodies and called for the development on many TMDL's in 2012. As explained below MMA believes that most of these water bodies are improperly listed and the development of TMDL's will be a needless waste of staff resources. Additionally state and federal regulation prohibit new and increased loading to impaired water bodies. The improper methodology and resulting listing harms commerce as well as wastes staff's resources.

#### Discussion

There are four different ways that the draft Assessment creates a stricter standard that is inconsistent with the promulgated Part 4 Water Quality Standard. The draft Assessment does not consider trophic 3 fish in calculating a geometric mean even though Part 4 requires use of the geometric mean of trophic 4 *and trophic 3 fish*.

Next, the draft Assessment disregards frequently consumed fish like salmonoids that naturally have low levels of mercury in favor of fish that are never consumed like muskellunge that have naturally very high levels of mercury.

Additionally when evaluating both fish tissue data and water column data the draft Assessment uses the most restrictive media even though the Part 4 rules allow fish tissue data to trump water quality values.

Finally the draft Assessment chooses to list all inland lakes in the state as impaired, even lakes that have satisfactory data and lakes with no data. This is in spite of many lakes, with data, meeting the draft assessment's over conservative criteria.

Following is a detailed discussion of each of 4 ways the draft Assessment is over conservative and in conflict with promulgated Part 4 Water Quality Rule.

### Importance of Trophic 3 Fish

The draft Assessment is improperly based on only the mean concentration of trophic 4 fish (see figure 4.4 from the draft Assessment which only lists trophic 4 fish) The Michigan Part 4 Water Quality rules specify that the geometric mean of regionally caught and consumed *trophic 3* and trophic 4 fish be compared to the GLI fish tissue criteria of 0.35 ug./g.

The Part 4 rules specify that trophic 3 fish should be assumed to equal about ¼ of human consumption and trophic 4 fish should represent about ¾ of human consumption. Since trophic 3 fish have about an order of magnitude less mercury than trophic 4 fish, the improper disregard of trophic 3 fish values improperly makes the draft Assessment methodology about 30% more restrictive than it should be-independent of the three other over conservative factors

### Deletion of Salmonoid Data and Insertion of Muskellunge Data

The Part 4 Water Quality rules consider the mercury content of "regionally caught" fish that is consumed by humans. Since salmonoids, including trout, are one of the main species of fish caught in Michigan, their mercury concentration should, but is not used, to calculate the geometric trophic 4 mercury level. Instead never consumed fish like muskellunge or, hardly ever consumed fish; like pike, are used instead to calculate a mean fish tissue level for trophic 4 fish.

The rationale that is offered in the draft Assessment is the observation that the Michigan's fishing guides includes information on muskellunge and pike, (see page 1 Data & Information Used...) and the statement that Michigan "uses the principal of independent applicability (making the unpromulgated fish advisory as relevant as the promulgated Part 4 rules).

The unpromulgated fish advisory, however, should not overrule the promulgated Part 4 rule. Moreover the Fish Advisory is designed for a different purpose – to advise behavior and not to determine compliance with standards. Most researches would agree that muskellunge and pike in many lakes are naturally high in mercury and would never, in nature, meet the Fish Advisory levels. Lastly the "principal of Independent Applicability" is not part of the Michigan Environmental Code, the Michigan Administrative Procedures Act or the Part 4 rules. The effect of deleting salmonoid data and inserting muskellunge and pike data is to make the criteria about twice as strident as it should be.

### Improper Reliance on Water Column Values in the Face of Contrary Fish Tissue Values

The Part 4 rules are based on assuring that humans consume fish with safe levels of mercury. The underlying standards are fish tissue standards. Under a set of assumptions termed the Bioaccumulation Factor (BAF), Fish Tissue values can be transformed into a default water column value, but Part 4 rules provide for using different assumptions about the BAF and the resulting acceptable water quality value so long as the acceptable fish tissue value is met.

The draft Assessment turns the Part 4 Rule on its head and considers a water body impaired even in the face of acceptable fish tissue values, if only the default water column criteria is exceeded (See section 4.8.1.1 "To be conservative site specific water column and fish tissue data are used together" in other words either one can be a basis for listing). To be consistent with the Part 4 Rule the Assessment must consider whether an alternate water column value and alternate BAF is appropriate for lakes whose fish meet the criteria.

#### Improper Listing of Lakes with No Data

The draft Assessment will improperly list all inland lakes as impaired. The discussion on page 11 regarding Assessment Type and mercury obfuscates staffs' intent, but it is clear from previous 303d lists and previous Assessments that the DEQ intends to list all Inland Lakes as Impaired. Lakes without any data are listed as impaired, ostensibly because some (but not all) lakes with data are impaired (using an erroneous Assessment as pointed out in our previous comments).

Lakes that have data that meet all criteria are even listed as impaired because staff cannot conclude why some lakes meet the criteria and others do not. This is clearly contrary to the Part 4 rule. This will result in all 730 public access lakes in the state as being listed as impaired.

#### Conclusion

The draft Assessment should be redone and made consistent with the Part 4 Rules. Any reissuance of the 303d list of impaired water bodies should be based on a revised Assessment and be consistent with the Part 4 rules. Wrongly categorizing all 730 Inland Lakes as impaired is improper.

Thank you for the opportunity to comment on this proposed assessment methodology on behalf of the members of the Michigan Manufacturers Association.

Sincerely,



Andrew J. Such  
Director of Environmental and Regulatory Policy



RICK SNYDER  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
LANSING



DAN WYANT  
DIRECTOR

December 22, 2011

Mr. Andrew J. Such, Director of Environmental and Regulatory Policy  
Michigan Manufacturers Association  
620 South Capitol Avenue  
Lansing, Michigan 48933-2308

Dear Mr. Such:

Thank you for submitting comments on the Water Quality and Pollution Control in Michigan, 2012 Sections 303(d), 305(b), and 314 Integrated Report Draft Assessment Methodology. The following is in response to your comments dated July 14, 2011:

1. "The draft Assessment does not consider trophic 3 fish in calculating geometric mean even though Part 4 requires use of the geometric mean of trophic 4 **and trophic 3 fish.**"

*Department of Environmental Quality (DEQ) Response:*

*We acknowledge that the fish species used as an example of a top predator in Fig. 4.4 represent a conservative trophic level and feel that this is fully appropriate for the assessment of the Fish Consumption Designated Use. The assessment process, it should be noted, does not preclude using other species as well for support determinations, as illustrated in Fig. 4.4. As a point of clarification, while Part 4, Water Quality Standards (WQS) of Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, identifies the methods by which WQS are developed and defined, it does not define the breadth of data and information to be used when evaluating water quality and comparing it to the WQS or the designated uses therein.*

2. "The draft Assessment disregards frequently consumed fish like salmonids that naturally have low levels of mercury in favor of fish that are never consumed like muskellunge that have naturally very high levels of mercury."

*DEQ Response:*

*While not specifically noted, salmonids may be used when determining fish consumption designated use support in instances where samples have been obtained. Please refer to Comment 1 above for discussion on generally using these named top predators that, we agree, have an apparently greater potential to accumulate mercury.*

3. "Additionally when evaluating both fish tissue data and water column data the draft Assessment uses the most restrictive media even though [sic] the Part 4 rules allow fish tissue data to trump water quality values."

*DEQ Response:*

*The Part 4 rules do not specify how water and fish tissue data are used to assess the fish consumption designated use. The Draft Assessment Methodology enables data*

*from either fish tissue or ambient water quality to be used so that the assessment of designated use attainment is sufficiently conservative to protect human health.*

4. "Finally the draft Assessment chooses to list all inland lakes in the state as impaired, even lakes that have satisfactory data and lakes with no data. This is in spite of many lakes, with data, meeting the draft assessment's over conservative criteria."

*DEQ Response:*

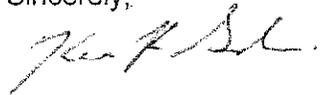
*While a statewide total maximum daily load (TMDL) is being developed to address mercury deposition on a broad scale as it impairs the fish consumption and other indigenous aquatic life and wildlife designated uses, this will not result in listing all inland lakes in the state as impaired, similar to assessments made for the 2010 Integrated Report. The listing of specific lakes will be done based on the Assessment Methodology.*

We appreciate your thoughtful input on the Assessment Methodology process. For your information, the impaired water body listings requiring TMDLs scheduled for 2013 related to Mercury and polychlorinated biphenyls respectively, in fish tissue and/or water column are being addressed under a single statewide TMDL for each parameter currently under development. This process will be better able to address broad issues inherent to each at a spatial scale that is reasonable as well as reducing staff resources by eliminating the redundant process of generating a TMDL document for each individual listing, as pointed out in your comments.

For your information, a Public Comment period for the Draft 2012 Integrated Report is scheduled to run through January 13, 2012, and is posted on the DEQ calendar. The draft report is posted on our Web page at [http://www.michigan.gov/deq/0,4561,7-135-3308\\_3325---,00.html](http://www.michigan.gov/deq/0,4561,7-135-3308_3325---,00.html) or you can click on "News and Events" from our home page then "Calendar." We appreciate your engagement and willingness to participate and provide comment throughout this important process.

If you have additional questions or concerns, please contact me at 517-335-4185 or [goodwink@michigan.gov](mailto:goodwink@michigan.gov).

Sincerely,



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

cc: Ms. Diana Klemans, DEQ  
Water Body System File, DEQ



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5

77 WEST JACKSON BOULEVARD

CHICAGO, IL 60604-3590

AUG - 5 2011

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

The U.S. Environmental Protection Agency has conducted a review of Michigan's draft 2012 Assessment Methodology. Please find enclosed our comments.

The enclosed comments are part of the ongoing dialogue between EPA and MDEQ on the assessment methodology for 303(d) listing, which identifies impaired waters based on compliance with the water quality standards (uses and criteria). EPA views the ongoing dialogue as essential in addressing EPA's and MDEQ's mutual expectations for the development and implementation of your assessment methodology.

Once you have a chance to review these comments, we would like to schedule a conference call to discuss any questions you may have or to provide further information. We are aware that you are working within a very short time frame and we suggest having a conference call the week of August 22. If you would prefer to schedule a call for another date, please let us know. Please contact Alie Muneer at 312-886-8031 to schedule this discussion.

Sincerely,

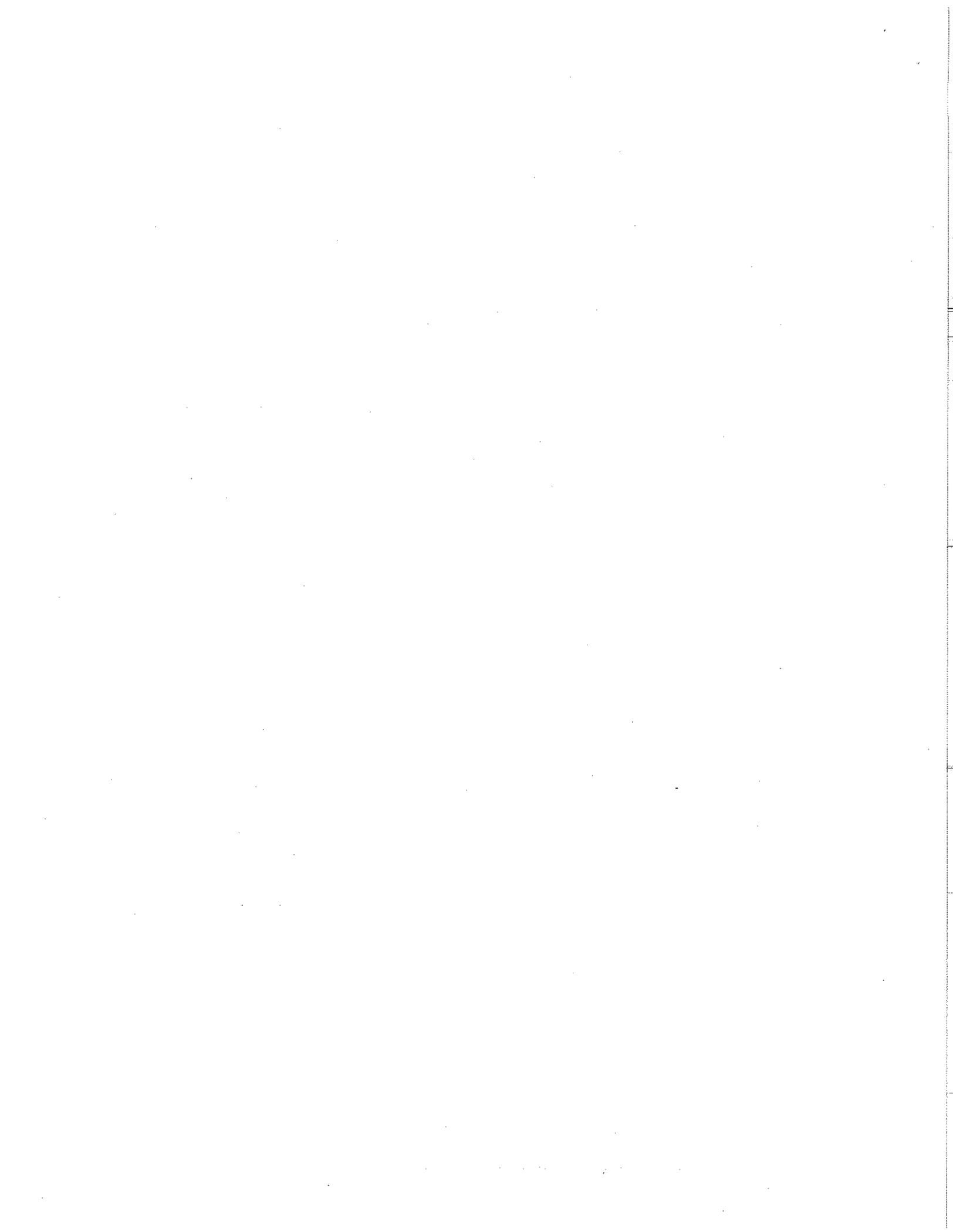
A handwritten signature in cursive script that reads "Peter Swenson".

Peter Swenson, Chief  
Watersheds and Wetlands Branch

Enclosure

cc: Kevin Goodwin, MDEQ  
Sylvia Heaton, MDEQ

RECEIVED  
AUG 10 2011



**U.S. Environmental Protection Agency  
Comments on Michigan's 2012 Draft Assessment Methodology  
Comments dated August 4, 2011**

**1. Primary comments**

**a. Use of Best Professional Judgment**

The Water Quality and Pollution Control in Michigan 2012 Sections 303(d), 305(b), and 314 Integrated Report Draft Assessment Methodology, June 2011 (Draft Methodology), describes various measurements the State may consider in making assessments. However, the Draft Methodology ultimately relies heavily upon best professional judgment (BPJ) in making impairment determinations. Where attainment decisions are made using BPJ in the case of water quality criteria that are specified as never to be exceeded, such as toxics (Mich. Admin. Code § R323.1057), dissolved oxygen (Mich. Admin. Code §§ R323.1064 and R323.1065), pH (Mich. Admin. Code § R323.1053), and dissolved solids (Mich. Admin. Code § R323.1051), waterbodies should be listed as impaired when available data indicate any exceedence. Region 5 is concerned that the Clean Water Act (CWA) § 303(d) list resulting from the draft methodology may not include some waters that are not in attainment of designated uses. For criteria that are not defined in the state's water quality standards (WQS) as never to be exceeded, the Michigan Department of Environmental Quality (MDEQ) should clarify in the Draft Methodology the methods used to make a determination and explain how the State ensures that its approach ensures that impaired waters are not omitted from the list.

- i. An example of where determination methods should be documented is in the discussion of conventional chemistry parameters for fish community designated uses (Section 4.5.2.1, pp. 5-6). The Draft Methodology does not include minimum data requirements, but instead cites BPJ as the basis for deciding how many measurements are needed to make a support determination. We strongly recommend that the Draft Methodology be revised to reflect more specific determination methods in this and in other cases.

**b. Attainment Decisions for Water Column Toxic Substance Concentrations**

The Draft Methodology suggests that attainment decisions for water column toxic substance concentrations are made where four or more samples are collected over a one year period (Draft Methodology, Figure 4.1, p. 6). If four samples are not available, the Draft Methodology explains that BPJ will be used to determine if an attainment decision can be made. If four samples are available, Figure 4.1

requires an evaluation of whether the geometric mean of the samples exceeds the water quality standard, following Mich. Admin. Code § R323.1207(1)(g)(iii). While it is our understanding that Mich. Admin. Code § R323.1207(1)(g)(iii) is applicable in determining background concentrations in the development of NPDES permit limitations, it does not appear to be appropriate for use in determining the attainment of WQS. Please clarify how the use of the geometric mean supports the intent of the water quality criteria. MDEQ should follow EPA Guidance (see <http://water.epa.gov/type/watersheds/monitoring/calm.cfm> and <http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/guidance.cfm#reporting>) where duration, frequency and magnitude of standard exceedances are not specified in the State's water quality standards.

**c. Biological Attainment Thresholds**

Sections 4.5.2.1 and 4.6.2.1, Fish and Macroinvertebrate Communities, p. 5 & 8: The Draft Methodology includes attainment thresholds for wadable streams that categorize waters into excellent, acceptable and poor categories. Region 5 is concerned with the biological impairment thresholds used by MDEQ for determining the attainment status for wadable streams. In prior communications, the State has explained that derivation of these thresholds is detailed in the "Update of GLEAS Procedure 51 Metric Scoring and Interpretation Staff Report," updated in May 1998. EPA is concerned that as described, these thresholds may not protect designated uses, particularly for fish and other aquatic life, and therefore would not ensure meeting the CWA minimum goal of protection and propagation of fish, shellfish and wildlife in CWA § 101(a)(2), or be protective of waters that are not already disturbed. While these attainment thresholds in the current Draft Methodology provide a high degree of confidence that the aquatic life use of a site is impaired, the cost of such high confidence is that a larger number of sites with less dramatic impairments are mischaracterized as attaining the aquatic life use. Accordingly, please clarify how these thresholds meet the expected condition of streams in Michigan that are not impacted, or how they relate to the minimum interim goal of the CWA. Please also indicate how non-wadable and coldwater sites that are rated (utilizing the non-wadable and coldwater assessment methodologies respectively) in the various threshold categories compare to reference/least impacted conditions. EPA guidance (EPA's 1985 "Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Use" [http://water.epa.gov/scitech/swguidance/standards/upload/2009\\_01\\_13\\_criteria\\_85guidelines.pdf](http://water.epa.gov/scitech/swguidance/standards/upload/2009_01_13_criteria_85guidelines.pdf)) provides that chemical specific criteria should be developed to be protective of aquatic life and represent the point at which a departure from the criteria would suggest a declining condition. The Draft Methodology should be

revised to ensure that attainment thresholds are chosen that reflect the point of departure from a point that remains protective; not from a point that is certain to be impaired.

MDEQ may want to consider the use of the biological condition gradient model, such as the one developed in conjunction with MDEQ staff for cool and coldwater streams in the northern forested ecoregions of the upper Midwest. This may be helpful in evaluating the condition of the biological communities that are found in the current biological threshold condition categories (<http://www.epa.gov/bioiweb1/html/bcg.html>).

**d. Public Participation**

While we note that MDEQ has provided an opportunity for public notice and comment on the Draft Methodology, we have noted that the information MDEQ has made available regarding prior listing, delisting and deletion decisions has generally not provided detailed information, such as that included in the notes and other information MDEQ maintains in the Assessment Database (ADB). We strongly recommend that MDEQ, at a minimum, make available to the public the comments and information discussed in the ADB database and which MDEQ uses to make listing determinations.

**e. Fish Consumption**

Figure 4.1 and the discussion at pp. 6-7 explain that even if the water is impaired due to mercury the state will not include this water on the list unless there is a specific source other than air deposition as the cause. All waters which do not meet standards, no matter what the cause, need to be identified. EPA has issued guidance for listing waters that are impacted from atmospheric mercury deposition: "Memorandum from Craig E. Hooks, U.S. EPA, to Water Division Directors, "Elements of Mercury TMDLs Where Mercury Loadings are Predominantly from Air Deposition," September 29, 2008; and U.S. EPA Fact Sheet, "Memorandum on Listing Waters Impaired by Atmospheric Mercury Under Clean Water Act Section 303(d): Voluntary Subcategory 5m," March 8, 2007. We recommend that the Draft Methodology be revised to incorporate the approach outlined in these guidance documents.

Section 4.8.2.1, Fish Consumption Advisories for BCCs other than Mercury, at p. 15: The Draft Methodology should explain whether and how data regarding the amount of bioaccumulative contaminants of concern (BCCs) in fish tissue are used in making assessments.

## **2. Other comments**

### **a. Insufficient Information Determination**

- i. Sections 4.5.2.1 and 4.6.2.1, Fish and Macroinvertebrate Communities, p. 5 & 8: The Draft Methodology does not explain how MDEQ will determine what type or amount of supporting contextual information would be needed to make a determination of 'not supporting' or 'insufficient information.' For example, the Draft Methodology states that "A determination of not supporting or insufficient information is made for water bodies with macroinvertebrate communities rated poor. . . depending on the quality and amount of supporting contextual information available." The Draft Methodology should include clear procedures that will be followed to use biological data to make a determination of whether a waterbody is supporting or not supporting the aquatic life designated uses.
- ii. Additionally, the discussion in this section states that "For example, a poor macroinvertebrate community result from a biosurvey conducted as part of probabilistic monitoring may require the collection of additional information to determine data representativeness." (Draft Methodology at p. 8.) Since the methods that are used in probabilistic surveys are similar to those used in targeted surveys, it is unclear why sites sampled using probabilistic methods require collection of additional information to determine representativeness if they are found to be in poor condition. The Draft Methodology should explain how MDEQ intends to evaluate the data collected in making rating decisions for macroinvertebrate and fish communities.

### **b. Public Water Supply**

- i. Section 4.9.1.1, Toxic Substances in Water Column, p. 15: The Draft Methodology states that MDEQ does not currently have a reliable method to assess attainment with the public water supply designated use for BCCs and other pollutants, but hopes to work with EPA to develop one. The Region agrees with the MDEQ on the need to find a long-term solution to this problem and commits to working with the State to resolve this issue. EPA recommends that the Draft Methodology provide an outline of steps the State expects to take to address this issue in the current listing cycle, while MDEQ works with EPA to develop a more comprehensive methodology.

- ii. While Michigan's WQS include a criterion for total dissolved solids (TDS), the Draft Methodology does not include a TDS assessment method for drinking water uses. See Michigan Admin. Code Sec. § R 323.1051. We strongly encourage MDEQ to include such an assessment method in the Draft Methodology.

c. **Nutrients**

i. 4.6.1.2 Water Column Nutrient Concentrations

1. The Draft Methodology states at p. 7, that "Carlson's trophic status index (TSI) in conjunction with aquatic macrophyte surveys, are considered to determine designated use support." The discussion in this section, however, does not explain how Carlson's TSI values will be compared with or used "in conjunction" with the aquatic macrophyte survey data. The Draft Methodology should explain, with sufficient detail, how the process will be implemented in a transparent way so as to provide predictable results.
2. For Table 4.2, "Michigan Inland Lakes Trophic Status Classification Criteria," please explain the basis for the total phosphorus (TP), Secchi depth transparency (SD), and chlorophyll *a* concentration (CHL) values used in this table.
3. The Draft Methodology at p. 7 states that "Inland lakes classified as oligotrophic, mesotrophic, or eutrophic are generally determined to support the other indigenous aquatic life and wildlife designated use." Please explain why mesotrophic or oligotrophic lakes that exceed Carlson's TSI score for their respective classes would not be determined to be "not supporting." We are concerned that using this approach, a two-story lake or other very clear lake in the northern portion of the state would have become impaired well before the point it became hypereutrophic, but would only be listed when it becomes hypereutrophic.
4. Table 4.2: The Draft Methodology should clarify whether the TP, SD, and CHL values are summer maxima, summer means, or some other measure.
5. The Draft Methodology should explain how MDEQ will determine that there is insufficient information to determine "not supporting." The "insufficient information" language makes it unclear as to how this will actually be implemented.

6. Please explain why lakes listed as hypereutrophic would be listed as insufficient information?
  7. The Draft Methodology should explain whether the discussion in 4.6.1.2 applies only to lakes, or also to other types of surface water systems.
- ii. 4.6.2.2 Bacteria, Algae, Macrophytes, and Fungi
1. Does this section apply only to rivers?
  2. This section states that “A determination of not supporting may be made if excessive/nuisance growths of algae. . . or aquatic macrophytes are present” (p. 9). To ensure protection of the designated uses, the language should be revised to clarify that a determination of not supporting will be made if excessive/nuisance growths of algae (particularly, *Cladophora*, *Rhizoclonium*, and cyanobacteria) or aquatic macrophytes are present.
  3. Section 4.6.2.2, Bacteria, Algae, Macrophytes, and Fungi, p. 9: If excessive or nuisance growth of algae or aquatic macrophytes is present, the Draft Methodology should explain on what basis these waters will be listed in category 5 in the absence of designating the presence of such substances as pollutants. In addition, the Draft Methodology should explain how the State intends to determine whether plant growth is “excessive” or has reached “nuisance” levels.

**d. Other Topics**

- i. The assessment methodology divides chemistry and biological assessment by fisheries (Draft Methodology, Sections 4.5.1, 4.5.2, pp. 4-5) and other aquatic life designated uses (Draft Methodology, Sections 4.6.1, 4.6.2, pp. 6-9). Both of these uses and most of the criteria assessed under one or the other apply to all surface waters of the State. Therefore, we recommend that the assessment methods discussed in these sections be combined under a general aquatic life assessment category.
- ii. Section 4.5.2.1, Fish Community, p. 5: The Draft Methodology states that rivers and streams with no site specific fish community biosurvey results are considered not assessed. Please explain whether the ‘not assessed’ category applies to only the fish community aspect of the fisheries designated use, or whether MDEQ could consider the use to be not assessed with respect to the physical/chemical assessment type as well, if fish survey data are not available. If fish biosurvey results are needed to assess attainment with the fisheries designated uses, the Draft Methodology should explain how these waterbodies are being assessed, given Michigan’s current monitoring

approach. The fish community designated use should be assessed using the criteria that apply to the waterbodies with that designation.

- iii. To the extent the Draft Methodology relies on other protocols, such as Procedure 51 (P51), supplemental methods and reports, or MDEQ's Quality Management Plan (2005), the Draft Methodology should include links (or make available hard copies) of these documents to further clarify the basis on which MDEQ makes decisions.





RICK SNYDER  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
LANSING



DAN WYANT  
DIRECTOR

January 6, 2012

Mr. Peter Swenson, Chief  
Watersheds and Wetlands Branch  
United States Environmental Protection Agency, Region 5  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590

Dear Mr. Swenson:

Thank you for submitting comments on the Water Quality and Pollution Control in Michigan, 2012 Sections 303(d), 305(b), and 314 Integrated Report (IR) Draft Assessment Methodology. The following is in response to those comments dated August 4, 2011 and to our October 18, 2011 conference call with Region 5 staff. We appreciate the input and the commitment by the United States Environmental Protection Agency (USEPA) for ongoing support and discussion with regard to issues involving this, and the development of future assessment methodologies:

**1a. Use of Best Professional Judgment**

The Water Quality and Pollution Control in Michigan 2012 Sections 303(d), 305(b), and 314 IR Draft Assessment Methodology, June 2011 (Draft Methodology), describes various measurements the State may consider in making assessments. However, the Draft Methodology ultimately relies heavily upon best professional judgment (BPJ) in making impairment determinations. Where attainment decisions are made using BPJ in the case of water quality criteria that are specified as never to be exceeded, such as toxics (Mich. Admin. Code § R323.1057), dissolved oxygen (Mich. Admin. Code §§ R323.1064 and R323.1065), pH (Mich. Admin. Code § R323.1053), and dissolved solids (Mich. Admin. Code § R323.1051), water bodies should be listed as impaired when available data indicate any exceedance. Region 5 is concerned that the Clean Water Act (CWA) § 303(d) list resulting from the Draft Methodology may not include some waters that are not in attainment of designated uses. For criteria that are not defined in the state's water quality standards (WQS) as never to be exceeded, the Michigan Department of Environmental Quality (MDEQ) should clarify in the Draft Methodology the methods used to make a determination and explain how the State ensures that its approach ensures that impaired waters are not omitted from the list.

- i. An example of where determination methods should be documented is in the discussion of conventional chemistry parameters for fish community designated uses (Section 4.5.2.1, pp. 5-6.) The Draft Methodology does not include minimum data requirements, but instead cites BPJ as the basis for deciding how many measurements are needed to make a support determination. We strongly recommend that the Draft Methodology be revised to reflect more specific determination methods in this and in other cases.

*MDEQ Reply: Section 4.2, specifically the last paragraph, defines the qualities of a dataset necessary to make support decisions in Michigan's Assessment Methodology (Methodology). Target sample sizes are provided throughout the Methodology, however*

*we reserve the ability to use BPJ (thereby incorporating the evaluation process in Section 4.2) to evaluate and potentially use additional, possibly more limited, datasets, thus ensuring that appropriate available data is used for assessments whenever possible and adequately reflected in the listing. When making assessment determinations we prefer that our professional staff make informed decisions about the data relevance rather than attempt to define specific guidance on minimum effort.*

*Rather than attempt to capture specific scenarios under which BPJ determines a dataset to be useful, comments supporting those decisions are captured within the Assessment Database (ADB) in use-specific comment fields and are accessible to the general public through the Michigan Surface Water Information Management System (MiSWIMS) application (see Response to comment 1d for additional information on this). An addition has been made to Section 4.3, paragraph 5, of the Assessment Methodology to clarify how comments regarding the use of BPJ are reflected in the ADB and accessible through MiSWIMS.*

**1b. Attainment Decisions for Water Column Toxic Substance Concentrations**

The Draft Methodology suggests that attainment decisions for water column toxic substance concentrations are made where four or more samples are collected over a one year period (Draft Methodology, Figure 4.1, p. 6). If four samples are not available, the Draft Methodology explains that BPJ will be used to determine if an attainment decision can be made. If four samples are available, Figure 4.1 requires an evaluation of whether the geometric mean of the samples exceeds the WQS, following Mich. Admin. Code § R323.1207(1)(g)(iii). While it is our understanding that Mich. Admin. Code § R323.1207(1)(g)(iii) is applicable in determining background concentrations in the development of National Pollutant Discharge Elimination System permit limitations, it does not appear to be appropriate for use in determining the attainment of WQS. Please clarify how the use of the geometric mean supports the intent of the water quality criteria. The MDEQ should follow USEPA Guidance (see <http://water.epa.gov/type/watersheds/monitoring/calm.cfm> and <http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/guidance.cfm#reporting>) where duration, frequency and magnitude of standard exceedances are not specified in the State's WQS.

*MDEQ Reply: The use of geometric mean in calculating a median concentration is supported by guidance provided in the Water Quality Guidance for the Great Lakes System: Supplementary Information Document (SID) (March 1995, EPA-820\_B-95-001). Section VIII.C.3.i.ii.(B) presents Final Guidance on the use of geometric mean and states (in part): "More explicitly, fish tissue and water concentration measurements generally follow positively skewed probability distributions where the median is appropriately estimated by the geometric mean."*

*Guidance provided in 2006 by the USEPA addresses, in part, minimum frequencies of exceedance with regard to water quality criteria when not specified in WQS. We will review this guidance relative to our WQS to determine whether changes to the Assessment Methodology should be incorporated for the 2014 IR cycle.*

*Any time data are used that cause BPJ to be used (e.g. a smaller than ideal dataset or when ideal datasets are not defined), our approach is similar to that spelled out in Chapter 4.3.2 of the Consolidated Assessment and Listing Methodology guidance document noting*

*the importance of documenting attainment decisions, which we do within comment fields of the ADB.*

**1c. Biological Attainment Thresholds**

Sections 4.5.2.1 and 4.6.2.1, Fish and Macroinvertebrate Communities, p. 5 & 8: The Draft Methodology includes attainment thresholds for wadeable streams that categorize waters into excellent, acceptable and poor categories. Region 5 is concerned with the biological impairment thresholds used by MDEQ for determining the attainment status for wadeable streams. In prior communications, the state has explained that derivation of these thresholds is detailed in the "Update of GLEAS Procedure 51 Metric Scoring and Interpretation Staff Report," updated in May 1998. EPA is concerned that as described, these thresholds may not protect designated uses, particularly for fish and other aquatic life, and therefore would not ensure meeting the CWA minimum goal of protection and propagation of fish, shellfish and wildlife in CWA § 101(a)(2), or be protective of waters that are not already disturbed. While these attainment thresholds in the current Draft Methodology provide a high degree of confidence that the aquatic life use of a site is impaired, the cost of such high confidence is that a larger number of sites with less dramatic impairments are mischaracterized as attaining the aquatic life use. Accordingly, please clarify how these thresholds meet the expected condition of streams in Michigan that are not impacted, or how they relate to the minimum interim goal of the CWA. Please also indicate how non-wadeable and coldwater sites that are rated (utilizing the non-wadeable and coldwater assessment methodologies respectively) in the various threshold categories compare to reference/least impacted conditions. USEPA guidance (USEPA's 1985 "Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Use."

[http://water.epa.gov/scitech/swguidance/standards/upload/2009\\_01\\_13\\_criteria\\_85guidelines.pdf](http://water.epa.gov/scitech/swguidance/standards/upload/2009_01_13_criteria_85guidelines.pdf)) provides that chemical specific criteria should be developed to be protective of aquatic life and represent the point at which a departure from the criteria would suggest a declining condition. The Draft Methodology should be revised to ensure that attainment thresholds are chosen that reflect the point of departure from a point that remains protective; not from a point that is certain to be impaired.

The MDEQ may want to consider the use of the biological condition gradient model, such as the one developed in conjunction with MDEQ staff for cool and coldwater streams in the northern forested ecoregions of the upper Midwest. This may be helpful in evaluating the condition of the biological communities that are found in the current biological threshold condition categories (<http://www.epa.gov/bioiweb1/html/bcg.html>).

*MDEQ Reply: The thresholds are designed to be protective of the minimum goals of the CWA and scoring decisions were developed using analyses of data from ecoregionally specific reference streams as described in the Update of Surface Water Assessment (SWAS) Procedure 51 Metric Scoring and Interpretation document (Revised 5/98; MI/DEQ/SWQ-96/068). As USEPA pointed out, the point at which impairment is determined using SWAS Procedure 51 ('poor' scoring macroinvertebrate/fish community) has a high degree of confidence. The broad range in biotic community score above 'poor' (ie. -4 to +9) must cover a wide range of conditions for a wide range of streams statewide. This wide range of stream types and conditions is well covered by the 'acceptable' and 'excellent' range of scores which will certainly include a variety of types and degrees of human presence on the landscape (impact), but not necessarily impaired streams. Because the purpose of the 303(d) list is to identify and prioritize impaired water bodies we feel that the current cutoff supports this purpose.*

*We offer that watershed-wide TMDLs have been developed for areas where not only poor communities were found but a significant number of biotic community surveys were rated at the low end of the acceptable range. In these instances (e.g. the Rouge River TMDL approved in 2007), contextual information was used to address concerns over areas of similar land use and impacts to water quality, thereby not simply using the 'poor' cutoff as the only decision point.*

*We acknowledge EPA's concern in this area and reiterate our willingness and interest in discussing the concerns.*

*Similarly, the draft non-wadeable approach currently rates macroinvertebrate communities based on quartiles of existing condition statewide, with the lower quartile defined as 'poor'. This lower quartile is currently the point at which a site would be placed in either the not-supporting or insufficient information category, depending on the level of supporting contextual information. Given the relative newness of this draft procedure the interpretation of the data being gathered will continue to be reviewed to ensure that this decision point adequately reflects impairments in large rivers.*

*With regard to assessing the Coldwater Fishery designated use, the 'coldwater assessment methodology' targets a one percent or greater salmonid relative abundance to determine attainment. We feel that the presence of these fish based on their trophic level and habitat and water quality requirements are a reasonable estimation that conditions exist that support this use as well as the interim goals of the CWA.*

**1d. Public Participation**

While we note that MDEQ has provided an opportunity for public notice and comment on the Draft Methodology, we have noted that the information MDEQ has made available regarding prior listing, delisting and deletion decisions has generally not provided detailed information, such as that included in the notes and other information MDEQ maintains in the ADB. We strongly recommend that MDEQ, at a minimum, make available to the public the comments and information discussed in the ADB database and which MDEQ uses to make listing determinations.

*MDEQ Reply: Through our web-based MiSWIMS application the public is able to access general and use-specific comments for current ADB records for any Assessment Unit Identifier in the state as well as getting stream reach categories and other information. This same system can be searched for biological monitoring data, water chemistry results, and other departmental information, much of which is used in the assessment process for IR development. This system can be accessed at the following address:  
<http://www.mcqi.state.mi.us/miswims/>.*

**1e. Fish Consumption**

Figure 4.1 and the discussion at pp. 6-7 explain that even if the water is impaired due to mercury the state will not include this water on the list unless there is a specific source other than air deposition as the cause. All waters which do not meet standards, no matter what the cause, need to be identified. The USEPA has issued guidance for listing waters that are impacted from atmospheric mercury deposition: "Memorandum from Craig E. Hooks, USEPA, to Water Division Directors, "Elements of Mercury TMDLs Where Mercury Loadings are Predominantly from Air Deposition," September 29, 2008; and USEPA Fact

Sheet, "Memorandum on Listing Waters Impaired by Atmospheric Mercury Under Clean Water Act Section 303(d): Voluntary Subcategory 5m," March 8, 2007. We recommend that the Draft Methodology be revised to incorporate the approach outlined in these guidance documents.

*MDEQ Reply: We have reconsidered our original desire to discontinue listing and changing listings based on atmospheric sources based on your comments and on the continued importance of correctly and fully reflecting available data relevant to the mercury listings. The text will be changed in Sections 4.6.1.1 and 4.8.1.1 by removing paragraph 2 in each section, thereby reflecting that listing updates will continue to be done using the data available to us.*

Section 4.8.2.1, Fish Consumption Advisories for bioaccumulative contaminants of concern (BCCs\_other than Mercury, at p. 15: The Draft Methodology should explain whether and how data regarding the amount of Bioaccumulative Chemicals of Concern (BCCs) in fish tissue are used in making assessments.

*MDEQ Reply: As the draft Methodology specifies in this section, we are using the presence of Michigan Department of Community Health site-specific fish consumption advisories to assess a water body under these conditions, which are based on fish tissue concentrations of BCCs.*

#### 2a. Insufficient Information Determination

- i. Sections 4.5.2.1 and 4.6.2.1, Fish and Macroinvertebrate Communities, p. 5 & 8: The Draft Methodology does not explain how MDEQ will determine what type or amount of supporting contextual information would be needed to make a determination of 'not supporting' or 'insufficient information.' For example, the Draft Methodology states that "A determination of not supporting or insufficient information is made for water bodies with macroinvertebrate communities rated poor . . . depending on the quality and amount of supporting contextual information available." The Draft Methodology should include clear procedures that will be followed to use biological data to make a determination of whether a waterbody is supporting or not supporting the aquatic life designated uses.

*MDEQ Reply: While the Draft Methodology retains the ability to determine either 'not supporting' or 'insufficient information' based on poor biological community data, it should be recognized that the vast majority of the time poor-rated biological communities are found, a 'not supporting' determination is the result. The rarer occasion that 'insufficient information' is determined will be supported by comments in the ADB that support a lack of confidence in the data or contextual information leading the professional staff to need additional information to have confidence in their determination.*

- See comments below as well.

- ii. Additionally, the discussion in this section states that "For example, a poor macroinvertebrate community result from a biosurvey conducted as part of probabilistic monitoring may require the collection of additional information to determine data representativeness." (Draft Methodology at p. 8.) Since the methods that are used in probabilistic surveys are similar to those used in targeted surveys, it is unclear why sites sampled using probabilistic methods require collection of additional information to determine representativeness if they are found to be in poor condition. The Draft

Methodology should explain how MDEQ intends to evaluate the data collected in making rating decisions for macroinvertebrate and fish communities.

*MDEQ Reply: Similar to MDEQ response to USEPA's 2009 comments number 16, documentation will be provided in the ADB comment fields where necessary to support a determination of Insufficient Information. This determination will be based on professional staff's review of the available data as discussed in Section 4.2, last paragraph. Because of the random selection used for probabilistic sites, on occasion a probabilistic survey may lack contextual information and any professional knowledge of the representativeness of the data and so the Draft Methodology is written to account for this possibility, although small.*

## 2b. Public Water Supply

- i. Section 4.9.1.1, Toxic Substances in Water Column, p. 15: The Draft Methodology states that MDEQ does not currently have a reliable method to assess attainment with the public water supply designated use for BCCs and other pollutants, but hopes to work with USEPA to develop one. The Region agrees with the MDEQ on the need to find a long-term solution to this problem and commits to working with the State to resolve this issue. USEPA recommends that the Draft Methodology provide an outline of steps the State expects to take to address this issue in the current listing cycle, while MDEQ works with USEPA to develop a more comprehensive methodology.

*MDEQ Reply: The Water Resources Division agrees to approach our Drinking Water program for assistance and to work with USEPA on a process and toward developing a long-term solution on this issue. No steps are planned during the current listing cycle, however.*

- ii. While Michigan's WQS include a criterion for total dissolved solids, the Draft Methodology does not include a total dissolved solids assessment method for drinking water uses. See Michigan Admin. Code Sec. § R 323.1051. We strongly encourage MDEQ to include such an assessment method in the Draft Methodology.

*MDEQ Reply: We agree that the inclusion of Rule 323.1051(2) should be made for future assessments, however at this time the data relevant to these Public Water Supply intakes exists in disparate places and will be time consuming to access and review. The DEQ commits to developing a process for future Integrated Reporting cycles by which this raw water intake data is gathered and reviewed for assessment against the monthly average WQS contained in Rule 323.1051(2).*

## 2c. Nutrients

- i. 4.6.1.2 Water Column Nutrient Concentrations

1. The Draft Methodology states at p. 7, that "Carlson's trophic status index (TSI) in conjunction with aquatic macrophyte surveys, are considered to determine designated use support." The discussion in this section, however, does not explain how Carlson's TSI values will be compared with or used "in conjunction" with the aquatic macrophyte survey data. The Draft Methodology should explain, with sufficient detail, how the process will be implemented in a transparent way so as to provide predictable results.

*MDEQ Reply: The following addition to the text will be made to clarify the process: "The TSI and qualitative macrophyte surveys are combined to potentially shift a trophic status to the next category based on denser than expected macrophyte conditions under the TSI calculation."*

2. For Table 4.2, "Michigan Inland Lakes Trophic Status Classification Criteria," please explain the basis for the total phosphorus, Secchi depth transparency, and chlorophyll a concentration values used in this table.

*MDEQ Reply: The table is derived from cutoffs used in the original equations published in Carlson (1977) (Carlson, R. E. 1977. A Trophic State Index for lakes. Limnology and Oceanography 22(2): 361-369.) The equations were modified but are numerically equivalent. The cut-offs for trophic state determinations were slightly modified to apply to Michigan from the original Carlson cutoffs.*

3. The Draft Methodology at p. 7 states that "Inland lakes classified as oligotrophic, mesotrophic, or eutrophic are generally determined to support the other indigenous aquatic life and wildlife designated use." Please explain why mesotrophic or oligotrophic lakes that exceed Carlson's TSI score for their respective classes would not be determined to be "not supporting." We are concerned that using this approach, a two-story lake or other very clear lake in the northern portion of the state would have to become hypereutrophic before listing, at which point the water body would have already become impaired.

*MDEQ Reply: Because Michigan does not have numeric nutrient criteria, and so no predetermined classification for lakes, the current approach is to list all oligotrophic, mesotrophic, and eutrophic lakes as supporting based on nutrient data.*

4. Table 4.2: The Draft Methodology should clarify whether the total phosphorus, Secchi depth transparency, and chlorophyll a concentration values are summer maxima, summer means, or some other measure.

*MDEQ Reply: Depending on the available data, the values represent a mean (multiple data points) or the value for a single data point. Methodology text will be changed to clarify that DEQ uses late summer data to make trophic status determinations.*

5. The Draft Methodology should explain how MDEQ will determine that there is insufficient information to determine "not supporting." The "insufficient information" language makes it unclear as to how this will actually be implemented.

*MDEQ Reply: Methodology text will be changed to clarify that currently, hypereutrophic is considered insufficient info (and see comment 6., below).*

6. Please explain why lakes listed as hypereutrophic would be listed as insufficient information?

*MDEQ Reply: Because trophic status is not a WQS, but rather a surrogate for relative quality, currently lakes determined to be hypereutrophic are listed as insufficient information with the goal of conducting additional, site specific*

*monitoring to confirm the trophic designation and whether impairments of designated uses are realized.*

7. The Draft Methodology should explain whether the discussion in 4.6.1.2 applies only to lakes, or also to other types of surface water systems.

*MDEQ Reply: In section 4.6.1.2 paragraph one applies to all waters and paragraph two applies only to lakes and impoundments.*

ii. 4.6.2.2 Bacteria, Algae, Macrophytes, and Fungi

1. Does this section apply only to rivers?

*MDEQ Reply: No, these conditions may apply to lakes as well. Specifically, paragraph one in this section applies to all waters, paragraph two applies to flowing waters and paragraph three to lakes.*

2. This section states that "A determination of not supporting may be made if excessive/nuisance growths of algae . . . or aquatic macrophytes are present" (p. 9). To ensure protection of the designated uses, the language should be revised to clarify that a determination of not supporting will be made if excessive/nuisance growths of algae (particularly, *Cladophora*, *Rhizoclonium*, and cyanobacteria) or aquatic macrophytes are present.

*MDEQ Reply: No change is planned. Any instance where excessive/nuisance growths are observed that do not result in a determination of not supporting, although unlikely, will be explained and backed by comments in the ADB.*

3. Section 4.6.2.2, Bacteria, Algae, Macrophytes, and Fungi, p. 9: If excessive or nuisance growth of algae or aquatic macrophytes is present, the Draft Methodology should explain on what basis these waters will be listed in category 5 in the absence of designating the presence of such substances as pollutants. In addition, the Draft Methodology should explain how the State intends to determine whether plant growth is "excessive" or has reached "nuisance" levels.

*MDEQ Reply: Listing as Category 5 would be done on the basis of excessive/nuisance conditions indicative of possible pollutant issues, with the possible need for additional monitoring to determine the cause and whether it would be considered a pollutant. Guidance on what is 'nuisance' in streams is already specified in 4.6.2.2 as taken from SWAS Procedure 51, no change proposed. The organisms themselves would not be considered pollutants.*

2d. **Other Topics**

- i. The assessment methodology divides chemistry and biological assessment by fisheries (Draft Methodology, Sections 4.5.1, 4.5.2, pp. 4-5) and other aquatic life designated uses (Draft Methodology, Sections 4.6.1, 4.6.2, pp. 6-9). Both of these uses and most of the criteria assessed under one or the other apply to all surface waters of the State. Therefore, we recommend that the assessment methods discussed in these sections be combined under a general aquatic life assessment category.

*MDEQ Reply: The USEPA is correct that many of the assessment types used for one biological designated use (coldwater and warmwater fisheries or other indigenous aquatic life and wildlife) may be able to be considered applicable to the other. However some considerations need to be made that would preclude a simple joining of the two uses and their assessment types. Some assessment types are based on a Rule which is specific to one designated use (e.g. different Temperature Standards applying to cold and warm water fisheries) and therefore do not apply to another use. Assessing water column toxic substance concentrations against WQS is arguably most relevant to the Other Indigenous Aquatic Life and Wildlife designated use given the breadth of aquatic toxicity data used to develop the Standards and the breadth of aquatic life covered by this designated use. The range of aquatic organism data considered when developing WQS can function as a reasonably protective surrogate measure when assessing types of aquatic life for which we currently do not have a specific method. By contrast, because the warmwater and coldwater fisheries designate use is specific to one type of aquatic life and has a biological monitoring assessment method specific to it using SWAS Procedure 51, there is not necessarily the same need for a surrogate assessment type.*

*There are some assessment types (e.g. nutrients, physical characteristics, pH) that may be more easily transferrable to all aquatic life designated uses. These, and the above discussed issues, will be evaluated for consistent use between the warmwater and coldwater fisheries and Other Indigenous Aquatic Life and Wildlife designated uses and changes proposed to the 2014 assessment methodology.*

- ii. Section 4.5.2.1, Fish Community, p. 5: The Draft Methodology states that rivers and streams with no site specific fish community biosurvey results are considered not assessed. Please explain whether the 'not assessed' category applies to only the fish community aspect of the fisheries designated use, or whether MDEQ could consider the use to be not assessed with respect to the physical/chemical assessment type as well, if fish survey data are not available. If fish biosurvey results are needed to assess attainment with the fisheries designated uses, the Draft Methodology should explain how these waterbodies are being assessed, given Michigan's current monitoring approach. The fish community designated use should be assessed using the criteria that apply to the waterbodies with that designation.

*MDEQ Reply: The not assessed category applies to the designated use and is used to signify that the specific use has not been assessed with any assessment type. As stated in the Methodology, the Warmwater and Coldwater Fishery designated uses may be assessed using any one (or more) of the Physical/Chemical (Section 4.5.1) or Biological (Section 4.5.2) Assessment Types.*

- iii. To the extent the Draft Methodology relies on other protocols, such as Procedure 51, supplemental methods and reports, or MDEQ's Quality Management Plan (2005), the Draft Methodology should include links (or make available hard copies) of these documents to further clarify the basis on which MDEQ makes decisions.

*MDEQ Reply: Text will be changed to include web links to these documents as they are available.*

For your information, the Public Comment period for the Draft 2012 IR is scheduled to run through January 13, 2012, and is posted on the DEQ calendar. The draft report is posted on our webpage at [http://www.michigan.gov/deq/0,4561,7-135-3308\\_3325---,00.html](http://www.michigan.gov/deq/0,4561,7-135-3308_3325---,00.html) or found by

clicking on "News and Events" from our home page then "Calendar". We submitted an electronic copy of the Draft 2012 Integrated Report directly to your office at the start of the comment period for your review and comment.

If you have additional questions or concerns, please contact me at 517-335-4185 or [goodwink@michigan.gov](mailto:goodwink@michigan.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "K. Goodwin", written in a cursive style.

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

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

Comments Received on Draft 2012 Integrated Report  
Posted for public comment December 5, 2011 through January 13, 2012.

Comments Received from:

- Alliance of the Great Lakes
- Michigan Manufacturers Association

January 13, 2012

Mr. Kevin Goodwin,  
Michigan Department of Environmental Quality  
Water Resources Division  
525 West Allegan Street,  
P.O. Box 30273  
Lansing, Michigan 48909-7773

Via e-mail at [goodwink@michigan.gov](mailto:goodwink@michigan.gov).

Re: Water Quality & Pollution Control in Michigan 2012 Sections 303d, 305b and 314  
Integrated Report

Dear Mr. Goodwin,

MMA is pleased to offer comments on the draft document Water Quality & Pollution Control in Michigan 2012 Sections 303d, 305b and 314 Integrated Report dated March 2012. The purpose of this document is to describe whether the various water bodies in the State of Michigan are attaining water quality standards, and assign the non attaining water quality bodies to various Designated Use Categories. EPA requires that water bodies in some of those Designated Use Categories require the development of Total Daily Maximum Loads (TMDL) while other Designated Use Categories, such as water bodies which already have needed controls in place, do not require TMDLs. There are serious implications associated with the development of TMDLs both the DEQ and the regulated community. The development of TMDLs requires the expenditure of an inordinate amount of staff time. The imposition of a TMDL can also greatly inhibit any new and existing discharges from Municipal waste water treatment plants and Industrial waste water treatment plants, regardless of the deminimus nature of that discharge.

MMA believes that it is therefore very important that water bodies be properly listed, that water bodies are not needlessly listed as impaired when they are not, and that impaired water bodies are included in the proper Designated Use Category, so that TMDL's are only required of water bodies that do not have controls in place. Following are MMA comments that point out a number of instances where water bodies are being inappropriately listed as impaired, placed in an inappropriate Designated Use Category, and wrongly identified as requiring a TMDL.

#### Mercury Impairment Criteria

The draft report offers a matrix in Figure 4.4 to describe how the Department determines mercury impairments. While this matrix begins with a correct reference to the Great Lakes Initiative Criteria (which have been adopted into rules promulgated under the Michigan Environmental Code), it then departs from that standard (and consequently Michigan rules and

statutes) by creating new inconsistent criteria. The appropriate GLI standard is whether the geometric mean of edible fish is at or below 0.35 ppm. The additional criteria, which the Department has included in Figure 4.4 concerns whether top predator fish (“generally largemouth or small mouth bass, walleye, northern pike or muskellunge) are above 0.35 ppm in inconsistent with promulgated rules. The promulgated rule requires the Department to label a water body as “not impaired” if the geometric mean of ALL fish is at, or below, 0.35 ppm not the geometric mean of top predator fish.

The Department cannot, as it proposes to do in Figure 4.4; list lakes as having “insufficient data” if the geometric mean of all fish species is at or below 0.35 but top predatory fish is above 0.35. The Michigan rule is based on all fish species. Lakes that the Department lists as “having insufficient data” inappropriately become impaired water bodies, when the Department later imposes a state wide impairment ranking on such lakes.

The DEQ also departs from the GLI and lists lakes as impaired even though fish tissue values meet the 0.35ug/l criteria but water column values exceed a different 0.018 ug/l value. This is an inappropriate translation of the GLI criteria and Michigan rules. While the GLI has a default water column criteria of 0.018 ug/l; that value is only a rough approximation of the appropriate site specific water column concentration, that results in a site specific 0.35 ppm fish tissue concentration. The Michigan water quality rules recognize that the relationship between fish tissue and mercury water column values varies from lake to lake, and is site specific. The Michigan rules make the fish tissue value the overriding value. It is therefore inconsistent with the GLI and Michigan rules for this draft report to list water bodies as impaired only on the basis of a provisional water column value where other data demonstrate that the water body is meeting the underlying fish tissue standard.

#### PCB Impairment Criteria

The Draft Assessment does not adequately describe how or why Michigan water bodies are listed as impaired for PCB. There is no discussion of the geometric mean PCB fish tissue concentration for any of the state’s 46,000 inland or Great lakes. There is only a confusing discussion of PCB water column concentrations which state that EPA procedures require that only dissolved PCB water column concentrations be reported, followed by an inexplicable statement that Michigan non-the-less reports the combination of dissolved and particulate PCB. The draft’s statement that the total water column concentration is above the GLI dissolved water column concentration is of little value.. The reader does not know whether the cause of the alleged exceedance is simply the inappropriate addition of suspended PCB values to the dissolved number. Just as importantly, the reader does not know how the fish tissue values were considered, since there is no discussion. The Michigan rules require use of the geometric mean of ALL fish species, but in the preceding mercury section, the Department instead chose a different standard, one that uses only selective species. Since there is not discussion of what the PCB concentrations are or how they were developed, the reader is left uninformed and is left to wonder whether the same error that appeared in the mercury section may be at play here.

#### Designated Use Categories

The draft document correctly states that atmospheric sources are responsible for mercury and PCB in Michigan waterways. MMA believes that the DEQ has grossly exaggerated the number

of impaired water bodies and has applied improper criteria, but MMA recognizes that once the errors identified above are corrected; there will still be a subset, albeit much smaller subset of impaired water bodies and MMA agrees with the statement that these water bodies receiving their loading from the atmosphere. Having drawn this proper conclusion, the Department then goes on to inexplicably place mercury and PCB impaired water bodies in the Designated Use Category 5. This is completely unjustified, since EPA has explicitly created Designated Use Category 4b to address impairments from atmospheric deposition. The use impairments identified for mercury and PCB meet all of the conditions EPA has created to qualify for Category 4b. Chief among those conditions is the existence of control programs in the United States, to address US contributions to atmospheric loadings. Control programs include the promulgation of rules and there is no doubt the EPA has promulgated regulations for every major source of mercury and PCB emission.

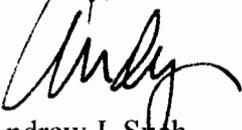
Other states are using Designated Use Category 4b for mercury and PCB impairments to water bodies. There is no reason for Michigan to not do the same. Water bodies having impairments in Category 4b need not create a TMDL but if the Department continues to leave these water bodies in Category 5, a TMDL will have to be developed, even though the creation of such a TMDL has no practical benefit. Again as the Department has correctly stated, the cause of these impairments are atmospheric. A TMDL can only seek to regulate water discharges. Since water discharges are an inconsequential source of the impairments; placing these water bodies in Category 5, requiring developments of TMDLs and placing further controls on inconsequential water discharges are all very inappropriate.

#### Conclusion

MMA appreciates the opportunity to comment on this draft assessment. We believe that the assessment needs to be revised and made consistent with the rules that have been promulgated under the Environmental Code. These rules establish the geometric fish tissue concentration of all fish species as the operative criteria. We do not understand the basis for the Department's conclusions regarding PCB or why the Department is not following EPA's advice in using filterable PCB concentrations and ask for clarifications and revisions in this section of the document. Lastly we believe it imperative that water bodies impaired by atmospheric deposition be placed in Designated Use Category 4b in accordance with EPA guidance and TMDL's not be developed for these waters.

As always, if you have any questions please feel free to call me and again, thanks for this opportunity to comment.

Sincerely,



Andrew J. Such  
Director of Environmental and Regulatory Policy  
Michigan Manufacturers Association

cc: William Creal, Water Bureau, MDEQ

January 12, 2012

VIA US MAIL AND ELECTRONIC MAIL [goodwink@michigan.gov](mailto:goodwink@michigan.gov)

Kevin Goodwin  
Michigan Department of Environmental Quality  
Water Resources Division  
525 West Allegan Street  
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Re: Public comments on Michigan's proposed 303(d) list for 2012

Dear Mr. Goodwin,

With 95 percent of America's fresh surface water, the Great Lakes are a national environmental and economic treasure. They provide drinking water, jobs, and recreation to tens of millions of people. An important component of ensuring the health of the Great Lakes into the future is the reduction in bacterial, algal, and chemical contamination of the Great Lakes beaches. With this in mind, the Alliance for the Great Lakes urges Michigan to go further to protect Great Lakes beaches with the 2012 Impaired Waters List.

With these comments, the Alliance for the Great Lakes recommends that the Michigan Department of Environmental Quality:

- List near shore zones on the Great Lakes that have excessive algae contamination. Placing these water bodies on the **Category 5** list would ensure that Total Maximum Daily Loads are developed to correct the impairments.
- List beaches that experience a high number of Beach Action days

These points are described in greater detail in the attached comment letter. Thank you for the opportunity to submit these comments. Should you have any questions about our comments, please do not hesitate to contact me at 312-939-0838 x230 or [lwelch@greatlakes.org](mailto:lwelch@greatlakes.org).

Sincerely,



Lyman C. Welch  
Water Quality Program Manager



Olga Lyandres  
Water Quality Intern



## Eliminating Water Pollution from Michigan's Great Lakes

Comments  
to the  
Michigan Department of Environmental Quality  
on  
Michigan's Proposed 303(d) List of Impaired Waters for 2012

January 12, 2012

Alliance for the Great Lakes  
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Chicago, IL 60602  
(312) 939-0838

These comments are submitted by the Alliance for the Great Lakes (Alliance), a nonprofit organization that has advocated on behalf of the Great Lakes and the people who enjoy them for decades. The Alliance's mission is to conserve and restore the world's largest freshwater resource using policy, education, and local efforts, ensuring healthy Great Lakes and clean water for generations to come.

## **BACKGROUND**

The Clean Water Act requires states to assess their waters for compliance with the state's water quality standards. Under Section 303(d) of the Act, each state must make a publicly available list of waters that do not meet the standards. This "303(d) list" identifies the portion of the water body that is impaired, the pollutant(s) causing the impairment, and a schedule for the development of Total Maximum Daily Loads (TMDLs) to restore the impaired waters to health. As such, the 303(d) list is an important part of ensuring that states comply with their water quality standards and work towards the Clean Water Act's goal of fishable and swimmable waters. To improve water quality and human health, it is essential that the list accurately reflect the impairment status of the state's waters.

An important part of working towards water that is swimmable is to address bacterial and nutrient contamination in recreational waters, namely, Michigan's Great Lakes near shore areas. The Alliance urges the Michigan Department of Environmental Quality (MDEQ) to go further to recognize *Escherichia coli* (*E. coli*) bacteria contamination and phosphorus and nutrient loading that leads to algae contamination in the Great Lakes region.

### **I. Michigan must assess and address the algae problems at Great Lakes near shore areas**

The Alliance urges MDEQ to do more to address the problem of nuisance algae. Michigan's water quality standards require that surface waters not have any "deposits" in "unnatural quantities which are or may become injurious to any designated use." Despite this standard, Michigan has failed to develop an appropriate methodology to determine what "unnatural quantities" of algae are. Michigan's failure to develop an appropriate measurement for algae impairments violates the Clean Water Act. At a minimum, the Alliance asks MDEQ to improve public awareness by listing specific beaches impaired by nuisance algae.

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. The current trophic status of each of Michigan's Great Lakes is presented in Table 5.1 on page 84 of the 2012 report and references U.S. EPA 2011 source. While this reference indicates that all the Great Lakes trophic State goals have been attained, the data is actually from 2001 (<http://www.epa.gov/glnpo/glindicators/water/trophica.html>). The satellite picture taken in October of 2011 tells a different story about trophic state of Lake Erie and Saginaw Bay (Figure 1). The green areas represent algal blooms. Many beaches and near shore areas in Michigan have relatively high levels of algae, Figure 1 shows areas observable from space.



**Figure 1. Algae blooms across Lake Erie and Saginaw Bay, Oct. 2011**

Comments submitted by the Alliance to MDEQ regarding the 2012 Integrated Report draft assessment methodology urged MDEQ to adopt metrics to evaluate impairments due to near shore algae buildup. MDEQ's response to the comments said that MDEQ does not have enough information to establish a transferrable and meaningful process applicable to all areas of the Great Lakes and inland lakes. At least one other Great Lakes state, namely Minnesota, already uses lake eutrophication as a metric to evaluate use support (Guidance Manual for Assessing the Quality of Minnesota Surface Waters, Minnesota Pollution Control Agency, December 2011, page 29). In addition to measuring Secchi depth, total phosphorus, and chlorophyll-a concentrations (which MDEQ is already monitoring) the lakes are classified according to their ecoregion and depth. The Alliance urges MDEQ to adopt Minnesota's approach as a model.

Nuisance algae present a pervasive problem for many beaches and shorelines in Michigan. The Health Departments of Bay and Huron Counties issued an algae advisory for beaches in Saginaw Bay (<http://www.baycounty-mi.gov/Health/BeachMuckAdvisory.aspx>) warning residents to limit contact with the debris on the beach. The proposed 2012 impaired waters list only includes two beaches in Saginaw Bay (Singing Bridge and Twinning Road beaches) due to high *E.coli* levels there. According to information provided by MDEQ, most health departments in Michigan are using EPA's beach sanitary survey form in one form or another at their beaches. This sanitary survey form allows beach managers to record the amount of algae present both on the beach and in near shore areas in the water. These beach sanitary survey forms recorded by beach managers are a readily available data source that must be used by MDEQ in developing its impaired waters list.

Like beach managers, Alliance’s Adopt-a-Beach™ volunteers perform a beach assessment during their beach visits and have routinely documented high levels of algae on the beaches and in the water throughout Michigan. These beaches and corresponding dates when high algae amounts were found are listed in Table 1. Medium levels of algae were recorded on the beaches and in the water by Alliance’s Adopt-a-Beach™ volunteers at the beaches listed in Table 2. Complete historical data for beach monitoring events in Michigan can be found at <http://www.greatlakesadopt.org/Home/HistoricalData> and is also included in the attached spreadsheet. Figure 2 also shows these beaches on a map. These data underscore the detrimental effect of growing algae in the near shore regions of the waterways on recreation and highlight areas that need urgent action. MDEQ needs to evaluate and list waters of the state that are impaired even if the beach is located on a privately owned shoreline, such as the Riviera Beach in Macomb County and Southwood Beach in Sanilac County.

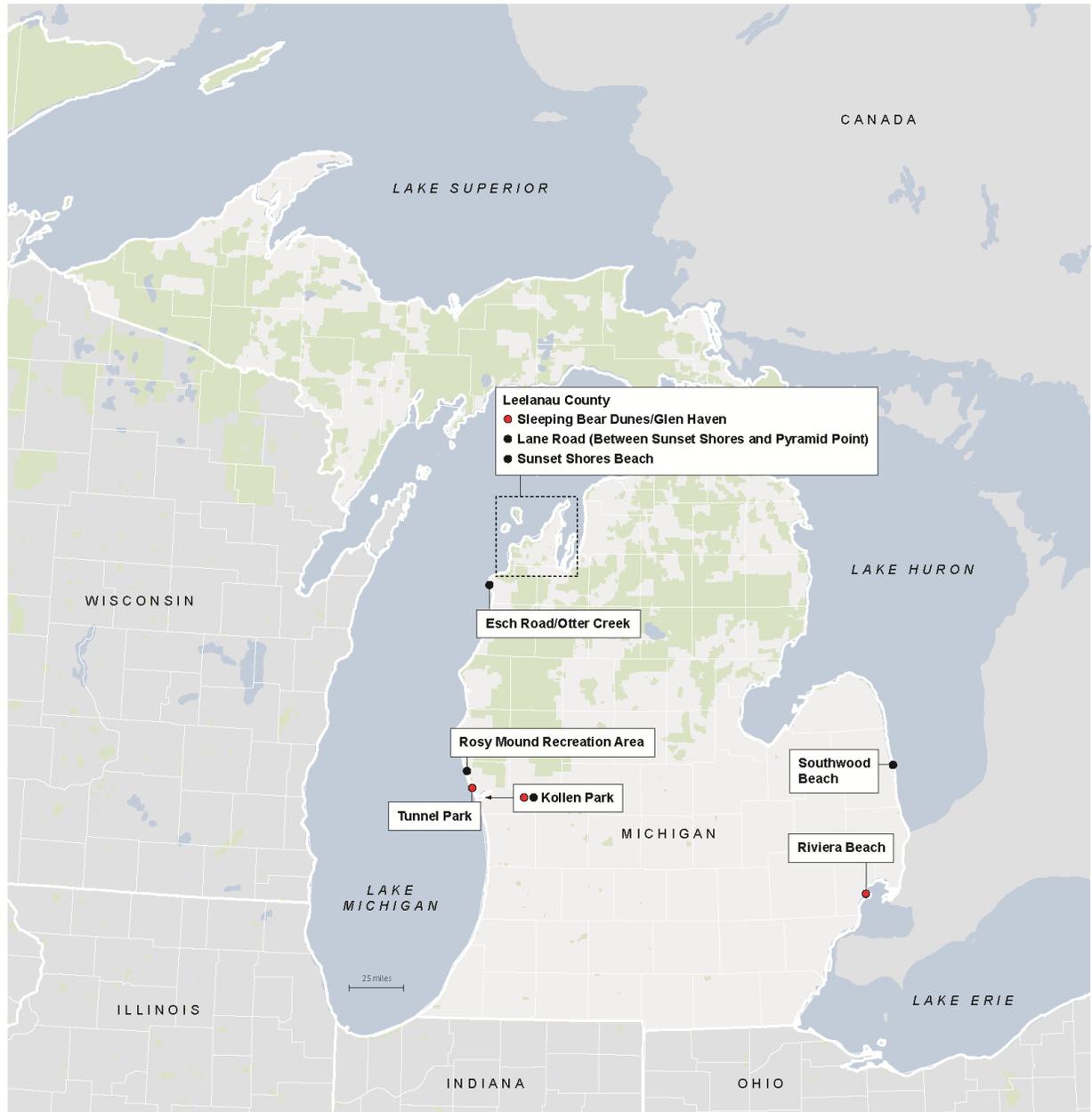
**Table 1. Beaches with high amount (51% and up) of algae present on the beach and/or in the near shore area. \*indicates beaches not evaluated by MDEQ.**

Date	Beach name	County	Algae (beach/near shore)
6/20/2011	Sleeping Bear Dunes – Glen Haven Beach*	Leelanau	Near Shore
9/6/2011	Kollen Park*	Ottawa	Near Shore
9/17/2011	Kollen Park*	Ottawa	Near Shore
7/10/2010	Tunnel Park	Ottawa	Near Shore
8/13/2011	Riviera Beach*	Macomb	Beach, Near Shore
9/17/2011	Riviera Beach*	Macomb	Beach, Near Shore
11/5/2011	Riviera Beach*	Macomb	Beach, Near Shore

**Table 2. Beaches with medium amount (21 – 50%) of algae present on the beach and/or in the near shore area. \* indicates beaches not evaluated by MDEQ.**

Date	Beach name	County	Algae (beach/near shore)
6/24/2011	Esch Road/Otter Creek*	Benzie	Beach
6/5/2011	Lane Road between Sunset Shores and Pyramid Point*	Leelanau	Beach
6/11/2010	Sunset Shores Beach*	Leelanau	Beach, Near Shore
4/10/2011	Sunset Shores Beach*	Leelanau	Beach, Near Shore
9/6/2011	Kollen Park*	Ottawa	Beach
9/17/2011	Kollen Park*	Ottawa	Beach
7/7/2010	Rosy Mound Recreation Area	Ottawa	Beach, Near Shore
7/13/2010	Rosy Mound Recreation Area	Ottawa	Near Shore
5/16/2010	Southwood Beach*	Sanilac	Near Shore
5/29/2010	Southwood Beach*	Sanilac	Near Shore
7/3/2010	Southwood Beach*	Sanilac	Near Shore

- Beaches with *high amount (51% and up)* of algae present on the beach and/or in the near shore area.
- Beaches with *medium amount (21 – 50%)* of algae present on the beach and/or in the near shore area.



**Figure 2. Map showing Michigan beaches with high or medium amount of algae on beach and/or in the near shore area**

**II. Michigan must address beaches that are either listed as fully supporting total or partial body contact recreation or not evaluated at all that experience more than 14 Beach Action Days in one season**

Several Michigan beaches experienced a high number of Beach Action Days in 2010 (measured when levels of *E. coli* exceed a daily maximum of 235 CFU/100 mL). MDEQ should address each of these beaches and include the beach on the 2012 list or justify why they are absent from the

impaired waters list. The Alliance supports the proposed listing of Singing Bridge Beach, Sugar Island Township Park, New Baltimore Park Beach, St. Clair Shores Blossom Heath Beach, St. Clair Shores Memorial Park Beach, Luna Pier City Beach, and Pier Park Beach as impaired for total body contact recreation due to the high number of water quality standard exceedances from *E.coli* and resulting beach advisories. We also support listing of Sugar Island Township Park, St. Clair Shores Blossom Heath Beach, St. Clair Shores Memorial Park Beach, and Luna Pier City Beach as not supporting partial body contact recreation for those beaches.

There are a number of beaches, however, listed in Table 3, that are not listed as impaired for either or both total and partial body recreation. The table lists beaches that had 14 or more action days, their proposed 303(d) status, and how many Beach Action Days each beach was issued in 2010. The Alliance asks MDEQ to reconsider the health of each of these beaches due to the high number of action days. Many, if not all, of these action days were the result of high *E. coli* levels at the beach.

**Table 3. Michigan beaches that experienced 14 or more EPA Beach Action Days in 2010. (TB – total body contact recreation, PB – partial body contact recreation, \*delisting).**

County	ID	Beach Name	2012 303(d) Status (proposed) TB/PB	EPA Beach Action Days in 2010
Arenac	MI001162	Singing Bridge Beach	PB – supporting*	33
Chippewa	MI001552	Brimley State Park	TB/PB - supporting	26
Chippewa	MI001268	Sherman Park	TB/PB - supporting	16
Iosco	MI320125	Au Sable Township Park	TB – insufficient info PB – supporting	58
Macomb	MI000560	New Baltimore Park Beach	PB – supporting	18
Wayne	MI000344	Pier Park	PB – supporting	35

For example, Brimley State Park Beach and Sherman Park Beach in Chippewa County are now listed as fully supporting total and partial body contact recreation. However, according to Michigan’s BeachGuard database, Brimley State Park Beach monitoring data exceeded the daily mean (300 *E.coli* per 100 mL) and/or 30-day geometric mean (130 *E.coli* per 100 mL) water quality standard for total body contact recreation 12 times in 2010 and 30 times in 2011. Sherman Park Beach monitoring data exceeded the daily mean and/or 30-day geometric mean water quality standard for total body contact recreation 4 times in 2010 and 14 times in 2011. Given that water quality standards are repeatedly exceeded at these locations and that there were a high number of days the beaches were closed or unsafe for swimming in 2010, MDEQ should consider listing them as impaired for total and/or partial body recreation due to *E. coli*. Singing Bridge Beach is proposed to be delisted for partial body contact recreation; however, monitoring data show that water quality standard for total body contact recreation exceeded the daily mean and/or 30-day geometric mean 21 times for 2010 and 13 times for 2011. There

were also 33 Beach Action Days at the Singing Bridge Beach in 2010. MDEQ does not provide a detailed explanation of the delisting decision, citing simply that “State Determines water quality standard is being met.” Similarly Au Sable Township Park, New Baltimore Park Beach, and Pier Park Beach are listed as fully supporting partial body contact recreation; however, all of them experienced 14 or more Beach Action Days due to high *E.coli* in 2010. The Alliance urges MDEQ to reevaluate this status or at the very least provide a detailed explanation about this decision.

Furthermore, Au Sable Township Park Beach deserves an additional mention due to the fact that it is not listed as impaired for total body contact recreation because of insufficient information. This beach was closed for 58 days in 2010 due to a contamination resulting in high *E.coli* levels. During that period, BeachGuard indicates no sampling was conducted. The reasons for this lapse are not provided. Had there been sampling conducted that indicated *E.coli* levels exceeding water quality standards, MDEQ might have had a sufficient number of measurements to make an appropriate judgment. A beach that is closed for 2 months during the swimming season is hardly a beach that supports total body contact recreation.

Additionally, due to elevated *E. coli* levels detected by Alliance’s Adopt-a-Beach™ volunteers, the Alliance also requests that MDEQ consider listing several additional beaches. Elevated *E. coli* levels were found at a number of beaches across Michigan, which are listed in Table 4. Based on the *E. coli* results detected by these volunteers, the Alliance asks MDEQ to re-evaluate these beaches and consider them for listing. Private beaches, such as Greenpoint Dunes preserve in Benzie County, need to be considered as well for statewide listings such as this.

**Table 4. Beaches with *E. coli* counts when at least one of the measurements reached the daily maximum of 300 CFU/100 mL. \*indicates beaches not evaluated by MDEQ.**

Date	Beach name	County	CFU/100 mL
7/28/2011	Pier Cove Beach	Allegan	100, 600
8/28/2011	Pier Cove Beach	Allegan	300
9/17/2010	Skaneec Park in Arvon Township*	Baraga	400, 400
6/14/2011	Bay City State Recreation Area	Bay	1800
6/14/2011	Greenpoint Dunes*	Benzie	0, 1300
9/5/2010	Lions Park	Berrien	500, 300
9/15/2011	Harbert Road Beach	Berrien	0, 0, 400
9/17/2011	Jean Klock Park	Berrien	100, 300, 700
9/22/2010	Chassell Beach	Houghton	900, 0
5/22/2010	Pere Marquette Park South of beach concession stand	Muskegon	500, 200
7/7/2010	Rosy Mound Recreation Area	Ottawa	0, 600
7/8/2010	Rosy Mound Recreation Area	Ottawa	900, 1500
4/24/2010	James Street Beach*	Ottawa	600, 0
7/15/2010	Kirk Park	Ottawa	0, 700
5/29/2010	Southwood Beach	Sanilac	1100, 200

**Table 4. (Continued)**

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Date	Beach name	County	CFU/100 mL
6/19/2010	Southwood Beach	Sanilac	0, 500
7/3/2010	Southwood Beach	Sanilac	0, 200, 2500
5/11/2011	Belle Isle Beach	Wayne	500
7/20/2011	Belle Isle Beach	Wayne	0, 200, 400
8/13/2011	Riviera Beach*	Macomb	200, 200, 2800
9/17/2011	Riviera Beach*	Macomb	100, 1100, 1400, 2100, 1000
11/5/2011	Riviera Beach*	Macomb	800, 300, 200, 200, 0

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Thank you for the opportunity to submit these comments. Should you have any questions about these comments, please do not hesitate to contact me at 312-939-0838 x 230 or [lwelch@greatlakes.org](mailto:lwelch@greatlakes.org).

Sincerely,



Lyman C. Welch  
Manager, Water Quality Program  
Alliance for the Great Lakes



Olga Lyandres  
Water Quality Intern  
Alliance for the Great Lakes