

**STATE OF MINNESOTA  
POLLUTION CONTROL AGENCY**

**In the Matter of the Decision to Deny the Petitions for  
a Contested Case Hearing and to Submit the Draft  
Chippewa River Turbidity Total Maximum Daily  
Load to the U.S. Environmental Protection Agency  
for Approval**

**FINDINGS OF FACT,  
CONCLUSIONS OF LAW  
AND ORDER**

Pursuant to the federal Clean Water Act (33 U.S. Code Sec. 1251-1387) the Minnesota Pollution Control Agency (MPCA) staff prepared the draft Chippewa River Turbidity Total Maximum Daily Loads (TMDLs) for submission to the U.S. Environmental Protection Agency (EPA) for approval. After affording all interested persons the opportunity to present written and oral data, statements, and arguments to the MPCA, and after considering all of the evidence in the records, files, and proceedings herein, the MPCA Commissioner, being fully advised, hereby adopts the following Findings of Fact, Conclusions of Law and Order.

**I. FINDINGS OF FACT**

**A. Jurisdiction**

1. The MPCA is authorized and required to administer and enforce all laws relating to the pollution of any waters of the state. Minn. Stat. § 115.03, subd. 1(a).
2. The MPCA is also authorized “to investigate the extent, character, and effect of the pollution of the waters of this state and to gather data and information necessary or desirable in the administration or enforcement of pollution laws, and to make such classification of the waters of the state as it may deem advisable.” Minn. Stat. § 115.03, subd. 1(b).
3. The MPCA Commissioner is authorized to decide on behalf of the MPCA whether to grant or deny the petitioners request for a Contested Case Hearing in this matter. Minn. Stat. § 116.03, subd. 1(c) (2012).
4. Similarly, the MPCA Commissioner is authorized to order TMDLs be submitted to EPA. *Id.*

**B. Background/ Overview of TMDL Process**

5. Congress passed the Clean Water Act in 1972 to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” 33 U.S.C. § 1251. To achieve this, Congress sought to eliminate the discharge of pollutants into the navigable waters. *Id.* The Clean Water Act requires that states establish water quality standards, based on the designated use for that particular body of water. 33 U.S.C. §1313 (a)-(c).

6. The Clean Water Act focuses on two possible sources of pollution: point sources and nonpoint sources. In addition, the Clean Water Act includes two basic types of pollution control requirements; technology-based effluent limits and water-quality effluent limits. 40 C.F.R. § 130.
7. Point sources are defined as “any discernible, confined, and discrete conveyance,” including pipes, ditches, conduits or vessels “from which pollutants are or may be discharged.” 33 U.S.C. §1362(14).
8. Nonpoint sources include any non-discrete source, such as runoff from agriculture, silviculture, forestry, and construction activities.
9. Nonpoint sources are not regulated by permits due to the difficulty involved in tracing the pollution back to a particular point, measuring it and setting an acceptable level for that point. *Sierra Club v. Meiburg*, 296 F.3d 1021, 1025 (11<sup>th</sup> Cir. 2002).
10. Point source pollution is subject to technology-based controls imposed by the National Pollution Discharge Elimination System (NPDES) permit process. The NPDES permit process sets quantitative limits on the amount of pollutants released from each point source. The EPA delegated its duties to establish and operate its NPDES permit programming authority to the State of Minnesota, which operates the program through the MPCA. 33 U.S.C. §1342 (b).
11. NPDES permits include technology-based effluent limits and also may include water quality effluent limits to meet water quality standards.
12. Technology-based controls are minimum pollution control requirements that must be met regardless of the potential impact a discharge may have on a receiving water. Technology-based controls are discharge limitations based on the capabilities of an industry or class of dischargers to treat influent by using pollution control technology. Technology-based controls consider technological feasibility and cost and specify the quality of effluent a discharger may release to surface waters.
13. Water quality based effluent limits consider the impact a discharge will have on the receiving water. When water quality effluent limits are developed, technical feasibility and economic reasonableness are not factors considered.
14. Achieving the specific water quality standard applied to a body of water may require more stringent limitations on point-source discharges, due to the contribution of pollutants from nonpoint sources. *Id.* Individual discharge permits will be adjusted and other measures taken, to reduce the amount of a pollutant in a water body to the level specified in the applicable TMDL.

15. Section 303(d) of the Clean Water Act establishes the TMDL program, a water-quality based approach to regulating waters that fail to meet water quality standards despite the application of effluent limits and other pollution control requirements to those waters. 33 U.S.C. § 1313(d)(1)(A)-(C).
16. TMDLs are water-quality based controls. They are used to supplement technology-based controls where necessary. If technology-based effluent limits are, for some reason, failing to ensure that a given water is meeting all applicable water quality standards, then more stringent requirements based on the actual quality of the receiving water may be imposed. 33 U.S.C. § 1313(d)(1)(A)-(C).
17. A TMDL expresses the maximum amount of a particular pollutant that can pass through a water body each day without violating water quality standards. 33 U.S.C. § 1313(d)(1)(C) and (D).
18. Section 303(d)(1) requires each state provide the EPA a list of all waters within the state boundaries that do not comply with applicable water quality standards despite the application of effluent limits to those waters. 33 U.S.C. § 1313(d)(1)(A) and (B). This list is known as the “303(d) list.”
19. Each body of water where it is known that water quality does not meet applicable water quality standards, and/or is not expected to meet applicable water quality standards, even after the application of the technology-based effluent limitations required is known as a “reach” or “water quality limited segment” (WQLS or “limited segment”). 40 C.F.R. § 130.2(j).
20. Minnesota must set a TMDL for every pollutant in each reach preventing or impeding compliance with applicable water quality standards. 33 U.S.C. § 1313(d)(1)(C); 40 CFR 130.7(c)(ii)(1)(ii).
21. A TMDL is the sum of the allocated loads of pollutants set at a level necessary to meet the applicable water quality standards. A TMDL includes wasteload allocations from point sources, load allocations from nonpoint sources and natural background conditions, a margin of safety, and in some cases a reserve capacity if determined to be necessary for future growth. A TMDL must also consider seasonal variations. 33 U.S.C. § 1313(d)(1)(C) and (d)(1)(D)(3); 40 C.F.R. § 130.7 (6)(c)(1). (*See also*, U.S. Environmental Protection Agency, “Guidance for Water Quality-Based Decisions: The TMDL Process,” Office of Water, *WH-S53*, Washington D.C., April 1991). 40 C.F.R. § 130.2(i). This process was followed by MPCA in developing the draft Chippewa River Turbidity TMDL.
22. A Wasteload Allocation (WLA) is the portion of a TMDL allocated to existing and/or future point sources. 40 C.F.R. § 130.2(h).

23. A Load Allocation (LA) refers to the portion of a receiving water's loading capacity attributed to nonpoint sources of pollution and natural background sources. Load allocations are best estimates of the loading, which can range from reasonably accurate estimates to gross allotments, depending on the availability of data and appropriate techniques for predicting the loading. Wherever possible, natural and nonpoint source loads should be distinguished. 40 CFR § 130.2 (g).
24. The EPA defines "natural background level" as "chemical, physical, and biological levels representing conditions that would result from natural processes, such as weathering and dissolution." U.S. E.P.A., *Clean Water Act, Total Maximum Daily Loads (303d): Glossary*, <http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/glossary.cfm>
25. Minnesota Rule 7050.0150, subp. 4 defines "Natural causes" as the multiplicity of factors that determine the physical, chemical, or biological conditions that would exist in a water body in the absence of measurable impacts from human activity or influence. Minn. R. 7050.0150, subp. 4 (2011).
26. Minnesota Statute § 114D.15, subd. 10, the Clean Water Legacy Act, defines "natural background" as meaning "characteristics of the water body resulting from the multiplicity of factors in nature, including climate and ecosystem dynamics, that affect the physical, chemical, or biological conditions in a water body, but does not include measurable and distinguishable pollution that is attributable to human activity or influence." Minn. Stat. § 114D.15, subd. 10 (2012).
27. Based on the definitions provided by EPA and in Minnesota Statute and Rule, the MPCA hereby finds that "natural background" is the condition that occurs outside of human influence.
28. A Margin of Safety (MOS) accounts for the uncertainty about the relationship between the pollutant loads and the quality of the receiving water body. The MOS is normally "implicit" and incorporated into the conservative assumptions used to develop TMDLs (generally within the calculations or models). This is particularly true where the pollution is largely by nonpoint sources. If the MOS needs to be larger than the "implicit" levels, additional MOS can be added explicitly as a separate component of the TMDL. U.S. E.P.A., Office of Water, *Protocol for Developing Sediment TMDLs*, EPA 841-B-99-004 (1999), available at [http://water.epa.gov/type/watersheds/named/msbasin/upload/1999\\_12\\_8\\_tmdl\\_sediment\\_sediment.pdf](http://water.epa.gov/type/watersheds/named/msbasin/upload/1999_12_8_tmdl_sediment_sediment.pdf).
29. Reserve Capacity (RC) is that portion of the TMDL that accommodates future loads. The MPCA's policy on reserve capacity is that it be considered by all TMDL projects, and the TMDL should clearly describe the rationale for a decision regarding this issue.

30. Reserve capacity can be ascribed singly to the WLA, the LA or both. Inclusion for an allocation for reserve capacity is helpful in a number of situations which would include new and expanding Wastewater Treatment Facilities (WWTF's), Municipal Separate Storm Sewer Systems (MS4s) that will be covered by a permit in the future or that are permitted now and may expand, and/or land use changes. If an allocation for reserve capacity is not included, either no new future loads are anticipated or allowed, or increased loads must be accommodated by pollutant trading.
31. A TMDL may be expressed as the equation:  $WLA + LA + MOS + RC = TMDL$  (note: seasonal flow variations are considered throughout the TMDL development, though the use of the load duration curve approach).
32. Reserve capacity was considered but not included in the loading calculations because population growth in the watershed is not expected to increase significantly and a process to incorporate new or expanding point sources is established.
33. An important distinction must be made between a water body impaired due to natural or anthropogenic factors. If a water body is determined not to meet water quality standards solely due to natural conditions, a TMDL is not required and the natural background condition becomes the standard (U.S. E.P.A., Office of Wetlands, Oceans, and Watersheds, *Consolidated Assessment and Listing Methodology, Toward a Compendium of Best Practices* (2002); Minn. R. 7050.0170). Natural background standards have consequences for future sources since loading increases that result in a "discernable impact from point or nonpoint source pollutants attributable to human activity" are not permissible.
34. In June 2009, MPCA formed a "Natural Background for Streams Workgroup" to develop an approach for considering natural background conditions when assessing streams for dissolved oxygen.
35. In June 2010, MPCA formed a workgroup to develop a process to assess lakes for eutrophication.
36. The MPCA developed two guidance documents related to the assessment of natural background in water quality: Minnesota Pollution Control Agency, *Natural Background and Water Quality: Guidance Document for Assessment of Aquatic Life Use Support*, Doc. No. wq-s1-62 (2009), available at <http://www.pca.state.mn.us/index.php/view-document.html?gid=8603>; Minnesota Pollution Control Agency, *Guidance for Considering Natural Background When Assessing Lakes for Eutrophication* available at <http://www.pca.state.mn.us/index.php/view-document.html?gid=16325>. Doc. No. WQ-51-63 (2011)

37. The EPA promulgated guidance for the individual states to follow as they develop their proposed TMDLs. The proposed TMDL in this case is consistent with EPA guidance as set forth in U.S. E.P.A., Office of Water, *Protocol for Developing Sediment TMDLs*, EPA 841-B-99-004 (1999), available at [http://water.epa.gov/type/watersheds/named/msbasin/upload/1999\\_12\\_8\\_tmdl\\_sediment\\_sediment.pdf](http://water.epa.gov/type/watersheds/named/msbasin/upload/1999_12_8_tmdl_sediment_sediment.pdf).

38. In addition to EPA guidance the MPCA developed a "Sediment TMDL Protocols and Submittal Requirements" guidance document to further aid local entities in the development of TMDLs. Minnesota Pollution Control Agency, *Sediment TMDL Protocols and Submittal Requirements*, (2007), available at <http://www.pca.state.mn.us/index.php/view-document.html?gid=8525>.

**C. *The draft Chippewa River Turbidity TMDL / Stakeholder Involvement, Public Notice and Comment Period***

39. The proposed TMDL at issue in this case is the draft Chippewa River Turbidity TMDL. The draft Chippewa River Turbidity TMDL encompasses nine (9) impaired reaches within the Chippewa River watershed.

40. The specific objective in the draft Chippewa River Turbidity TMDL is to determine the type and degree of pollutant source reductions needed to achieve the water quality standard of 25 Nephelometric Turbidity Units (NTU).

41. The draft Chippewa River Turbidity TMDL was developed by the Chippewa River Watershed Project, a local joint powers organization, subcontracting with Wenck and Associates, an environmental consulting/engineering firm, in a manner consistent with EPA guidance, MPCA protocol, and previously EPA-approved Turbidity TMDLs.

42. In its Protocol for Developing Sediment TMDLs, EPA advised that "Analysts should be resourceful and creative in selecting TMDL approaches. Decisions regarding the extent of the analysis should always be made on a site-specific basis as part of a comprehensive, problem-solving approach." U.S. E.P.A., Office of Water, *Protocol for Developing Sediment TMDLs*, EPA 841-B-99-004 (1999), available at [http://water.epa.gov/type/watersheds/named/msbasin/upload/1999\\_12\\_8\\_tmdl\\_sediment\\_sediment.pdf](http://water.epa.gov/type/watersheds/named/msbasin/upload/1999_12_8_tmdl_sediment_sediment.pdf).

43. A Stakeholder Advisory Group was established and utilized in the development of the draft Chippewa River Turbidity TMDL. A collaboration of local, state, and federal agencies, interest groups, organizations, and citizens were invited and participated in this process to provide input for the development of the draft Chippewa River Turbidity TMDL.

44. Two public information meetings were held in January 2009. The Stakeholder Advisory Group met nine times between January and April 2011.
45. The draft Chippewa River Turbidity TMDL was sent to EPA for preliminary review and comment in March 2012. The draft Chippewa River Turbidity TMDL was revised based on EPA comments and a response was sent to EPA in September 2012.
46. The public notice comment period for the draft Chippewa River Turbidity TMDL was September 24, 2012 through October 24, 2012. The draft Chippewa River Turbidity TMDL along with a fact sheet detailing the TMDL were posted on the MPCA website. A press release announcing the public notice comment period was also e-mailed to the list of known interested parties on September 24, 2012.
47. The MPCA received as e-mail attachments a total of four essentially identical Petitions for a Contested Case Hearing on the draft Chippewa River Turbidity TMDL. The Petitions for Contested Case Hearing are hereby incorporated by reference as Appendix A to these findings.
48. A total of four comment letters from a mix of producers, producer groups, and the Minnesota Department of Natural Resources were received as email attachments during the comment period. The three letters submitted by the producers and producer groups were essentially identical copies. The MPCA's *Response to Comments* document is hereby incorporated by reference as Appendix B to these findings.
49. The MPCA finds the four comment letters and four petitions for Contested Case Hearing received were timely.

***D. Petitions for a Contested Case Hearing***

50. Minn. R. 7000.1800, subp. 2, Contested case petition contents, subp. A, requires that a petition include:
  - (1) a statement of reasons or proposed findings supporting the board or commissioner decision to hold a contested case hearing pursuant to the criteria in Minn. R. 7000.1900, subpart 1; and
  - (2) a statement of the issues proposed to be addressed by a contested case hearing and the specific relief requested or resolution of the matter.
51. The MPCA's decision whether to grant the petitions for a Contested Case Hearing is governed by Minn. R. 7000.1900, Criteria To Hold Contested Case Hearing, subp. 1, which states:

**Subpart 1. Board or commissioner decision to hold Contested Case Hearing.** The board or commissioner must grant the petition to hold a contested case hearing or order upon its own motion that a contested case hearing be held if it finds that:

- A. there is a material issue of fact in dispute concerning the matter pending before the board or commissioner;
- B. the board or commissioner has the jurisdiction to make a determination on the disputed material issue of fact; and
- C. there is a reasonable basis underlying the disputed material issue of fact or facts such that the holding of a contested case hearing would allow the introduction of information that would aid the board or commissioner in resolving the disputed facts in making a final decision on the matter.

- 52. In order to satisfy the first requirement, Minn. R. 7000.1900, subp. 1(A), the hearing requester must show there is a material issue of fact in dispute as opposed to a disputed issue of law or policy. A fact is material if its resolution will affect the outcome of a case. *O'Malley v. Ulland Brothers*, 540 N.W.2d 889, 892 (Minn. 1996).
- 53. In order to satisfy the second requirement, Minn. R. 7000.1900, subp. 1(B), the petitioner(s) must show that the MPCA has jurisdiction or authority to make a determination on the disputed issues of material fact. "Agencies are not permitted to act outside the jurisdictional boundaries of their enabling act." *Cable Communications Board v. Nor-West Cable*, 356 N.W.2d 658, 668 (Minn. 1984). Therefore, each issue in the contested case request has to be such that it is within the MPCA's authority to resolve.
- 54. Finally, under Minn. R. 7000.1900, subp. 1(C), the petitioner(s) has the burden of demonstrating there is a reasonable basis underlying the disputed material issue of fact or facts such that the holding of a contested case hearing would allow the introduction of information that would aid the MPCA in making a final decision on the matter. *In the Matter of Solid Waste Permit for the NSP Red Wing Ash Disposal Facility*, 421 N.W.2d 398, 404 (Minn. App. 1988). To do so, the petitioner(s) may provide the MPCA with specific expert's names, and with any indication of what specific *new facts* an expert might testify to at a contested case hearing. The Minnesota Supreme Court has recognized that to meet this test, "it is simply not enough to raise questions or pose alternatives without some showing that evidence can be produced which is contrary to the action proposed by the MPCA" (*See In the Matter of Amendment No. 4 to Air Emission Facility Permit*, 454 N.W.2d 427, 430 (Minn. 1990)).



55. All three criteria of Minn. R. 7000.1900, subp. 1 must be satisfied for the MPCA to grant a petition for a contested case hearing.

***E. Evaluation of Petitions for Contested Case Hearing "Matters of Concern" and "Issues To Be Addressed by Contested Case Hearing"***

56. The four Petitions for a Contested Case Hearing contained the following identical language of the "matter of concern," "issues to be addressed by contested case hearing," and "request for information:"

a. Matters of Concern

"The undersigned petitioners find that the Chippewa River Turbidity TMDL report fails to properly account for and quantify "natural background" levels as required by the Minnesota Clean Water Legacy Act (CWLA)(MS 114D.15, subdivision 10); as well as, the Natural Water Quality section (7050.0170) of the MN Chapter 7050 rules. "Where background levels exceed applicable standards, the background levels may be used as the standards for controlling the addition of the same pollutants from point or nonpoint source discharges in place of the standards."

The CWLA (MS §114D.15, subdivision 10) states that "*Natural background' means characteristics of the water body resulting from the multiplicity of factors in nature, including climate and ecosystem dynamics, that affect the physical, chemical, or biological conditions in a water body, but does not include measurable and distinguishable pollution that is attributable to human activity or influence.*" This definition of Natural Background was developed and agreed to by the G-40 Stakeholder group that provided substantial input for the Minnesota Clean Water Legacy Act legislation. The G-40 included representatives from state agencies, including the Minnesota pollution [sic] Control Agency (MPCA), Agriculture Groups and Environmental groups.

The natural background definition clearly indicates non-point sources must be distinguishable and measureable to be given an allocation other than natural background. It is unreasonable to try to "fix" sources that can't be identified and quantified as to anything other than Mother Nature. Measurable and distinguishable evidence that establishes the source of the Load Allocation being attributable to human activity or influence was not provided. In fact, numerous studies have established that the processes that cause the vast majority of the total suspended

solids (TSS) load in the Chippewa River Watershed are natural processes that have existed since the Minnesota River was first formed. Dr Satish Gupta established in his LiDAR study of Blue Earth County that banks and bluffs are the primary source of TSS to the Blue Earth River System. These same natural processes are occurring in the Chippewa River system and have been occurring since the river was formed. Many other researchers have drawn similar conclusions.

The Chippewa River Turbidity TMDL study fails to properly account for the components that contribute to turbidity. Dr. Robert Megard, a Minnesota River Turbidity TMDL Technical Advisory committee member, raised the issue that the organic fraction of the TSS can be a much greater contributor to turbidity than the mineral fraction (May 1, 2009, U of Minnesota, Water Quality Seminar). A 2010 U.S. Geological Survey (USGS) technical Report on pools in the Upper Mississippi River showed that the volatile suspended solids (VSS) had substantially more impact on turbidity than non-volatile suspended solids (NVSS), Giblin, USGS Technical Report 2010-TOO1. The VSS impact on turbidity was about 15 times greater than the NVSS on a weight basis. The VSS effect found in the USGS study is similar to what Megard determined for the South Metro stretch of the Mississippi. The draft Chippewa River TMDL report indicates on page 4-10 that VSS in the Chippewa River ranged from 21-36% of the TSS. Monitoring data from other watersheds in the Minnesota River Basin indicate a similar range in the VSS. This evidence indicates that the VSS could be the dominant source of the turbidity in the Chippewa River.

A simple multiple regression correlation, similar to what Megard and others have done on other rivers, would be able to determine the magnitude of the affect that VSS has on turbidity in the Chippewa River. The Chippewa River Turbidity TMDL has failed to account for this important component of the TSS and this has resulted in an erroneous load allocation. It is likely that wetlands and grasslands near the river are a major source of the VSS. Proper identification and quantification of all the sources of turbidity, including the VSS, is necessary for the Reasonable Assurance requirement of the Chippewa River Turbidity TMDL.

The petitioners ask that the MPCA properly determine the natural background levels of the load allocation, as well as, determine load

allocations that properly account for impact of volatile suspended solids on the turbidity measurements. The petitioners also request the load allocations be determined using measurable and distinguishable evidence as is established in the Minnesota Clean Water Legacy Act.”

b. Issues to be addressed by contested case hearing

“The undersigned petitioners request the MPCA address the legal requirements of the Chippewa River Turbidity TMDL under the US Clean Water Act and the Minnesota Clean Water Legacy Act. These requirements include a quantifiable load allocation of all sources that have been identified; quantification of the natural background loading; and, the establishment of a natural background standard which is consistent with the definition in the CWLA.”

57. The MPCA evaluated the Petitions for a Contested Case Hearing to determine if the above stated “matters of concern” and “issues to be addressed” meet the three required criteria in Minn. R. 7000.1900, subp. 1. The MPCA makes the following specific Findings regarding the “matters of concern” and “issues to be addressed” raised by the petitioners. The petitions for a contested case hearing fail to satisfy the requirements of Minn. R. 7000.1900, subpart. 1, for the following reasons:

a. ***MPCA response to “Matters of Concern” related to natural background***

1. MPCA finds the petitions fail criterion A because they fail to state a material issue of fact and instead dispute an issue of MPCA’s policy, whether MPCA should include a separate, explicit load allocation for natural background sources, separate from nonpoint sources, in the Chippewa River TMDL:

- i. The draft Chippewa River Turbidity TMDL contains general discussion of natural background sources of turbidity. The MPCA does not dispute that the draft Chippewa River Turbidity TMDL does not include a separate, explicit load allocation for natural background sources. This TMDL was developed using EPA guidance. A separate, explicit load allocation for natural background sources is not required. (U.S. E.P.A., Office of Water, *Protocol for Developing Sediment TMDLs*, EPA 841-B-99-004 (1999), available at [http://water.epa.gov/type/watersheds/named/msbasin/upload/1999\\_12\\_8\\_tmdl\\_sediment\\_sediment.pdf](http://water.epa.gov/type/watersheds/named/msbasin/upload/1999_12_8_tmdl_sediment_sediment.pdf).)
- ii. The following definition of a TMDL contains the only references to “natural background” found in the Minnesota Statute Chapter 114D, the

Clean Water Legacy Act: *Minn. Stat. § 114D.15, Subd. 10. Total maximum daily load or TMDL.*

*“Total maximum daily load” or “TMDL” means a scientific study that contains a calculation of the maximum amount of a pollutant that may be introduced into a surface water and still ensure that applicable water quality standards for that water are restored and maintained. A TMDL also is the sum of the pollutant load allocations for all sources of the pollutant, including a wasteload allocation for point sources, a load allocation for nonpoint sources and natural background, an allocation for future growth of point and nonpoint sources, and a margin of safety to account for uncertainty about the relationship between pollutant loads and the quality of the receiving surface water. “Natural background” means characteristics of the water body resulting from the multiplicity of factors in nature, including climate and ecosystem dynamics, that affect the physical, chemical, or biological conditions in a water body, but does not include measurable and distinguishable pollution that is attributable to human activity or influence. A TMDL must take into account seasonal variations.*

- iii. This definition indicates nonpoint sources and natural background are both part of the load allocation. The definition does not require a separate, explicit load allocation for natural background sources.
- iv. Federal Clean Water Act requirements for TMDLs are codified in the Water Quality Planning and Management Regulations at Title 40, Part 130 of the Code of Federal Regulations (CFR). Section 130.2 contains the following definitions:

*(g) Load allocation (LA). The portion of a receiving water’s loading capacity that is attributed either to one of its existing or future nonpoint sources of pollution or to natural background sources. Load allocations are best estimates of the loading, which may range from reasonably accurate estimates to gross allotments, depending on the availability of data and appropriate techniques for predicting the loading. Wherever possible, natural and nonpoint source loads should be distinguished.*

*(i) Total maximum daily load (TMDL). The sum of the individual WLAs for point sources and LAs for nonpoint sources and natural background. If a receiving water has only one point source discharger, the TMDL is the sum of that point source WLA plus the LAs for any nonpoint sources of pollution and natural background sources, tributaries, or adjacent segments. TMDLs can be expressed in terms of either mass per time, toxicity, or other appropriate measure. If Best Management Practices (BMPs) or other nonpoint source pollution controls make more stringent load allocations practicable, then wasteload allocations can be made less stringent. Thus, the TMDL process provides for nonpoint source control tradeoffs.*

- v. The final sentence of the load allocation definition indicates that natural and nonpoint source loads should be distinguished “wherever possible.” In the case of the draft Chippewa River Turbidity TMDL, and other turbidity TMDLs completed by the MPCA and approved by EPA, MPCA staff examined whether it was possible to distinguish and separate out natural background loads from nonpoint source loads and determined that it was not possible to distinguish natural background loads clearly enough to support separate load allocations. MPCA staff considered whether it was possible to differentiate natural background as a separate component of the load allocation. It was determined this was not reasonable and not practical based on the complexity of the problem, the time constraints, the availability of resources, monitoring data, and the management objectives under consideration.
- vi. According to the Minnesota Rule Chapter 7050.0170, natural background levels can be used as the standard in streams that are in a natural condition. The Chippewa River is not considered by the MPCA to be in a natural condition due to human activity thus a standard based on natural background is not used.
- vii. Stream erosion is a natural process, but the rate that it occurs can be accelerated by human activity. Whether stream erosion is occurring at background rates vs. an accelerated rate has been well studied and is well understood. The erosion rate in the Chippewa River Watershed, which has undergone significant land use change since pre-settlement times, is occurring at an anthropogenically-accelerated rate.

2. MPCA finds the petitions fail criterion C because there is no reasonable basis underlying the disputed material issue of fact or facts such that the holding of a contested case hearing could allow the introduction of information that would aid the board or commissioner in resolving the disputed facts in making a final decision on the matter:

- i. The MPCA finds there is not a reasonable basis such that holding a contested case hearing to discuss MPCA's policy decision whether MPCA should include a separate, explicit load allocation for natural background sources, separate from nonpoint sources, in the Chippewa River TMDL would not aid the Board or Commissioner in the decision whether to approve this TMDL.
- ii. The MPCA finds EPA guidance was followed for the development of the Chippewa River TMDL and no substantive change would result in the load allocation, and therefore, no substantive change would result to the TMDL.

b. ***“Issues to be addressed by a Contested Case Hearing”. Petitioners “request the MPCA address the legal requirements of the Chippewa River Turbidity TMDL under the US Clean Water Act and the Minnesota Clean Water Legacy Act. These requirements include a quantifiable load allocation of all sources that have been identified; quantification of the natural background loading; and, the establishment of a natural background standard which is consistent with the definition in the CWLA.”***

1. MPCA finds the petitions fail criterion A because they fail to state a material issue of fact:

- i. A total suspended solids (TSS) surrogate for the turbidity standard in the Chippewa River was set using data from the Chippewa River. The turbidity standard does not require separation of the components of turbidity. However, because of the question raised by the petitioner, the MPCA looked into the sources identified in the TMDL and considers them accurate.
- ii. The surrogate incorporates volatile suspended solids (VSS) because VSS is a component of TSS. The load allocation properly accounts for the components that contribute to turbidity, including TSS and VSS.

- iii. The TSS loading capacity for the reaches was calculated and that value was used to calculate the TSS load allocation.
- iii. The MPCA considers the TSS load allocation to be accurately calculated.
- iv. How TSS and VSS are accounted for in the load allocation of the Chippewa River TMDL is a matter of MPCA policy.
- v. MPCA did an analysis on turbidity data on the Chippewa River. A simple linear regression correlation analysis of data from the Chippewa River indicates that the correlation between the ratio of VSS to TSS and turbidity is low. As the ratio of VSS to TSS increases, turbidity levels tend to be less than the turbidity standard. In addition, the weak correlation in the regression suggests that VSS is not a stronger driver of turbidity than the inorganic portion of TSS.
- vi. Contrary to the petitioners' claim, a preliminary multiple regression correlation analysis of the Chippewa River data confirmed that the organic portion of TSS (VSS) does *not* have a greater effect on turbidity than the inorganic portion.
- vii. Petitioners raise a policy question or a question of law and fail to raise a disputed material issue of fact. Thus a contested case hearing is not appropriate.

2. MPCA finds the petitions fail criterion C because there is no reasonable basis underlying the disputed material issue of fact or facts such that the holding of a contested case hearing could allow the introduction of information that would aid the board or commissioner in resolving the disputed facts in making a final decision on the matter:

- i. MPCA staff considered whether it was possible to differentiate the effect VSS has on TSS using a multiple regression correlation analysis. It was determined this was not reasonable and not practical based on the results of a preliminary multiple regression correlation analysis, the time constraints, the availability of resources and cost, and the management objectives under consideration.

58. Petitioners fail to demonstrate that holding a Contested Case Hearing would allow for the introduction of new information that would be helpful to the MPCA in reaching a decision in this matter.

59. In light of the above, MPCA finds there is no material issue of fact in dispute concerning the matter pending before the board or commissioner no as required by Minn. R. 7000.1900, criterion A.
60. In light of the above, MPCA finds there is no reasonable basis underlying “the disputed material issue of fact or facts such that the holding of a contested case hearing could allow the introduction of information that would aid the board or commissioner in resolving the disputed facts in making a final decision on the matter” as required by Minn. R. 7000.1900, criterion C.
61. As part of the four petitions, Petitioners included Requests for Information from MPCA. (See page 4 of Appendix A “Petitions for Contested Case Hearing.”) The MPCA fulfilled the Requests for Information on November 21, 2012. There was no further contact from the Petitioners since the four petitions were received and MPCA’s response to their Requests for Information was sent.

## II. CONCLUSIONS OF LAW

1. Based on Minn. R. 7000.1900, the MPCA has jurisdiction to decide whether a Contested Case Hearing should be granted or denied.
2. The requirements of Minn. R. 7000.1900 part A and C have not been met with respect to the issues raised by Petitioners in the request for a Contested Case Hearing and therefore, the petitions should be denied, based upon the reasons set forth in this document.
3. Due, adequate and timely public notice of the proposed draft Chippewa River Turbidity TMDL was given in accordance with Minn. R. 7001.0100, subps. 4 and 5.
4. The four identical Petitions for a Contested Case Hearing received were timely.
5. The MPCA determines the matter of concern and issues to be addressed by petitioners on the draft Chippewa River Turbidity TMDL do not meet the requirements for granting a Contested Case Hearing because the petitions fail to meet the requirements of criteria A and C of Minn. R. 7000.1900.
6. Any findings that might properly be termed conclusions and any conclusions that might properly be termed findings are hereby adopted as such.
7. The Requests for Information included in the four Petitions for a Contested Case Hearing were satisfied as of November 21, 2012.




### III. ORDER

The four Petitions for Contested Case Hearing are hereby denied in their entirety.

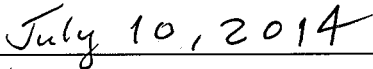
The draft Chippewa River Turbidity TMDL shall be sent to U.S. EPA for approval.

#### IT IS SO ORDERED:



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John Linc Stine  
Commissioner  
Minnesota Pollution Control Agency



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Date

## **Appendix A – Petitions for Contested Case Hearing**

The following Contested Case Hearing Request (CCHR) was received from and signed by Anthony Hughes:

NTM, ADD  
PDF

Joseph Hauger  
Minnesota Pollution Control Agency  
504 Fairgrounds Road, Suite 200  
Marshall, MN 56258-1688

[joseph.hauger@state.mn.us](mailto:joseph.hauger@state.mn.us)

RE: Chippewa River Turbidity TMDL Study.

Mr. Hauger:

The undersigned petitioners include residents, landowners and farmers in the Chippewa River Watershed and the State of Minnesota. We support the long term objective of improving water quality, and are concerned that the proposed Chippewa River Turbidity TMDL fails to achieve this objective. Further, we are concerned that inadequate understanding of the cause and effect relationships between natural and man-induced water quality impacts will lead to misdirection of scarce resources. As local stakeholders, we have an interest in the protection and management of local soil and water resources.

Matters of Concern

The undersigned petitioners find that the Chippewa River Turbidity TMDL report fails to properly account for and quantify "natural background" levels as required by the Minnesota Clean Water Legacy Act (CWLA) (MS 114D.15, subdivision 10); as well as, the Natural Water Quality section (7050.0170) of the MN Chapter 7050 rules. "Where background levels exceed applicable standards, the background levels may be used as the standards for controlling the addition of the same pollutants from point or nonpoint source discharges in place of the standards."

The CWLA (MS 114D.15, subdivision 10) states that "*Natural background*" means characteristics of the water body resulting from the multiplicity of factors in nature, including climate and ecosystem dynamics, that affect the physical, chemical, or biological conditions in a water body, but does not include measurable and distinguishable pollution that is attributable to human activity or influence." This definition of Natural Background was developed and agreed to by the G-40 Stakeholder group that provided substantial input for the Minnesota Clean Water Legacy Act legislation. The G-40 included representatives from state agencies, including the Minnesota pollution Control Agency (MPCA), Agriculture Groups and Environmental groups.

The natural background definition clearly indicates non-point sources must be distinguishable and measureable to be given an allocation other than natural background. It is unreasonable to try to "fix" sources that can't be identified and quantified as to anything other than Mother Nature. Measurable and distinguishable evidence that establishes the source of the Load Allocation being attributable to human activity or influence was not provided. In fact, numerous studies have established that the processes that cause the vast majority of the total suspended solids (TSS) load in the Chippewa River Watershed are natural processes that have existed since the Minnesota River was first formed. Dr Satish Gupta established in his LiDAR study of Blue Earth County that banks and bluffs are the primary source of TSS to the Blue Earth River System. These same natural processes are occurring in the Chippewa River

system and have been occurring since the river was formed. Many other researchers have drawn similar conclusions.

The Chippewa River Turbidity TMDL study fails to properly account for the components that contribute to turbidity. Dr. Robert Megard, a Minnesota River Turbidity TMDL Technical Advisory committee member, raised the issue that the organic fraction of the TSS can be a much greater contributor to turbidity than the mineral fraction (May 1, 2009, U of Minnesota, Water Quality Seminar). A 2010 U. S. Geological Survey (USGS) technical Report on pools in the Upper Mississippi River showed that the volatile suspended solids (VSS) had substantially more impact on turbidity than non-volatile suspended solids (NVSS), Giblin, USGS Technical Report 2010-T001. The VSS impact on turbidity was about 15 times greater than the NVSS on a weight basis. The VSS effect found in the USGS study is similar to what Megard determined for the South Metro stretch of the Mississippi. The draft Chippewa River TMDL report indicates on page 4-10 that VSS in the Chippewa River ranged from 21-36% of the TSS. Monitoring data from other watersheds in the Minnesota River Basin indicate a similar range in the VSS. This evidence indicates that the VSS could be the dominant source of the turbidity in the Chippewa River.

A simple multiple regression correlation, similar to what Megard and others have done on other rivers, would be able to determine the magnitude of the affect that VSS has on turbidity in the Chippewa River. The Chippewa River Turbidity TMDL has failed to account for this important component of the TSS and this has resulted in an erroneous load allocation. It is likely that wetlands and grasslands near the river are a major source of the VSS. Proper identification and quantification of all the sources of turbidity, including the VSS, is necessary for the Reasonable Assurance requirement of the Chippewa River Turbidity TMDL.

The petitioners ask that the MPCA properly determine the natural background levels of the load allocation, as well as, determine load allocations that properly account for impact of volatile suspended solids on the turbidity measurements. The petitioners also request the load allocations be determined using measurable and distinguishable evidence as is established in the Minnesota Clean Water Legacy Act.

Proposed Actions

The undersigned petitioners request that MPCA hold a contested case hearing in this matter.

The MPCA must grant a party's petition to hold a contested case hearing if it finds that:

- A. There is a material issue of fact in dispute concerning the matter pending before the agency;
- B. The agency has the jurisdiction to make a determination on the disputed material issue of fact;
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- C. There is a reasonable basis underlying the disputed material issue of fact or fact such that the holding of a contested case hearing would allow the introduction of information that would aid the agency in resolving the disputed facts in making a final decision on the matter. Minn. R. 7000.1900, subpart 1.

Issues to be addressed by contested case hearing:

The undersigned petitioners request the MPCA address the legal requirements of the Chippewa River Turbidity TMDL under the US Clean Water Act and the Minnesota Clean Water Legacy

Act. These requirements include a quantifiable load allocation of all sources that have been identified; quantification of the natural background loading; and, the establishment of a natural background standard which is consistent with the definition in the CWLA.

Witnesses in this matter shall include the undersigned witnesses and other expert witnesses to be named later.

Publications, references and studies to be introduced include available data from US EPA Storet system, US EPA and MPCA Impaired Waters - TMDL protocols and various scientific studies and reports.

The undersigned petitioners estimate that it will require a full day to adequately address these matters.

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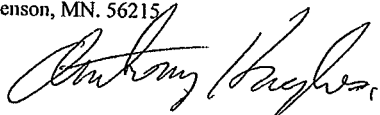
In preparing for the contested case, and pursuant to the Minnesota Government Data Practices Act (MS 13.01) the undersigned petitioners request MPCA provide an opportunity at the earliest convenient date to inspect and review the following data connected with the development of the Chippewa River Turbidity TMDL report.

1. All documents, final or drafts, regarding scope of work in preparing the Chippewa River Turbidity TMDL report.
2. All documents regarding the Chippewa River Turbidity TMDL report and work plan, including final and draft documents.
3. All technical, scientific, monitoring, laboratory testing data and Quality Control and Quality Assurance protocols, including electronic data (i.e. spreadsheets and data stored in electronic media) compiled or used in the development the Chippewa River Turbidity TMDL report.
4. Software utilized to analyze electronic data, including any models used in the development of the load and waste load allocations used to develop the Chippewa River Turbidity TMDL report.
5. Any and all documents including staff memorandums, emails or other correspondence relating to the technical, scientific, monitoring, laboratory testing data and Quality Control and Quality Assurance protocols used to develop the Chippewa River Turbidity TMDL report.

In accordance with Minn. Stat. 13.03, Subdivision 3, the petitioners further request that the MPCA designate one or more individuals to explain the meaning of all data that is produced.

We respectfully request that the MPCA to provide the information herein requested at the earliest convenient opportunity. Please Contact Anthony Hughes at 320-843-4501 to make the necessary arrangements.

Anthony Hughes  
655 Montana Ave.  
Benson, MN. 56215



The following CCHR was received from Anthony Hughes and was signed by Anthony T. Hughes, Stanley Claussen, Matt Claussen, Nathan P. Collins, Kirby Hettver, Mike O'Leary, Richard Syverson, and included unsigned names of Todd Wentzel, Steve Collins, Sean Collins, Andy Gordon:

ORIGINAL

Joseph Hauger  
Minnesota Pollution Control Agency  
504 Fairgrounds Road, Suite 200  
Marshall, MN 56258-1688

[joseph.hauger@state.mn.us](mailto:joseph.hauger@state.mn.us)

RE: Chippewa River Turbidity TMDL Study.

Mr. Hauger:

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#### Matters of Concern

The undersigned petitioners find that the Chippewa River Turbidity TMDL report fails to properly account for and quantify "natural background" levels as required by the Minnesota Clean Water Legacy Act (CWLA) (MS 114D.15, subdivision 10); as well as, the Natural Water Quality section (7050.0170) of the MN Chapter 7050 rules. "Where background levels exceed applicable standards, the background levels may be used as the standards for controlling the addition of the same pollutants from point or nonpoint source discharges in place of the standards."

The CWLA (MS 114D.15, subdivision 10) states that "*Natural background* means characteristics of the water body resulting from the multiplicity of factors in nature, including climate and ecosystem dynamics, that affect the physical, chemical, or biological conditions in a water body, but does not include measurable and distinguishable pollution that is attributable to human activity or influence." This definition of Natural Background was developed and agreed to by the G-40 Stakeholder group that provided substantial input for the Minnesota Clean Water Legacy Act legislation. The G-40 included representatives from state agencies, including the Minnesota pollution Control Agency (MPCA), Agriculture Groups and Environmental groups.

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The petitioners ask that the MPCA properly determine the natural background levels of the load allocation, as well as, determine load allocations that properly account for impact of volatile suspended solids on the turbidity measurements. The petitioners also request the load allocations be determined using measurable and distinguishable evidence as is established in the Minnesota Clean Water Legacy Act.

Proposed Actions

The undersigned petitioners request that MPCA hold a contested case hearing in this matter.

The MPCA must grant a party's petition to hold a contested case hearing if it finds that:

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Witnesses in this matter shall include the undersigned witnesses and other expert witnesses to be named later.

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The undersigned petitioners estimate that it will require a full day to adequately address these matters.

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In accordance with Minn. Stat. 13.03, Subdivision 3, the petitioners further request that the MPCA designate one or more individuals to explain the meaning of all data that is produced.

We respectfully request that the MPCA to provide the information herein requested at the earliest convenient opportunity. Please contact us to make the necessary arrangements.

See attached page with names and addresses

ANTHONY J. HUGHES  
655 MONTANA AVE.  
BENSON, MN 56215

*Anthony J. Hughes*

Matt Claussen  
360 40<sup>th</sup> ST SE  
Benson, MN 56215

*Matt Claussen*

Nathan P. Collins  
1125 80<sup>th</sup> Street SE  
Murdock, MN 56271

*Nathan P. Collins*

Kirby Hettner  
214 S 5<sup>th</sup> St  
Montevideo, MN 56265

*Kirby Hettner*

Richard Syverson  
33326 350<sup>th</sup> Ave  
Clontarf MN 56226

*Richard B. Syverson*

Stanley Claussen  
1030 70<sup>th</sup> St. NE.  
Montevideo Mn 56265

*Stan Claussen*

TODD WENTZEL  
1150 30th STREET SE  
MURDOCK, MN, 56271

STUE COLLINS  
920 90<sup>th</sup> ST SE  
DEGRAFF, MN, 56271

MIKE OLEARY  
875 70<sup>th</sup> ST. SW  
DANVERS, MN, 56231

*Michael O'Leary*

SEAN COLLINS,  
875 100<sup>th</sup> AVE. SE,  
MURDOCK, MN, 56271

ANDY GORDON,  
950 70<sup>th</sup> ST,  
MURDOCK, MN, 56271

The following CCHR was received from Byron Olson:

Joseph Hauger  
Minnesota Pollution Control Agency  
504 Fairgrounds Road, Suite 200  
Marshall, MN 56258-1688

[joseph.hauger@state.mn.us](mailto:joseph.hauger@state.mn.us)

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Byron Olson  
1065 55th Ave SW  
Benson, Mn. 56215

bvalson@mvtnetwireless.com

The following CCHR was received from Michael O'Leary and was signed by Michael O'Leary, Patrick O'Leary, and Thomas O'Leary:

Joseph Hauger  
Minnesota Pollution Control Agency  
504 Fairgrounds Road, Suite 200  
Marshall, MN 56258-1688

[joseph.hauger@state.mn.us](mailto:joseph.hauger@state.mn.us)

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system and have been occurring since the river was formed. Many other researchers have drawn similar conclusions.

The Chippewa River Turbidity TMDL study fails to properly account for the components that contribute to turbidity. Dr. Robert Megard, a Minnesota River Turbidity TMDL Technical Advisory committee member, raised the issue that the organic fraction of the TSS can be a much greater contributor to turbidity than the mineral fraction (May 1, 2009, U of Minnesota, Water Quality Seminar). A 2010 U. S. Geological Survey (USGS) technical Report on pools in the Upper Mississippi River showed that the volatile suspended solids (VSS) had substantially more impact on turbidity than non-volatile suspended solids (NVSS), Giblin, USGS Technical Report 2010-T001. The VSS impact on turbidity was about 15 times greater than the NVSS on a weight basis. The VSS effect found in the USGS study is similar to what Megard determined for the South Metro stretch of the Mississippi. The draft Chippewa River TMDL report indicates on page 4-10 that VSS in the Chippewa River ranged from 21-36% of the TSS. Monitoring data from other watersheds in the Minnesota River Basin indicate a similar range in the VSS. This evidence indicates that the VSS could be the dominant source of the turbidity in the Chippewa River.

A simple multiple regression correlation, similar to what Megard and others have done on other rivers, would be able to determine the magnitude of the affect that VSS has on turbidity in the Chippewa River. The Chippewa River Turbidity TMDL has failed to account for this important component of the TSS and this has resulted in an erroneous load allocation. It is likely that wetlands and grasslands near the river are a major source of the VSS. Proper identification and quantification of all the sources of turbidity, including the VSS, is necessary for the Reasonable Assurance requirement of the Chippewa River Turbidity TMDL.

The petitioners ask that the MPCA properly determine the natural background levels of the load allocation, as well as, determine load allocations that properly account for impact of volatile suspended solids on the turbidity measurements. The petitioners also request the load allocations be determined using measurable and distinguishable evidence as is established in the Minnesota Clean Water Legacy Act.

Proposed Actions

The undersigned petitioners request that MPCA hold a contested case hearing in this matter.

The MPCA must grant a party's petition to hold a contested case hearing if it finds that:

- A. There is a material issue of fact in dispute concerning the matter pending before the agency;
- B. The agency has the jurisdiction to make a determination on the disputed material issue of fact; and
- C. There is a reasonable basis underlying the disputed material issue of fact or fact such that the holding of a contested case hearing would allow the introduction of information that would aid the agency in resolving the disputed facts in making a final decision on the matter. Minn. R. 7000.1900, subpart 1.

Issues to be addressed by contested case hearing:

The undersigned petitioners request the MPCA address the legal requirements of the Chippewa River Turbidity TMDL under the US Clean Water Act and the Minnesota Clean Water Legacy

Act. These requirements include a quantifiable load allocation of all sources that have been identified; quantification of the natural background loading; and, the establishment of a natural background standard which is consistent with the definition in the CWLA.

Witnesses in this matter shall include the undersigned witnesses and other expert witnesses to be named later.

Publications, references and studies to be introduced include available data from US EPA Storet system, US EPA and MPCA Impaired Waters - TMDL protocols and various scientific studies and reports.

The undersigned petitioners estimate that it will require a full day to adequately address these matters.


Request for information

In preparing for the contested case, and pursuant to the Minnesota Government Data Practices Act (MS 13.01) the undersigned petitioners request MPCA provide an opportunity at the earliest convenient date to inspect and review the following data connected with the development of the Chippewa River Turbidity TMDL report.

1. All documents, final or drafts, regarding scope of work in preparing the Chippewa River Turbidity TMDL report.
2. All documents regarding the Chippewa River Turbidity TMDL report and work plan, including final and draft documents.
3. All technical, scientific, monitoring, laboratory testing data and Quality Control and Quality Assurance protocols, including electronic data (i.e. spreadsheets and data stored in electronic media) compiled or used in the development the Chippewa River Turbidity TMDL report.
4. Software utilized to analyze electronic data, including any models used in the development of the load and waste load allocations used to develop the Chippewa River Turbidity TMDL report.
5. Any and all documents including staff memorandums, emails or other correspondence relating to the technical, scientific, monitoring, laboratory testing data and Quality Control and Quality Assurance protocols used to develop the Chippewa River Turbidity TMDL report.

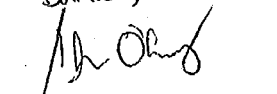
In accordance with Minn. Stat. 13.03, Subdivision 3, the petitioners further request that the MPCA designate one or more individuals to explain the meaning of all data that is produced.

We respectfully request that the MPCA to provide the information herein requested at the earliest convenient opportunity. Please contact \_\_\_\_\_ to make the necessary arrangements.

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## APPENDIX B – MPCA’s Response to Comments

Following is a compilation of comments received for the Chippewa River Turbidity TMDL.

These comments were received from each of the following: Minnesota Corn Growers Association, Swift County Corn Growers Association, Michael O’Leary, and Anthony Hughes:

### Comment #1:

#### “Executive Summary

*The report states that land use is dominated by agricultural cropping and is “extensively drained” for that purpose. The structure of this sentence suggests that land use is extensively drained. We suggest the following revision:*

*Agricultural production is the primary land use in the watershed, gradually increasing in prevalence from north to south. Artificial drainage, which allows for efficient crop production and also protects homes, businesses and roads, also becomes more important in the southern and western portions of the watershed, where soils limit natural drainage.*

*The report states that the Stakeholder Advisory Group was involved with the development of the Implementation Plan. We suggest inserting a word “preliminary” ahead of Implementation Plan to reflect that the final implementation plan will be developed with stakeholder input after final approval of the TMDL report by the US EPA.”*

### MPCA Response:

The language in the TMDL (found in paragraph two on page ES-1) was changed to be consistent with the language in section 2.1.3.

The reference to the implementation plan on page ES-2 was changed in the TMDL to “draft implementation plan.” This plan, which was developed using stakeholder input, has already been submitted and will be approved by the MPCA once the TMDL is approved by EPA.

### Comment #2:

#### “Turbidity Source Assessment

*The report states that “tiling and impervious cover exacerbate the condition (referring to streambank erosion) by increasing the volume and peak rate of runoff to the system.” While impervious cover, unless corresponding water retention practices are in place, almost always does increase volume and peak runoff, tiling is more complicated. Well-engineered, modern tiling systems can moderate peak rate of runoff, as pointed out by University of Minnesota researchers.*

*[ Drainage systems are designed to alter field hydrology (water balance) by removing excess water from waterlogged soils. There are concerns about the downstream hydrological effects caused by draining this excess water. Anecdotal evidence indicates that streams and ditches have become “flashier” over time, spilling over their banks and causing localized crop damage. Some research articles suggest that the most dramatic hydrological changes in a landscape occur when it’s converted from*

*native vegetation to agricultural production, and that subsurface drainage may reduce peak flows in some situations. (5,6,7) A recent regional publication (8) summarized the environmental impacts of subsurface draining on agricultural land. The authors concluded that subsurface drainage reduces surface runoff by 29 to 45 percent, reduced peak flows from watershed by 15-30 percent, and has little impact on the total annual flow from watersheds. A publication that summarized drainage studies from several countries concluded that subsurface drainage generally decreases peak flows in fine textured soils but often increases those flows in coarser, more permeable soils (9). This publication also found that subsurface drainage often increases base flow to streams. Locally based research is necessary, however, to better understand the impact that drainage can have a watershed scales. In addition, the impact of surface inlets on watershed hydrology is an important issue currently being examined. ]*

*From <http://www.extension.umn.edu/distribution/cropsystems/DC7740.htm>, accessed October 1, 2012."*

**MPCA Response:**

The MPCA acknowledges the comment. The language in the TMDL (found in section 4.2) was reworded to read: "Tiling and impervious cover can exacerbate the problem depending on soil conditions..."

**Comment #3:**

*"Implementation Activities*

*How does the completion of the Watershed Restoration and Protection strategies report align with this TMDL and the associated implementation plan? Given the statement that the WRAP will "guide implementation of water restoration and protection strategies throughout the watershed, we strongly encourage that the WRAP process also include significant stakeholder input."*

**MPCA Response:**

TMDL calculations for the stream reaches will not be re-done as part of the WRAPS. Once approved, this TMDL is completed and the TMDL calculations will be in effect going forward.

A specific objective in the WRAPS process is civic engagement which involves stakeholder input. The WRAPS for the Chippewa River watershed will not directly relate to this TMDL because it will cover more issues than just turbidity. It will relate indirectly in that the WRAPS will represent comprehensive water restoration and protections strategies for the whole Chippewa River watershed, many of which will deal with turbidity.

**Comment #4:**

*"Reasonable Assurance*

*We suggest deletion of the reference to the Land Stewardship Project's "Chippewa 10% Project: in the TMDL. Elements of the program should be discussed by the stakeholder advisory group during development of the implementation plan.*

*We also suggest deletion of the reference to the Minnesota Agricultural Water Quality Certification Program, as it is premature to claim reasonable assurance based on a program that is still under development.*

**MPCA Response:** The reference to the Chippewa 10% Project and Minnesota Agricultural Water Quality Certification Program (MAWQCP) are left in section 6.0 the TMDL. The Chippewa 10% Project has shown to be a vibrant program that shows promise in helping to create a collaborative approach to water quality implementation. The MAWQCP program is indeed still under development, but nonetheless represents a long term commitment on the part of many groups to work collaboratively toward water quality efforts.

EPA requires a "Reasonable Assurance" section be included in TMDLs to demonstrate activities that show promise that clean water implementation actions for non-point sources of pollution will successfully achieve load reductions. Both programs demonstrate capacity to succeed at the local level.

This comment was received from the Minnesota Department of Natural Resources:

"The DNR shares your agency's interest in moving toward watershed TMDL reports and implementation plans. This strategy should help address these issues. We believe a watershed approach should include an analysis of existing data, field investigations identifying stressors and sources, finding links between physical and chemical conditions and biological impairments, using empirical data to develop and calibrate models (SWAT, etc.), calculating loads, and prioritizing an implementation plan and monitoring strategy targeting known problem areas. We believe that this process will improve TMDL reports and leave less for the implementation plan.

As currently drafted, the Chippewa River TMDL report includes identification of the causes and sources of turbidity, non-point sources, total suspended solids, load allocations as well as reasonable assurance of implementation activities and monitoring plans. We believe the September 2012 draft TMDL plan has addressed major issues and will, as stated in Section 5.0 Implementation Activities, follow through with a more detailed implementation plan in a Watershed Restoration and Protection (WRAP) report in 2013. We look forward to reading that report."

**MPCA Response:** The comment is acknowledged. The MPCA would like to clarify that this turbidity TMDL will have its own approved implementation plan, in addition to a Watershed Restoration and Protection Strategy (WRAPS). The WRAPS is anticipated to be completed in 2014 and will cover strategies for other pollutants in addition to turbidity.