



# Minnesota Pollution Control Agency

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May 23, 2012

TO: INTERESTED PARTIES

RE: Rush Lake Iron Augmentation Project

On May 22, 2012, the Minnesota Pollution Control Agency Citizens' Board voted to approve the Findings of Fact, Conclusions of Law, and Order to deny the petition requesting the preparation of an Environmental Assessment Worksheet (EAW) on the Rush Lake Iron Augmentation Project, Chisago County, Minnesota. This decision completes the process for the consideration of a Petition for an EAW under the revised Minnesota Environmental Quality Board Rules, Minn. R. ch. 4410. Final governmental actions to grant a permit or approval for the project may now be made.

These documents can be reviewed at the following locations: the MPCA offices in St. Paul; the East Central Regional Library at 244 South Birch Street, Cambridge; and the Minneapolis Public Library at 300 Nicollet Mall, Minneapolis. The document can be viewed on our MPCA website at <http://www.pca.state.mn.us/news/eaw/index.html>. Requests for copies of these documents may be made by contacting the St. Paul office at 651-757-2101.

Sincerely,

A handwritten signature in black ink, appearing to read "John Linc Stine".

John Linc Stine  
Commissioner

JLS:mbo

**STATE OF MINNESOTA  
MINNESOTA POLLUTION CONTROL AGENCY**

**IN THE MATTER OF THE DECISION ON THE  
PETITION REQUESTING THE PREPARATION OF AN  
ENVIRONMENTAL ASSESSMENT WORKSHEET ON THE  
PROPOSED RUSH LAKE IRON AUGMENTATION PROJECT  
RUSH LAKE IMPROVEMENT ASSOCIATION  
CHISAGO COUNTY, MINNESOTA**

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

**FINDINGS OF FACT**

Pursuant to Minn. R. 4410.1100, the Minnesota Pollution Control Agency (MPCA) received a petition, transmitted through the Minnesota Environmental Quality Board (EQB), requesting the preparation of an Environmental Assessment Worksheet (EAW) on the proposed Rush Lake Iron Augmentation Project, Chisago County, Minnesota. Based on the evidence submitted by the petitioners, the project proposer and other information considered by MPCA during the review of this matter, the MPCA makes the following Findings of Fact, Conclusions of Law, and Order. These Findings of Fact, Conclusions of Law, and Order address the proposed project described above and do not apply to any future proposed projects.

**Proposed Project**

1. The Rush Lake Improvement Association (RLIA) is proposing an iron augmentation project for the purpose of testing the effectiveness of iron in improving and sustaining water clarity in Rush Lake, Chisago County. See Appendix 1, November 10, 2011, Technical Memorandum from David Cartwright, RLIA.
2. "Rush Lake" refers to the combined East and West Rush Lakes. The total surface area of Rush Lake is 3,059 acres. The substantive portion of the petition is included as Appendix 2.
3. The proposed application will cover up to 12 surface acres of the lake. See Appendix 3, November 15, 2011, letter to the RLIA from the MPCA. The combined application areas make up less than 0.4 percent of the total surface area of Rush Lake. The project plans to use three different rates of application on three areas 3-4 acres in size. See Appendix 1.
4. The proposed project will add iron at three application rates: 1,000 pounds of iron per acre, 3,000 pounds of iron per acre, and 5,000 pounds of iron per acre. Up to 12 acres will be treated through the spring of 2012, including three acres previously treated in February 2011. Applications will be done either through the ice in winter or open water treatments when ice is not present. Iron particles are proposed to be applied in the littoral zone at water depths of 4 to 15 feet. See Appendix 1.
5. At the proposed application rates of iron product, upon settling in the water column the average thickness of the deposited layer on the surface of the sediment will be no more than the equivalent of a "layer of sand one to two grains deep." Appendix 4, e-mail from David Wright, Minnesota Department of Natural Resources (DNR).

6. At all iron augmentation sites, lake sediment samples will be collected prior to iron augmentations and after iron augmentations. Sediment samples in reference areas will also be collected. Sediment parameters to be analyzed include total iron, total phosphorus, available iron, and available phosphorus. Iron to phosphorus ratios will be calculated to gage the binding potential of iron for phosphorus. In addition to iron and phosphorus, other parameters to be tested at the University of Minnesota using standard soil testing methods include: pH, bulk density, ammonia, organic matter, sulfate, potassium, zinc, copper, calcium, magnesium, manganese, and boron.
7. Lake sediments will also be tested for trace metals using U.S. Environmental Protection Agency (EPA) method 6020. The following metals will be analyzed: arsenic, cadmium, chromium, copper, iron, lead, nickel, and zinc.
8. In-lake treatments with iron have been undertaken in other lakes for the purpose of improving water quality. Some observations at the time of past treatments have suggested that iron application could also reduce the abundance of curly-leaf pondweed and Eurasian watermilfoil. These invasive, nuisance aquatic plant species are found in many Minnesota lakes. See Appendix 4.
9. Previous, smaller scale applications of iron in Rush Lake have been undertaken by the RLIA since March 2009, primarily as efforts to curtail the growth of curly-leaf pondweed. See Appendix 2. The RLIA has sought and has been provided MPCA and DNR staff review of these activities. The MPCA and DNR staff each considered, but chose not to issue permits for these previous activities.
10. The proposed iron augmentation project addressed by the EAW petition has been reviewed as an independent project not connected to previous iron applications in Rush Lake. See Appendix 3.

#### **Petition for Environmental Assessment Worksheet**

11. On March 20, 2012, the EQB received a petition submitted from Audubon Minnesota (Petitioners' Representative), requesting that an EAW be prepared on the project proposed by the RLIA. The proposed project would add 13½ total tons of taconite product to Rush Lake to test the effectiveness of the taconite product as a water clarifier to reduce internal loading of phosphorus from lake sediments, with the ultimate goal of reducing the growth of nuisance aquatic plants and algae.
12. The term "taconite product" is used to describe an iron concentrate from an iron ore processing plant obtained in powder form prior to pelletizing. Actual composition of the taconite product will vary depending on the source of the parent iron ore. References in this document to iron and iron particles are referring to this taconite product.
13. Pursuant to Minn. R. 4410.1100, subp. 5, the EQB determined that the petition complied with the requirements for a valid petition and that the MPCA was the appropriate responsible governmental unit (RGU) to decide whether an EAW should be prepared. See Appendix 2. The entire petition and attachments were reviewed by MPCA staff and are incorporated by reference into these Findings.
14. On March 30, 2012, the MPCA received the petition for the EAW from the EQB. See Appendix 5, March 30, 2012, letter from Bob Patton, Executive Director, EQB.

15. On April 5, 2012, MPCA staff informed the Petitioners' Representative and RLIA, by letter, that the petition to prepare an EAW had been received from the EQB and that the MPCA had been designated as the RGU. The letter also stated that the decision to grant or deny the petition could be made by the MPCA Citizens' Board (Board), provided that a Board member, or the Commissioner, who chairs the Board, agreed to bring the matter before the Board.
16. A Board member requested that the Board make the decision whether to grant or deny the petition.
17. This matter came to the Board for a decision on whether to grant or deny the petition for preparation of an EAW at the Board's regularly-scheduled meeting on May 22, 2012.

#### **Determination of Environmental Review Requirements**

18. The first step in making the decision on the need to prepare an EAW is to compare the project to the categories and thresholds for a mandatory EAW (Minn. R. 4410.4300), a mandatory EIS (Minn. R. 4410.4400) or an exemption from environmental review (Minn. R. 4410.4600).
19. The MPCA finds that the project does not meet the requirements for a mandatory EAW for any category in Minn. R. 4410.4300 or a mandatory EIS for any category in Minn. R. 4410.4400.
20. The MPCA finds that the project does meet the criteria for two of the exemptions in Minn. R. 4410.4600, subp. 2, Item B (all governmental decisions for the project have been made) and subp. 23 (Research and data collection).
21. The scope of exemption from environmental review is provided in Minn. R. 4410.4600, subp. 1:

Scope of exemption. Projects within subparts 2 and 26 are exempt from parts 4410.0200 to 4410.6500. Projects within subparts 3 to 25 and 27 are exempt from parts 4410.0200 to 4410.6500, unless they have characteristics which meet or exceed any of the thresholds specified in part 4410.4300 or 4410.4400.

#### **Governmental Decisions Exemption**

22. Standard exemptions for projects for which environmental review is prohibited are specified in Minn. R. 4410.4600, subp. 2. Item B of subpart 2 provides a standard exemption for "projects for which all governmental decisions have been made."
23. The following governmental agencies have jurisdiction over activities which may occur in Rush Lake or in adjacent shorelands: the MPCA, Chisago County, the DNR, and the Minnesota Department of Agriculture (MDA).
24. The MPCA has authority to regulate in-lake chemical treatment for phosphorus reduction. The proposed iron augmentation project is considered an in-lake chemical treatment for phosphorus reduction.

25. MPCA staff, with input from the DNR, evaluates proposed in-lake treatment for environmental risks prior to making a decision regarding approval. A letter of authorization may be provided to project proposers in cases where significant impacts on water quality or aquatic communities are not anticipated.
26. MPCA staff reviewed the proposed protocol for the iron treatment and determined that it was acceptable to the MPCA. The MPCA further determined that the project was experimental and provided a letter of authorization on November 15, 2011. See Appendix 3. The principal interest of the MPCA is to prevent adverse effects on water quality and to determine the extent to which the iron treatment could contribute to improved lake water quality.
27. Chisago County has determined that it has no permitting authority on the project. See Appendix 6, April 11, 2012, e-mail from Mary Darragh Schmitz, Director, Chisago County Department of Environmental Services/Zoning.
28. The DNR has determined that the only applicable DNR permit that they could issue for the project would be for filling in public waters. The DNR further determined that the amount of iron proposed to be placed into Rush Lake is insufficient for the DNR to require the RLIA to apply for this type of permit. See Appendix 4.
29. The taconite product is being applied to portions of Rush Lake on an experimental basis as a water clarifier by the RLIA.
30. The MDA has stated that products that do not claim to control aquatic weeds and are being applied as a water clarifier do not need to be registered as a pesticide by the EPA. See Appendix 7, January 3, 2012, letter to David Cartwright from John C. Sierk, MDA.
31. The MPCA finds that the only required governmental decision is the MPCA's and that the MPCA staff, for the agency, made a final decision on the proposed project. See Appendix 3.
32. The MPCA finds that the project, as proposed, meets the criteria of Minn. R. 4410.4600, subp. 2, Item B and is exempt from environmental review.

#### **Research and Data Collection Exemption**

33. Projects involving research and data collection are exempt from environmental review, as described in Minn. R. 4410.4600, subp. 23:

Basic data collection, training programs, research, experimental management and resource evaluation projects that do not result in an extensive or permanent disturbance to an environmental resource, and do not constitute a substantial commitment to a further course of action having potential for significant environmental effects, are exempt.
34. MPCA and DNR staff reviewed the proposed activities to be undertaken with the project.

35. MPCA staff considered the project representative's request to conduct the project and on November 15, 2011, issued a letter approving it. The MPCA approval authorized a project that was experimental in nature. The MPCA staff's approval letter included several conditions to conduct the project. See Appendix 3.
36. As part of the MPCA staff approval, MPCA staff noted that, "We (MPCA) encourage Rush Lake Improvement Association (RLIA) to support research efforts that increase our knowledge of immobilizing phosphorus through iron augmentation of lakes." Also, the MPCA staff states, "We (MPCA) would like to receive any reports that RLIA and/or Blue Water Science generate as they continue their regular water quality monitoring efforts for the surface waters impacted by this treatment." See Appendix 3.
37. The MPCA's authorization letter specifically states, "This letter does not authorize a larger treatment of Rush Lake in the future." See Appendix 3.
38. MPCA staff states that RLIA and the project consultant should take sediment core samples for "multiple years to determine the effectiveness of the treatment beyond the first year." See Appendix 3.
39. At all iron augmentation sites, lake sediment samples will be collected prior to iron augmentations and after iron augmentations. Sediment samples in reference areas will also be collected. Sediment parameters to be analyzed include total iron, total phosphorus, available iron, and available phosphorus. See Appendix 1.
40. Other sediment parameters to be tested at the University of Minnesota using standard soil testing methods include: pH, organic matter, sulfate, potassium, zinc, copper, calcium, magnesium, manganese, and boron. See Appendix 1.
41. Lake sediments will also be tested for trace metals using EPA method 6020. The following metals will be analyzed: arsenic, cadmium, chromium, copper, iron, lead, mercury, nickel, and zinc. See Appendix 1.
42. To date, 143 sediment samples have been analyzed. See Appendix 8, Experimental Results of Iron Amendments on Sediments in Rush Lake, Chisago County, Minnesota. Steve McComas, Blue Water Science.
43. To date, five iron filings samples from foundries have been analyzed and 12 iron concentrates from taconite samples have been analyzed. See Appendix 8.
44. MPCA staff found that application of the taconite product would not adversely impact the sediments of Rush Lake for the parameters that were tested. See Appendix 3.
45. The MPCA's authorization letter also states, "Please be aware that this is likely the last approval letter RLIA will receive. Further treatments may involve a control document such as a NPDES/SDS permit." See Appendix 3.
46. The MPCA determines that there is a public value with this project, based on the record of MPCA staff review of and comments on the project.

47. The MPCA finds that the project cannot continue beyond what is currently authorized without additional review and approval and/or possible permitting and, therefore, is not a substantial commitment to a further course of action having potential for significant environmental effects.
48. The MPCA finds that the project is being conducted as research and experimental management.
49. The MPCA finds that the project will not result in an extensive or permanent disturbance to an environmental resource.
50. The MPCA finds that the project meets the criteria in Minn. R. 4410.4600, subp. 23, and is exempt from environmental review.

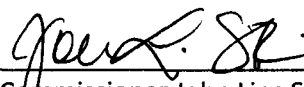
#### CONCLUSIONS OF LAW

51. The MPCA has followed all necessary procedures with regard to the petition.
52. The proposed project does not meet the threshold levels for a mandatory EAW or EIS.
53. The proposed project is exempt from environmental review pursuant to Minn. R. 4410.4600, subp. 2, Item B, and subpart 23.
54. Based on the above findings, the MPCA concludes that the proposed Rush Lake Iron Augmentation Project, Chisago County, Minnesota, is exempt from environmental review.
55. The petition for the preparation of an EAW is dismissed.
56. Any finding more properly deemed a conclusion and any conclusion more properly deemed a finding is hereby adopted as such.

#### ORDER

The Minnesota Pollution Control Agency (MPCA) has determined, pursuant to Minn. R. 4410.4600, subp. 2, Item A, and subpart 23, that the proposed Iron Augmentation Project in Rush Lake, Chisago County is exempt from environmental review. The petition requesting the preparation of an Environmental Assessment Worksheet is dismissed.

#### IT IS SO ORDERED

  
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Commissioner John Linc Stine  
Chair, Citizens' Board  
Minnesota Pollution Control Agency

5/23/12  
\_\_\_\_\_  
Date