MINNESOTA DEPARTMENT OF NATURAL RESOURCES

RECORD OF DECISION

In the Matter of the Determination of the Need for an Environmental Impact Statement for the Marsh Lake Ecosystem Restoration Project, Big Stone, Lac qui Parle, and Swift counties, Minnesota

FINDINGS OF FACT, CONCLUSIONS, AND ORDER

FINDINGS OF FACT

1. The Minnesota Department of Natural Resources (MNDNR) and the U.S. Army Corps of Engineers (USACE) are proposing to restore the Marsh Lake ecosystem on the Minnesota River in the Big Stone, Lac qui Parle, and Swift counties in Minnesota. The proposed Marsh Lake Ecosystem Restoration Project (Proposed Project) includes restoring the Pomme de Terre River to its historic channel, breaching the dike at the abandoned fish pond, constructing a drawdown water control structure on the existing overflow spillway on the Marsh Lake Dam, constructing Louisburg Grade Road gated culverts, and modifying the Marsh Lake Dam to include a fishway.

   The Proposed Project also includes recreational improvement including a pedestrian bridge across the Marsh Lake Spillway, and an improved USACE day use facility at Marsh Lake Dam that includes a canoe access point, a portage area, picnic tables, and shoreline fishing platforms. The Proposed Project also includes shoreline access upgrades and interpretive signage.

2. Pursuant to Environmental Quality Board (EQB) Rules part 4410.4300 subparts 26 and 27, the Proposed Project exceeds the mandatory thresholds for an Environmental Assessment Worksheet (EAW).

3. Pursuant to EQB Rules part 4410.0500, for any project listed in part 4410.4300, the governmental unit specified in those rules shall be the Responsible Governmental Unit (RGU) unless the project will be carried out by a state agency, in which case the state agency shall be the RGU.

4. The Proposed Project would be carried out by the MNDNR and USACE, therefore the MNDNR is the RGU for the Proposed Project.

5. Pursuant to EQB Rules part 4410.1300, if a federal Environmental Assessment (EA) has been prepared for a project, the EA may be circulated in place of the EAW form, provided that the EA addresses each of the environmental effects identified in the EAW form.

6. A federal EA was prepared by the USACE for the Proposed Project and circulated by the MNDNR with an EAW form. The EAW references sections of the EA which address each of the

environmental effects identified in the EAW form and discloses additional information within the EAW form to satisfy EAW information needs.

7. Pursuant to EQB Rules part 4410.1500, the EAW was filed with the EQB on September 26, 2011, within five days after the MNDNR approved the EAW. Copies of the EAW and EA were sent to all persons on the EQB Distribution List, those persons known by the MNDNR to be interested in the Proposed Project, those persons requesting a copy, and to libraries in the vicinity of the Proposed Project.

8. A notice of availability was published in the EQB *Monitor* October 3, 2011.

9. The EA and EAW were made available on the MNDNR's website on October 3, 2011.

10. A state-wide press release announcing the availability of the EA and EAW was issued by the MNDNR on October 3, 2011.

11. Pursuant to EQB Rules part 4410.1600, the 30-day EAW public review and comment period began October 3, 2011 and ended November 2, 2011.

12. The opportunity to submit comments on the EAW was provided via mail, email or fax.

13. During the 30-day EAW public review and comment period, the MNDNR received two comments from the following individuals:

    - Theodore A. Brown, U.S. Environmental Protection Agency, Region 5
    - Karen Kromar, Minnesota Pollution Control Agency

    Each letter submitted is responded to by MNDNR. Responses are included in Appendix A. The comment letters are included in Appendix B. The comment letters did not question the accuracy or completeness of information, and did not state that potential impacts warrant further investigation and the need for an environmental impact statement (EIS).

14. Based upon the information contained in the EA and EAW and received as public comments, the MNDNR has identified the following potential adverse environmental effects associated with the Proposed Project:

    a. Drawdown of Marsh Lake water level would kill benthic macroinvertebrates and some species of submersed aquatic plants in the dewatered areas.

    b. Placing fill for the channel cut-off embankment to divert the Pomme de Terre River into its original channel would directly cover approximately 0.3 acres of the diverted portion of the river channel. All macroinvertebrates in the filled area would be killed. The area would be converted from aquatic habitat to terrestrial habitat.

c. An abundant and diverse mussel community and fingernail clams in the lower reach of the Pomme de Terre River between the cut-off embankment and Marsh Lake would be buried by construction and lack of river flow below the cut-off. The black sandshell (*Ligumia recta*), a state-listed mussel of special concern, and the elktoe (*Alasmidonta marginata*), state-listed as threatened, are documented within the impact area.

d. Once rerouted into its former channel, the lower Pomme de Terre River would initially scour out approximately 1,425 cubic yards of fine silty sediment that has accumulated in its former channel through natural processes. Some of that material would be deposited over-bank in the river floodplain; the rest of the material would be transported into Lac qui Parle. Benthos, primarily chironomid and ceratopogonid midge larvae living in the silt substrate, in the former Pomme de Terre River would be washed away when the river is diverted back into its former channel.

e. Construction of the fishway weir structure would result in localized and temporary increases in suspended solids.

f. Constructing the water control structure and replacing the culverts at Louisburg Grade Road would include temporary and localized increased suspended solids during construction.

g. The shoreline would be modified by fishing platforms located above and below the Marsh Lake Dam on both sides of the spillway and near the mouth of the Pomme de Terre River.

h. Construction activity would temporarily increase noise.

15. Pursuant to EQB Rules part 4410.0400, the RGU is charged with determining the need for an EIS. The MNDNR as the RGU for the Proposed Project is charged for determining the need for an EIS.

16. Pursuant to EQB Rules part 4410.1700 subpart 1, an EIS shall be ordered for projects that have the potential for significant environmental effects.

17. Pursuant to EQB Rules part 4410.1700 subpart 6, in deciding whether a project has the potential for significant environment effects, the RGU shall compare the impacts that may be reasonably expected to occur from the project with the criteria in EQB Rules part 4410.1700 subpart 7.

18. Pursuant to EQB Rules part 4410.1700 subpart 7, in deciding whether a project has the potential for significant environmental effects, the following factors shall be considered:

    a. Type, extent and reversibility of environmental effects;

b. Cumulative potential effects. The RGU shall consider the following factors: whether the cumulative potential effect is significant; whether the contribution from the project is significant when viewed in connection with other contributions to the cumulative potential effect; the degree to which the project complies with approved mitigation measures specifically designed to address the cumulative potential effect; and the efforts of the proposer to minimize the contributions from the project;

c. The extent to which the environmental effects are subject to mitigation by ongoing public regulatory authority. The RGU may rely only on mitigation measure that are specific and that can reasonably be expected to effectively mitigate the identified environmental impacts of the project; and

d. The extent to which environmental effects can be anticipated and controlled as a result of other available environmental studies undertaken by public agencies or the project proposer, including other EISs.

19. Relocation of mussels may be required by the MNDNR in permitting. If mussels are not re-located, a state Takings Permit would be necessary. Benthic macroinvertebrates, including native mussels, are expected to re-colonize in the restored Pomme de Terre River channel from upstream populations. The expected result is a net gain in the abundance and spatial extent of native mussels in the river over time. The USACE has developed an adaptive management plan for mussels that outlines a mussel monitoring program that would be used to inform future ecosystem management actions with the aim of meeting performance criteria. Increased water clarity in Marsh Lake, an expected outcome of the Proposed Project, would improve habitat conditions for macroinvertebrates as well as native fish and zooplankton.

20. Modifications to Marsh Lake Dam and restoring a more natural stage hydrograph would allow emergent and submerged aquatic vegetation to expand in Marsh Lake. The Proposed Project is expected to increase water clarity in Marsh Lake, resulting in increased extent and abundance of submersed aquatic plants. One of the primary benefits of the Proposed Project would be increased food (e.g. sago pondweed tubers) for fall-migrating waterfowl.

21. Restoring the Pomme de Terre River to its former channel would reduce sediment loading to Marsh Lake by about half and improve conditions for growth of submerged and aquatic plants. Construction associated with the Proposed Project would be temporary and localized. Silt curtains would be used where practicable to limit sediment re-suspension during construction. Long-term, the Proposed Project is expected to increase water clarity in Marsh Lake.

22. The Proposed Project reverses some past adverse cumulative effects to the Marsh Lake ecosystem including land cover changes and river channelization. No projects were identified in the environmentally relevant area that might reasonably be expected to affect the same environmental resources, including future projects actually planned or for which a basis of expectation has been laid.

23. As a result of public comment, additional mitigation has been identified that could be implemented to reduce potential minor effects of the Proposed Project, including construction, on the natural environment.

24. Pursuant to EQB Rules 4410.1700 subpart 2, the decision for an EIS shall be made no later than 15days after the close of the 30-day comment period.

25. The following state permits and approvals are needed for the Proposed Project:

Unit of Government	Type of Application
State of Minnesota, MNDNR	Public Waters Permit, Pending
State of Minnesota, MNDNR	Wetland/Water Permit – WCA, Pending
State of Minnesota, Pollution Control Agency	Construction Stormwater Permit, Pending
State of Minnesota, MNDNR	Contractor Permit Verification PW, Pending
State of Minnesota, Pollution Control Agency	Water Quality Certification Permit, Pending

CONCLUSIONS

1. Pursuant to EQB Rules part 4410.1700 subpart 7 and the application of the criteria to the Findings of Fact for the Proposed Project , the MNDNR concludes that the following potential environmental effects would be limited in extent, temporary, or reversible:
    a. Impacts to aquatic plants and benthic macroinvertebrates including native mussels;
    b. Increased sedimentation to Lac qui Parle;
    c. Increases suspended solids from construction activities;
    d. Modification of the shoreline due to the installation of fishing platforms; and
    e. Noise from construction activities.

2. Pursuant to EQB Rules part 4410.1700 subpart 7 and the application of the criteria to the Findings of Fact for the Proposed Project, the MNDNR concludes that the following are not significant cumulative environmental effects:
    a. Impacts to aquatic plants and benthic macroinvertebrates including native mussels;
    b. Increased sedimentation to Lac qui Parle;
    c. Increases suspended solids from construction activities;
    d. Modification of the shoreline due to the installation of fishing platforms; and
    e. Noise from construction activities.

3. The potential environmental effects of the Proposed Project are not significant.

4. Any Findings that might properly be termed Conclusions and any Conclusions that might properly be termed Findings are hereby adopted as such.

ORDER

Based upon the Findings of Fact and Conclusions contained herein and the entire record of the proceedings:

> The Minnesota Department of Natural Resources hereby makes a negative declaration on the need for an EIS for the proposed Marsh Lake Ecosystem Restoration Project.

Approved and adopted this 10th day of November, 2011

STATE OFMINNESOTA
DEPARTMENT OF NATURAL RESOURCES

Mary McConnell
Assistant Commissioner

Appendix A

U.S. Environmental Protection Agency

MNDNR Response: The MNDNR will consider each recommendation in the US EPA letter as the Proposed Project design is further refined and in the event the Proposed Project is implemented.

Minnesota Pollution Control Agency

MNDNR Response: The *Minnesota River Basin Reconnaissance Study* was completed in December of 2005. No further involvement by the MPCA is expected.

The MNDNR recognizes and appreciates the comment on the requirement of permanent storm water treatment under the National Pollution Discharge Elimination System / State Disposal System Construction Storm water Permit as it relates to vegetation and/or pervious surface with one acre or more of cumulative impervious surface.

Appendix B

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

OCT 31 2011

REPLY TO THE ATTENTION OF:

E-19J

Theodore A. Brown
Chief, Planning and Policy Division
U.S. Army Corps of Engineers – Headquarters
CECW-P (SA)
7701 Telegraph Road
Alexandria, Virginia 22315

RE: Feasibility Report and (Final) Environmental Assessment for the Marsh Lake Ecosystem Restoration Project / Proposed Report of the USACE Chief of Engineers / Minnesota Department of Natural Resources Environmental Assessment Worksheet: Big Stone, Lac qui Parle, and Swift Counties, Minnesota

Dear Mr. Brown:

The U.S. Environmental Protection Agency has received U.S. Army Corps of Engineers (USACE) correspondence dated October 11, 2011, requesting EPA's review of and comments on the (Final) Feasibility Report and Environmental Assessment (hereby referred to as the Final EA) and the proposed report of the Chief of Engineers for the proposed Marsh Lake Ecosystem Restoration Project. The overall goal of the Marsh Lake Ecosystem Restoration Project is a "return of the Marsh Lake area ecosystem to a less degraded and more natural and functional condition."

Objectives proposed to meet this goal include reducing sediment loading to Marsh Lake, restoring natural fluctuations to the hydrologic regime of Marsh Lake, restoring the Pomme de Terre River to its original course and floodplain, reducing sediment resuspension within Marsh Lake, increasing native plant cover and diversity within Marsh Lake, restoring aquatic habitat connectivity between Marsh Lake, the Pomme de Terre River, and Lac Qui Parle, reduction of non-native fish within Marsh Lake, and increasing diversity and abundance of native fish within Marsh Lake and the Pomme de Terre River.

EPA has reviewed the Final EA for the aforementioned project. This letter provides our comments on the Final EA, pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality's NEPA Implementing Regulations (40 CFR 1500-1508), and Section 309 of the Clean Air Act.

The Final EA presents proposed actions by USACE to restore Marsh Lake to a more natural and functional condition. USACE's preferred alternative is referred to in the document as "Alternative Plan 4", which maximizes benefits in relation to cost and meets planning objectives. Specifically, USACE's preferred alternative proposes the following restoration measures:

1. **Restoration of the Pomme de Terre River into its existing natural channel.** During construction of the Marsh Lake Dam, the Pomme de Terre River was rerouted in a channelized fashion between 1936 and 1939 to outlet into Marsh Lake. In order to reconnect the river to its natural channel, two earthen cut-off dikes are proposed to be constructed to force the river flow back to the natural channel. Approximately 11,500' of natural channel will receive restored flow. This measure will reduce sediment loading to Marsh Lake as the river will no longer outlet into Marsh Lake directly upstream of the Marsh Lake Dam; the river will flow east of, and connect to, the outlet channel of the Marsh Lake Dam (the Minnesota River). Restoration will also remove fish habitat fragmentation by allowing native fish from Lac qui Parle to access the high quality spawning habitat of the Pomme De Terre River, and will also allow the river to have access to its natural floodplain. A 450' long vehicular bridge over the restored river channel is proposed to be constructed to maintain access to the Marsh Lake Dam.

2. **Breaching of the dike at the abandoned fish pond located south and downstream of the Marsh Lake Dam.** Dike breaching will allow connectivity between the pond and Lac qui Parle/Minnesota River, will allow fish access to the pond area, and will provide shorebird habitat during low water levels.

3. **Construction of water control structures (stop log structures) at the existing Marsh Lake Dam to allow drawdowns.** Modifications as proposed to the Marsh Lake Dam will allow for active water level management within the lake. Water level management is proposed in spring/summer conditions as needed to allow for controlled drawdowns to encourage emergent aquatic plants to germinate and establish. Winter drawdowns are also proposed to reduce water levels and dissolved oxygen within the lake to impose hypoxia stress and winter kill on invasive carp, which currently dominate the lake.

4. **Installation of gated culverts at three existing culvert locations along Louisburg Grade Road.** A total of seven existing deteriorating 60" diameter culvert pipes at three locations are proposed to be replaced with concrete box culverts with stop log water control structures. New culverts with stop log structures are proposed to allow management of water levels upstream of the culverts in the upper part of Marsh Lake. Higher water levels can be managed in upper Marsh Lake to allow for spawning of desirable northern pike and improve survivability of young fish in early spring. Removal or lowering of the stop log structures later in the season would allow access between upper Marsh Lake and Marsh Lake to promote a native fishery within Marsh Lake.

5. **Construction of a fishway at the existing Marsh Lake Dam.** The rock ramp/riffle fishway as proposed will allow year-round fish passage between Marsh Lake, Lac Qui Parle, and the Pomme de Terre River.

Overall, the Final EA adequately identifies and assesses potential impacts associated with the Preferred Alternative. Minor impacts to (placement of fill into) existing wetlands and waters are proposed in order to implement the preferred alternative measures. Specifically, restoration of the Pomme de Terre River will require construction of two earthen cut-off dikes (Diversion Dikes A & B) to redirect the river flow back to its existing natural channel. A third area of fill (road raising along 225th Ave. SW) is proposed to prevent movement of water between Marsh Lake and the Pomme de Terre River through a low area on the east side of Marsh Lake.

The two Diversion Dikes are to be installed within the channelized portion of the Pomme de Terre River and its floodplain; in addition to fill within the current river channel, it appears likely that the diversion dikes will also be built in adjacent floodplain wetland areas. The placement of fill material into wetlands and/or the Pomme de Terre River waterways will require coordination and permitting from several of Minnesota's state regulatory agencies. From information provided with the document and appendices, it appears that permitting coordination and dialogue has begun with appropriate divisions of both the Minnesota Pollution Control Agency and the Minnesota Department of Natural Resources. Additional coordination with local government units may be required under the Minnesota Wetland Conservation Act. EPA expects that if wetland mitigation is required, it will meet mitigation requirements of the regulatory agencies' standards and ratios.

Additional fill to wetlands and waters is associated with both the new vehicular bridge to be installed over the Pomme de Terre River and with four proposed rock grade control structures to be installed in the original channel of the Pomme de Terre River. During installation of these grade control structures, care should be taken to select access points and staging areas that minimize damage to adjacent wetlands and floodplain forests, and to minimize in-stream and downstream sedimentation during installation.

Modification of the existing Marsh Lake Dam for installation of water control structures and a fishway will also require installation of large boulders and rocks as well as riprap within the outlet channel of Marsh Lake at the dam. Additional proposed recreation facilities such as fishing platforms to be installed along Marsh Lake will also require fill to the lake.

Replacement of the existing culverts along Louisburg Grade Road will require installation of new concrete box culverts and riprap armoring upstream and downstream of the new culverts. If water velocities and engineering allow, EPA recommends that armor rock be removed during final design. Additionally, multiple cell concrete box culverts (EPA assumes four-sided culverts) are proposed for installation. As the purpose of the new culverts and associated stop log structures is to manage water levels in upper Marsh Lake to promote a healthy, native fishery within Marsh Lake, EPA recommends that culverts be designed to allow fish and other aquatic organism passage and to ensure continuity of the aquatic habitat (by not restricting or altering water depth, flow, or velocity). As the purpose of the new culverts is to allow for installation of stop-log structures on the culvert, EPA assumes that bottomless culverts cannot be used. If four-sided box culverts must be used, they should be embedded a minimum of two feet into the bottom of the lake.

EPA recommends you review design considerations developed by the River and Stream Continuity Partnership at:
http://www.streamcontinuity.org/pdf_files/MA%20Crossing%20Stds%203-1-11.pdf.

Construction plans (Appendix N) currently label fill materials to be used as "random fill." EPA expects that this "random fill" will be clean, inert material. As construction plans are finalized, EPA recommends that notations of "random fill" be modified to specify fill type(s).

To further minimize impacts to wetlands and sensitive aquatic habitats, EPA recommends the following measures be implemented during construction:

- Winter construction, if/when feasible;
- Minimize widths of temporary access roads/paths;
- Use removable materials for construction of temporary access roads/paths (e.g. timber/swamp mats) in lieu of "fill" materials such as stone, riprap, or wood chips;
- Use timber/swamp mats to distribute the weight of construction equipment in order to minimize soil rutting and compaction;
- Use vehicles and construction equipment with wide tires or rubberized tracks, or low ground-pressure equipment, to further minimize wetland impacts during construction;
- Use long-reach excavators, where appropriate, to avoid driving, traversing, or staging in wetland or floodplain areas;
- Use cofferdams and dam/pump arounds to isolate work areas from active flow;

EPA also hereby reiterates comments from our June 16, 2011, correspondence in which we noted that the lower channelized portion of the Pomme de Terre River supports a diverse mussel community, including two state-listed mussel species (the elktoe and black sandshell). EPA supports the Monitoring and Adaptive Management plan to be implemented by the Minnesota DNR (MnDNR) to monitor and evaluate the response of native mussels in the restored portion of the Pomme de Terre River. EPA encourages MnDNR to harvest mussels from the portion of channel to be abandoned and to relocate them into the restored portion of river channel.

Additionally, prior to any tree removal required by project implementation, bald eagle nesting trees should be inspected and verification of the location and status of the nest should be completed prior to completing any construction within 660' of the nest site. Construction timelines should also be developed to minimize impacts to colonial water-nesting bird species, particularly during prime nesting times.

Except for temporary localized water, sediment/erosion control, and noise quality impacts associated with construction, the Final EA identifies that no significant permanent environmental impacts are anticipated to result as a result of implementation of the proposed Preferred Alternative. EPA commends the level of detail provided in your Final EA, particularly in the Feasibility Report Appendices.

Thank you for the opportunity to review and comment upon the Final Feasibility Report and Environmental Assessment. We are available to discuss our comments with you in further detail if requested. **Please send us the signed Finding of No Significant Impact (FONSI) when it becomes available.** If you have any questions about this letter, please contact Ms. Liz Pelloso, PWS, of my staff at 312-886-7425 or via email at pelloso.elizabeth@epa.gov.

Sincerely,

Kenneth A. Westlake, Chief
NEPA Implementation Section
Office of Enforcement and Compliance Assurance

cc: Richard Davis, US Fish and Wildlife Service-Twin Cities Field Office
Michael Wyatt, USACE-St. Paul District
Kevin Molloy, Minnesota Pollution Control Agency
Karen Kromar, Minnesota Pollution Control Agency
Tom Hovey, Minnesota Department of Natural Resources
Erik Carlson, Minnesota Department of Natural Resources

Minnesota Pollution Control Agency

520 Lafayette Road North | St. Paul, Minnesota 55155-4194 | 651-296-6300

800-657-3864 | 651-282-5332 TTY | www.pca.state.mn.us | Equal Opportunity Employer

November 2, 2011

Mr. Erik Carlson
Environmental Review Unit
Minnesota Department of Natural Resources
500 Lafayette Road
St. Paul, MN 55155

Re: Marsh Lake Ecosystem Restoration Project Environmental Assessment Worksheet

Dear Mr. Carlson:

Thank you for the opportunity to review and comment on the Environmental Assessment Worksheet (EAW) for the Marsh Lake Ecosystem Restoration project (Project) located in Lac Qui Parle, Swift, and Big Stone Counties, Minnesota. The Project consists of restoration of the degraded Marsh Lake ecosystem. Regarding matters for which the Minnesota Pollution Control Agency (MPCA) has regulatory responsibility and other interests, MPCA staff has the following comments for your consideration.

Description (Item 6)
Please clarify the MPCA's role in the reconnaissance investigation as referenced under this section and on page 15 of the US Army Corps of Engineers Final Environmental Assessment.

Water Quality: Surface Water Runoff (Item 17)
Please note that the National Pollutant Discharge Elimination System/State Disposal System Construction Stormwater Permit requires permanent stormwater treatment when a project's ultimate development replaces vegetation and/or other pervious surfaces with one or more acres of cumulative impervious surface. This total may be exceeded with the parking area, picnic shelter, rest rooms, shoreline fishing platforms, footpath, and ramp.

We appreciate the opportunity to review this Project. Please provide your specific responses to our comments and notice of decision on the need for an Environmental Impact Statement. Please be aware that this letter does not constitute approval by the MPCA of any or all elements of the Project for the purpose of pending or future permit action(s) by the MPCA. Ultimately, it is the responsibility of the Project proposer to secure any required permits and to comply with any requisite permit conditions. If you have any questions concerning our review of this EAW, please contact me at 651-757-2508.

Sincerely,

Karen Kromar

Karen Kromar
Planner Principal
Environmental Review Unit
Prevention and Assistance Division

KK:mbo
cc: Craig Affeldt, MPCA, St. Paul
Judy Mader, MPCA, St. Paul
Doug Wetzstein, MPCA, St. Paul