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 in 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 (MDNR), Division of Fish and Wildlife, and its project partners propose changes to improve fish, wildlife, and water quality and to restore the aquatic and riparian ecosystems within the Marsh Lake Project Area (Project or Project Area), along the Minnesota River and within the Lac qui Parle Wildlife Management Area (WMA) boundary. The Project would include construction of a rock-ramp fishway, a water control/drawdown structure, a new dam access road and embankment features, restoration of the Pomme de Terre River to its historic channel, additional parking areas, and designated borrow locations to be used during project construction. Modifications to the existing dam structure would provide more natural variability in water levels and also provide habitat connectivity through the rock-ramp fishway. The Project would also provide resource managers with the opportunity to periodically drawdown water levels, using the water control structure, to improve lake habitat, in part by removing invasive Common carp. The Project is proposed by the U.S. Army Corps of Engineers (USACE), the MDNR, and the Upper Minnesota River Watershed District.

2. The Marsh Lake Project Area is located in Big Stone, Lac qui Parle, and Swift Counties along Marsh Lake and the Minnesota River. The Project is within the Lac qui Parle WMA. Marsh Lake (MDNR Public Waters Basin #06000100) is a 5,000-acre shallow wildlife reservoir. The Lac Qui Parle WMA is 33,000 acres and encompasses all of Marsh Lake and the Marsh Lake Dam. The Minnesota River forms the boundary along Big Stone, Lac qui Parle, and Swift Counties. The Pomme de Terre River flows from the Minnesota River and Marsh Lake. The Marsh Lake Dam controls Marsh Lake. Marsh Lake is considered important regionally for fish and wildlife resources.

3. Pursuant to Minnesota Rules, Chapter 4410.4300, subpart 1, an Environmental Assessment Worksheet (EAW) must be prepared for projects that meet or exceed the thresholds in any of subparts 2 to 37. The proposed Project exceeds the threshold in Minnesota Rules, Chapter 4410.4300, subpart 26 regarding stream diversion, and subpart 27, item A. regarding public waters and public water wetlands. The proposed Project would affect greater than 500 feet of a natural watercourse by diverting, realigning, and restoring parts of the Pomme de Terre River; and would change or diminish the course,

current, or cross-section of one acre or more of Marsh Lake, a public water. Therefore, the Project required the completion of an EAW.

4. Pursuant to Minnesota Rules, part 4410.0500, subpart 1, for any project listed in part 4410.4300, the government unit specified in those rules shall be the responsible government unit (RGU) unless the project will be carried out by a state agency, in which case that state agency shall be the RGU. Therefore, as one of the Proposers, the MDNR is delegated the duties of the RGU for conducting the environmental review for the Project.

5. The MDNR prepared an EAW for the proposed Project, pursuant to Minnesota Rules, part 4410.1400.

6. The EAW is incorporated by reference into this Record of Decision on the Determination of Need for an Environmental Impact Statement (EIS).

7. The EAW was filed with the Minnesota Environmental Quality Board (EQB) and a notice of its availability was published in the *EQB Monitor* on July 11, 2016. A copy of the EAW was sent to all persons on the EQB Distribution List, to those persons known by the MDNR to have participated in or been involved with the development and planning of the Project, to those persons known by MNDNR to be interested in the proposed Project, and to those persons requesting a copy. A press release announcing the availability of the EAW was sent to newspapers and radio and television stations statewide. Copies of the EAW were also available for public review and inspection at the MDNR South Region Headquarters; the MDNR Library in St. Paul; the MDNR Lac Qui Parle Wildlife Management Area and State Park Office; the MDNR Ortonville Area Fisheries Office; the Hennepin County-Minneapolis Central Public Library; the Montevideo-Chippewa County Library; and public libraries in the cities of Appleton, Benson, Madison, and Ortonville. A press release announcing the availability of the EAW was sent to newspapers and radio and television stations statewide. The EAW was also made available to the public through posting on the MDNR's website.

8. The 30-day EAW public review and comment period began July 11, 2016 and ended August 10, 2016 pursuant to Minnesota Rules, chapter 4410.1600. The opportunity was provided to submit written comments on the EAW to the MDNR by U.S. Mail, by facsimile, or electronically by e-mail.

9. During the 30-day EAW public review and comment period, the MDNR received eight written comment letters on the EAW or on the Project from agencies and individuals. The MDNR also received one written comment letter from an organization the day after the close of the EAW public review and comment period. A copy of all of the comments received is included in this Record of Decision as Attachment A. Findings 10 through 20 include further discussion on the comments received and provide responses from the MDNR. The MDNR is responding to all of the comment letters received both during and after immediately after the EAW public review and comment period.

a. Tim Rittenour (received July 8, 2016)
b. Randy Letrud (received July 9, 2016)
c. Chuck Beisner (received July 13, 2016)
d. Steve Tucholke (received July 13, 2016)
e. Dr. James B. VanAlstine (received July 23, 2016)
f. Kevin Kain, on behalf of the Minnesota Pollution Control Agency (received August 3, 2016)
g. Jim Cox (received August 9, 2016)
h. Win Mitchell (received August 10, 2016)
i. Jon P. Schneider, on behalf of Ducks Unlimited (received August 11, 2016)

10. Jon P. Schneider, on behalf of Ducks Unlimited submitted a comment letter received the day after the close of the EAW public review and comment period. The MDNR determined that, even though this comment letter was not timely, a written response would be provided.

11. Some comments were submitted expressing general opinions about the Project, support for the Project and for the work to be undertaken, lack of support for the Project and/or questioning the value of the work to be undertaken, opposition to elements of the project, and suggestions about other similar activities that could or should be undertaken. These comments generally did not address the accuracy and completeness of the EAW, specific impacts that require further investigation, the potential for significant environmental effects, or the need for an environmental impact statement (EIS).

    Response. The MDNR acknowledges these comments. Individuals submitting comments in this category will generally find that comments regarding the merits of the proposed Project are not addressed in this Record of Decision. The comments will be provided to the Project proposer and to permitting and/or approval entities and/or authorities for their consideration as part of further decisions about whether to permit, approve, and/or implement the project.

12. Tim Rittenhour submitted comments (Submission #1) expressing an opinion about whether the Project should be constructed as proposed and expressing an opinion about the potential for the Project to achieve the planned result. This submission suggests leaving the Pomme de Terre in its location without the proposed stream restoration, improving and opening the road on the west side, constructing the rock-ramp fishway at the location of the current overflow structure, and dredging out and removing the sediment from Marsh Lake. This submission suggests that the proposed Project will not achieve the intended results as the Common carp that are keeping the vegetation from becoming established in Marsh Lake will continue to exist after the project construction has been completed. The submission suggests that winter kill will not solve the carp problem and that game fish rather than Common carp are the most affected by winter kill.

    Response. Comments in this Submission expressing an opinion about the Project or suggesting other types of activities that could be constructed are comments on the merits

of the Project and not comments on the adequacy of the EAW or comments about environmental effects requiring additional evaluation. These comments will be provided to the Project proposer and to permitting and/or approval entities and/or authorities for their consideration as part of further decisions about whether to permit, approve, and/or implement the Project.

Project plans and proposals to enhance Marsh Lake and the entire Marsh Lake ecosystem area have been subject to evaluation and design development for a long period of time. This has occurred along with input and involvement from a variety of state, federal, and local agencies as well as from non-governmental groups and local residents. The MDNR considered a range of different options for the Project including an option of no action or not constructing the Project. This option was not supported by resource interests, and by both a public oversight committee and local citizens interested in the Project area. The Project proposers and other resource agencies involved in the Project team believe the Project as proposed provides an ecosystem-wide and fully integrated approach to improving in-lake conditions for fish and wildlife populations, enhancing the diversity of the habitat and habitat conditions, and ultimately providing improved hunting and fishing opportunities and benefits. However, the Project team working on this Project recognizes that Marsh Lake has declined over time and that it will also take an extended period of time to measurably improve conditions in the lake.

Based on the MDNR's knowledge and experience, it is not technically feasible to design a complete barrier to the upstream movement of fish from the Minnesota River. Even if there was to be a complete barrier to this upstream movement of fish, there are substantial numbers of Common carp in the upstream waters that would readily repopulate Marsh Lake. Common carp densities in Marsh Lake were high even when the lake was in a less degraded condition, such as after the 1988 drought and in the early 1990s. Providing fish passage, along with water level variability, is essential to support Minnesota's native fish species and to alter the balance in favor of native fish species rather than exotic fishes. Connectivity in the river system promotes a diverse fish community; without this connectivity and resulting diversity, ideal conditions continue to be present for rearing more Common carp.

Regarding winter kill, northern pike in particular are more tolerant of lower dissolved oxygen in winter than are Common carp. These predatory fish are common in shallow lakes and adapted to habitat conditions in shallow prairie lakes, including winterkill. Promoting variability in water levels and a healthier, more diverse native fish community of all size classes would help enhance overall water quality and habitat conditions within Marsh Lake and would also provide benefits to Lac qui Parle Lake.

In response to this commenter's concern with access, the Project plans would once again facilitate vehicular travel on the west side of the dam all the way to a new parking lot to be located by the proposed water control structure.

13. Randy Letrud submitted comments (Submission #2) expressing comments that duck hunting has changed over time and is not the same as many years before; and that the flyway has moved to the west. This submission also noted that Marsh Lake has had a mud bottom for many years. This submission also expressed comments that carp are not good for Marsh Lake. The submission identified that since 1998, there have been two flooding events that have removed a lot of cattail roots. This submission also identified the concern that moving the Pomme de Terre River back into its historic channel would cause a shortage of water in Marsh Lake during some conditions and that managed lake drawdowns would not be necessary if the work on the Pomme de Terre results in lower lake levels. The submission suggests the proposed Pomme de Terre River restoration appears to be creating a new river channel in the old location and advocates a control structure that would allow the river to be controlled to go either way.

    Response. The Project as proposed would provide passive water level variability through the design and development of a rock-ramp fishway that would be created by notching the existing fixed-crest weir and installing a series of arched rock riffles extending downstream. The rock-ramp fishway would provide the variability in water levels that are important to healthy shallow lakes and wetlands.

    Regarding the concern expressed in this submission about the shortage of water caused by relocating the Pomme de Terre River to its historic channel, this proposed modification (i.e., the complete relocation of the Pomme de Terre River) has been modelled by the USACE and the new structure is designed to maintain target water levels in Marsh Lake at a level very similar to or matching current elevations during years of normal precipitation. During periods of below average precipitation, this structure with a notched weir would allow for lower water levels that cannot be obtained with the current fixed-crest weir. Greater water level variability is both a desired and anticipated result of the proposed Project. The MDNR and other resource agencies evaluated the option of allowing a portion of the Pomme de Terre River water to access Marsh Lake under certain flow conditions. However, the potential for flood control concerns and the resulting harm to aquatic life eliminated this option from further consideration during project development and design.

    In addition, a water control structure (i.e., sluice gates) would allow resource managers in the future to conduct temporary water level drawdowns to further promote healthy lake conditions. Temporarily lowering water levels is a common management tool used to manage shallow lakes. A drawdown acts like a drought and resets ecological functions within a shallow lake or wetland system. Temporary drawdowns will be important to successfully improve lake conditions within Marsh Lake in view of its current degraded condition. Prairie shallow lakes and wetlands need periods of drought or low water periods to provide quality habitat conditions. Restoring the Pomme de Terre River to its historic channel and floodplain would also improve fish spawning habitat and connectivity. This would in turn provide a more diverse fish community, rather than a carp-dominated system. Common carp affect shallow lake habitat by cycling nutrients, uprooting aquatic vegetation, and suspending sediments. By promoting and developing a

healthy and more diverse fish community, the proposed Project is expected to reduce the abundance of Common carp that are affecting the Marsh Lake system.

Comments related to duck hunting and the mud bottom of Marsh Lake are not comments on the adequacy of the EAW or comments about environmental effects requiring additional evaluation.

14. Chuck Beisner submitted comments (Submission #3) requesting further information regarding how the Project might affect the water levels and shorelines along Marsh Lake.

    Response. The planned modifications to the current fixed-crest weir structure would promote lower seasonal water levels based on inflows and climatic conditions. Average water levels in September could be reduced by up to six inches. This variability in water levels would promote the growth of rooted submersed and emergent vegetation, which is critically important to the health of Marsh Lake. Environmental factors such as variability in seasonal rain fall make precise conditions hard to estimate for any given year, but the MDNR anticipates a fringe of cattail and possibly other aquatic emergent species would thicken around the perimeter of the lake.

    The overall emergent plant response is anticipated to be greater during times when the lake is temporarily lowered through drawdown by using the water control structure. A temporary drawdown would mimic drought conditions similar to that observed on the lake in 1988. During temporary drawdowns, mudflat conditions would be present in the bay and along the shoreline adjacent to and immediately in front of the area owned by this submitter. Similar to the vegetative response observed after the 1988 drought, when normal lake levels return, the cattail zone along the shoreline is expected to be wider but the bay should remain predominately as open water. Sago pondweed would likely be the predominant submersed aquatic plant species to respond to variability in water levels and to water level drawdown. Sago pondweed is a valuable food resource for waterfowl and during most years is anticipated to respond well throughout the entire basin.

    When temporary drawdowns are planned, the MDNR would provide ample notice to lake users. Notices would likely to include news and press releases and postings at public boat landings. The MDNR acknowledges, and the EAW reflected, that access to Marsh Lake could be difficult in years when a drawdown is occurring. During normal operating conditions (i.e., normal water level elevations), access to Marsh Lake would not be affected by the proposed Project.

15. Steve Tucholke submitted comments (Submission #4) requesting information on whether there are plans to flood outside of the existing banks of Marsh Lake, and if so, he inquired as to how neighboring landowners would be compensated.

    Response. There are no plans being proposed by the MDNR to flood outside the existing banks of Marsh Lake. As there are no plans to flood land beyond the current banks of Marsh Lake, there are also no current plans or requirements to provide compensation to

landowners. The Marsh Lake Dam structure would function as it currently does today, with the exception that the change of the Marsh Lake weir from a fixed crest dam to a notched weir structure would provide the ability to lower water level elevations based on inflows and climatic conditions. This change may result in some riparian areas along Marsh Lake being temporarily or periodically influenced by changing water level elevations. The modifications being proposed to the Marsh Lake Dam would provide for lower seasonal water levels. The proposed Project does not include raising the existing Marsh Lake Dam elevation or artificially raising water levels. As described in the EAW, a drawdown structure would be incorporated into the Marsh Lake Dam structure to provide resource managers with the ability under specific conditions to temporarily lower water levels for habitat management purposes.

16. Dr. James B. VanAlstine submitted comments (Submission #5) expressing support for the Project and noting the need for the proposed restoration. This submission also questioned whether there would be an opportunity use dredge spoil from Project construction to create linear islands that could reduce wind fetch on the lake and prevent the water from blowing to one end of the lake or the other during high wind events. This submission suggested such islands could reduce turbidity and offer additional locations for sheltering waterfowl and could provide additional hunting opportunities.

    Response. The MDNR acknowledges and appreciates the comments in this submission expressing support for the Project and recognizing the resource needs. The Project plans and proposals are limited to the Project discussed and evaluated in the EAW and do not include the construction of islands. During the design and development of the proposed Project, the Project team evaluated building three individual linear breakwater islands across the middle and southern portions of Marsh Lake. The islands would have been built using local rock, rather than construction-related dredge material, and the islands would have been built during the winter when the lake was drawn down. The MDNR estimated that more than 41,000 cubic yards of rock would have been needed for the three breakwater structures and the cost was estimated at over $4 million. The option for breakwater islands was eliminated from further Project development consideration as the Project team identified safety concerns with the effect on boat navigation, concerns with the amount of rock needed, the need for placement of fill into a public water, and concerns with the overall cost of the additional part of this Project when compared to the amount of average annual habitat gained.

17. Kevin Kain, on behalf of the Minnesota Pollution Control Agency (MPCA) submitted a comment letter (Submission #6) stating the MPCA staff reviewed the EAW and had no comments at the time. The submission pointed out that the Project proposer is responsible to secure any required permits and approvals from the MPCA and to comply with any required permit conditions.

    Response. The MDNR acknowledges this letter from the MPCA. The Project proposer is aware of the requirements to apply for and to secure MPCA permits and approvals. The EAW identified and described MPCA permits and approvals associated with the

Project. EAW Item No. 8 on permits and approvals required noted the Project requires both a NPDES/SDS Construction Stormwater Permit and a Clean Water Act, Section 401 Water Quality Certification from the MPCA.

18. Jim Cox submitted comments (Submission #7) on the EAW specifically regarding aspects of EAW Attachment C, the Draft Operation and Management Plan. The submission suggested there should be non-governmental interests or stakeholders as part of the Adaptive Management Team to increase transparency and accountability. This submission also suggested the Draft Operation and Management Plan did not have specific goals, triggers, or a specific management path by which to measure environmental effects and to make alterations. The submission also expressed comments about the necessity of the proposed water control structure.

    Response. Based in part on the comments provided, the Project proposers have determined that the Project's Adaptive Management Team (AMT) will be reinstating the Marsh Lake Citizen Advisory Team to help guide and inform the AMT regarding future management decisions for Marsh Lake. The intention is to have the citizen committee in place before the end of construction. New members will be selected to represent major constituent groups such as hunters, anglers, and river advocates. The commenter may or may not be aware that a citizen advisory team had been previously formed in the late 1990s. This previous citizen advisory team was active and instrumental in helping to formulate the key components of the Marsh Lake Ecosystem Restoration Project. Those key components included the proposals for a water control structure, a fishway (i.e., passive water level control), and the re-routing of the Pomme de Terre River back into its historic channel with associated floodplain. The MDNR agrees that continued citizen involvement will be helpful in maintaining trust and future support for lake management in the Marsh Lake Project area.

    The Draft Operation and Management Plan (or Draft Plan) was referenced throughout the EAW and was included as an attachment to the EAW as additional Project information. As noted in the EAW, this Draft Plan is also a required component of the MDNR's Public Waters Work permit, which would be required for Project construction. As noted and addressed in the EAW, the proposed Operation and Management Plan is a Draft Plan and subject to revision, clarification, and refinement. Representatives of the AMT have met and further discussed and evaluated the Draft Plan. The Draft Plan is currently being revised to more clearly articulate the importance and value of lake drawdowns, and to identify the specific vegetation and water quality measurement parameters and standards that would prompt lake drawdowns and Project operations in future years after project construction. The Operation and Management Plan is a dynamic document describing the principles of adaptive management relative to this Project (i.e., evaluating the results of management actions in order to refine and direct future actions). The citizen advisory team would be able to review and provide input on future revisions to, and application of, the Operation and Management Plan. Specific performance measurement standards by which to measure project performance would also be incorporated into ongoing and future revisions to the Operation and Management Plan.

Regarding comments expressing an opinion on the necessity of the water control structure, the EAW described the importance of the water control structure as a component of the proposed project. As noted in the EAW, the water control structure would provide resource managers the opportunity to periodically drawdown water levels to promote lake habitat conditions. At this time, the intent of the Adaptive Management Team is to initiate a full drawdown (i.e., to lake elevation 936.0) following Project construction, for a duration of up to two years. Following this initial drawdown, additional drawdowns may be initiated on a periodic basis, depending on lake conditions. Based on the MDNR's and the team's experience, an initial drawdown is critical and necessary to restore vegetation and move toward clear water conditions and improved water quality in Marsh Lake.

19. Win Mitchell submitted comments (Submission #8) on the need for an initial lake drawdown to accomplish the goals of the project. The submission questioned whether the rock-ramp fishway will result in a reduction of water levels to expose mud flats in the lake and regenerate emergent vegetation. This submission also suggested the need to support migrating waterfowl and to reduce the Common carp population to allow emergent vegetation to grow.

    Response. The comments and concerns addressed the ability of the Project to meet the stated goals and not on specific environmental effects described in the EAW, the accuracy and completeness of the EAW, specific impacts that require further investigation, or the potential for significant environmental effects.

    The EAW described and emphasized that a purpose of the Project is to allow resource managers to periodically drawdown water levels to promote lake habitat conditions using this water control structure. The intention of the Project proposers and the Adaptive Management Team (ADT) is to initiate a full drawdown (to lake elevation 936.0) for up to two years after Project construction is complete. An initial targeted drawdown is necessary to move this lake toward the clear water state and is critically necessary to restore vegetation back to the lake.

20. Jon P. Schneider, on behalf of Ducks Unlimited submitted comments (Submission #9) on the EAW and regarding aspects of EAW Attachment C, the Draft Operation and Management Plan. The comments in this submission concurred with the EAW and also expressed and conveyed support for the Project. The submission focused primarily on suggestions that could potentially enhance the ability of the Project to meet the stated goals. This submission emphasized the importance of an initial major water level drawdown immediately following construction of the water control structure to eliminate the Common carp present in the lake before downstream fish gain access to the lake using the rock ramp fishway structure. The submission included questions about whether a fish barrier was thoroughly investigated, given the Project proposers' emphasis on fish passage. In addition it was suggested that the water level control structure should be managed appropriately, aggressively, and proactively. The submission suggested

additional specificity and proactive management is needed for the Draft Operation and Management Plan. Concerns about the composition of the Adaptive Management Team were also included in the submission.

Response. The comments addressed the Project's capacity to meet the stated goals and not on specific environmental effects described in the EAW, the accuracy and completeness of the EAW, specific impacts that require further investigation, or the potential for significant environmental effects.

The Project proposers and the Adaptive Management Team (AMT) plan to initiate a two-year targeted drawdown immediately after Project construction is completed. This is in consideration of the presently degraded condition of the Marsh Lake. The MDNR concurs that a targeted drawdown is necessary to move this lake toward a vegetated state. It is not feasible, however, from a project construction standpoint to first construct the water control structure, complete a targeted drawdown, and then build the fish passage structure two years later. The components of Project construction as identified and described in the EAW would be completed before a targeted drawdown.

The MDNR recognizes the long-standing concerns of Ducks Unlimited with the effects of carp on the ecology of Marsh Lake. The lengthy project planning process has yielded a more integrated and comprehensive approach toward achieving improved water quality and vegetated conditions than efforts that would have solely focused on a drawdown structure. The focus on all Project features (i.e., water control structure, fish passage with built-in lake level variability, and re-routing of the Pomme de Terre River to its historic channel and floodplain) offers a more robust and integrated approach to reversing the degraded conditions in Marsh Lake.

The MDNR emphasizes that Marsh Lake is within the Minnesota River and thus this is not a typical shallow lake enhancement project. The current configuration of the dam does not and would not stop the upstream movement of Common carp or the looming presence of new invasive carp species. Even if it was technically feasible to design a complete barrier to upstream movement of fish from the Minnesota River, there are substantial numbers of Common carp in upstream waters that would readily repopulate Marsh Lake. Common carp densities in Marsh Lake were high even when the lake was in better condition (after the drought of 1988 and in the early 1990s). Providing fish passage, along with water level variability, is recognized by resource managers as essential in supporting native species and shifting the balance away from exotic fishes. In the absence of a diverse fish community with connectivity to the river system, the ideal conditions for rearing more Common carp in Marsh Lake are created.

The Draft Operation and Management Plan (or Draft Plan) was referenced throughout the EAW and included as an attachment to the EAW as additional project information. As noted in the EAW, this Draft Plan is also a required component of the MDNR's Public Waters Work permit, which would be required for Project construction. As noted and addressed in the EAW, the proposed Operation and Management Plan is a Draft Plan and

subject to revision, clarification, and refinement. Representatives of the AMT have met and further discussed and evaluated the Draft Plan. The Draft Plan is in the process of being revised and rewritten to more clearly articulate the importance and value of lake drawdowns, and to identify the specific vegetation and water quality measurement parameters and standards that would prompt lake drawdowns and operations in future years after Project construction. The Operation and Management Plan is a dynamic document describing the principles of adaptive management relative to this Project (i.e., evaluating the results of management actions in order to refine and direct future actions). The citizen advisory team will be able to review and provide input on future revisions to, and application of, the Operation and Management Plan. Specific performance measurement standards by which to measure project performance will also be incorporated into future and ongoing revisions to the Operation and Management Plan.

Based in part on the comments provided, the Project proposers have determined that the Project's AMT will be reinstating the Marsh Lake Citizen Advisory Team to help guide and inform the AMT on future management decisions on Marsh Lake. The intention is to have the citizen committee in place before the end of construction. New members will be selected to represent major constituent groups such as hunters, anglers, and river advocates. This previous citizen advisory team was active and instrumental in helping to formulate the key components of the Marsh Lake Ecosystem Restoration Project. Those key components included the proposals for a water control structure, a fishway (i.e., passive water level control), and the re-routing of the Pomme de Terre River back into its historic channel with associated floodplain. The MDNR agrees that continued citizen involvement will be helpful in maintaining trust and future support for lake management in the Marsh Lake Project Area.

21. Based upon the information contained in the EAW, the MDNR has identified the following potential environmental effects associated with the proposed Project:

    a. Physical impacts to surface water resources
    b. Water quality impacts
    c. Impacts to wildlife, wildlife habitat and vegetation
    d. Air emissions, odors, noise, and traffic
    e. Cumulative potential effects

    a. Physical impacts to surface water resources. This topic was addressed in Item 6.b. and Item 11 of the EAW.

    The Project would directly affect Marsh Lake (Public Waters Basin #06000100), the Minnesota River, and the Pomme de Terre River. These water resources are upstream and downstream of the water control structure. There would be a water control structure with a notched weir, replacing the existing fixed-crest weir; construction of a rock-ramp fishway; and modification and rerouting of the Pomme de Terre River into its historic channel.

The proposed Project would allow control over water level management for Marsh Lake, the Minnesota River, and adjacent waters. Modifications to the Marsh Lake Dam would cut off flow to the Pomme de Terre River. Construction activities are proposed to begin in late 2016 and into 2017. The first components of the Project are focused on the Marsh Lake dam features and includes the embankment and parking lot construction and installation of the rock-ramp fishway and water control drawdown structure. Temporary coffer dams would be used during the construction of this component, and material would be taken as needed from a designated borrow area.

The second component of the Project would be focused on the Pomme de Terre River restoration. Construction would last two to three years, beginning in the winter of 2017-2018.

Construction impacts to surface waters would be temporary and would be mitigated through regulatory authorities.

The water control structure would allow for an initial water level drawdown now and also for periodic future drawdowns as part of the Project operations. The MDNR has determined there would be an initial drawdown to lake elevation 936.0 using the water control structure to eliminate Common carp from Marsh Lake and to provide for vegetation management and promote habitat favorable to a diversity of fish species. During temporary drawdowns, mudflat conditions would be present in the bay and along parts of the Marsh Lake shoreline. Similar to the vegetative response observed after the 1988 drought, when normal lake levels return, the cattail zone along the shoreline is expected to be wider but the bay should remain predominately as open water. Sago pondweed would likely be the predominant submersed aquatic plant species to respond to variability in water levels and to water level drawdown. Sago pondweed is a valuable food resource for waterfowl and during most years is anticipated to respond well throughout the entire basin.

b. Water quality impacts. This topic was addressed in Item 6.b., in Item 11, and in Item 13 of the EAW.

Temporary water quality impacts would occur during construction of the Project. Debris and sediment would be removed from the channel during construction and be placed in spoil banks in non-wetland areas. Water and wetlands would receive increased runoff during construction. Sedimentation might temporarily occur during the construction phase. Erosion and sediment control measures would be developed to follow NPDES/SDS regulations associated with the MPCA Construction Stormwater permit. Potential BMPs include construction during low-flow periods, use of silt curtains, dewatering of the construction area using coffer dams, limiting the time period for exposed soils, use of mulch, and control of stormwater flow from any upland areas disturbed during construction.

Overall water quality is expected to improve over time, but could take a number of years to respond to Project implementation. Adverse water quality impacts could result from erosion and sedimentation due to low water levels, but existing mud bottom areas of Marsh Lake are expected to be reduced over time. An initial drawdown, followed by periodic drawdowns, would reduce non-native fish species such as the Common carp and promote development of a diversity of fish species and populations, establishing desired submersed and emergent vegetation, all of which would be expected to enhance water quality.

c. Habitat impacts to wildlife and vegetation. This topic was addressed in Item 6.b., and in Item 13 of the EAW.

Construction of the proposed Project would contribute to some loss of wetland wildlife habitat but would also allow for the development of improved quality of surrounding habitat over time. A Technical Evaluation Panel (TEP) has met and has determined the proposed Project involves no loss of wetland under the Wetland Conservation Act (WCA). This is due to the Project being proposed for wetland habitat enhancement and for including appropriate mitigation for the loss of habitat.

Restoration of the Pomme de Terre River to its historic channel would affect a large number of live mussels, but this would be mitigated by implementation of the extensive Mussel Rescue and Translocation Plan included in Attachment F of the EAW. This Attachment discusses procedures that would remove live mussels from the Pomme de Terre River and translocate the mussels to the Minnesota River. After determining the success of the initial relocation efforts, an ongoing monitoring plan would be developed as needed.

Construction would not occur at times when there could be effects on colonial nesting birds and American white pelicans. Additionally, during the operation of the Project, water levels would not be drawn down below elevation 936.0 during the nesting season. Low water levels during construction and construction equipment in the Project area could disturb and temporarily displace wildlife. Disturbance of vegetation would also occur during construction, although this would be temporary and localized.

Construction would consolidate the mud bottoms of Marsh Lake, which is habitat conducive to Common carp, thus reducing the extensive presence of Common carp in Marsh Lake.

The contractor would be required to prevent invasive species from entering into or spreading within a site by cleaning equipment prior to arriving and before leaving the Project limits, consistent with DNR Operational Order 113.

The proposed Project would allow MDNR to manage surface waters to support and improve shallow lake habitat for waterfowl and wildlife. Temporary drawdowns would be used to mimic periodic droughts, which can restore aquatic vegetation and

improve water quality by removing fish or reducing fish abundance and increasing invertebrate abundance. The existing fish habitat conditions in Marsh Lake favor Common carp, which can affect bottom sediments and uproot aquatic vegetation, degrading habitat conditions in shallow lakes. A clear water system with more aquatic plants would favor native fishes over the non-native Common carp, as well as favor many other native plant and wildlife species. A fish barrier would not be used in the water control structure. Drawdowns would be temporary and infrequent.

The Project is within the range of the northern long-eared bat habitat, but the northern long-eared bat has not been identified in the project area. To avoid adverse effects to the northern long-eared bats (Myotis septentrionalis), tree removal activities would be restricted to periods outside of the nesting and pup-rearing season.

The Project would provide more stable water levels in the long term compared to current conditions. Over time, water levels would be managed to maintain a clear-water state, improving habitat for wildlife and vegetation. Wildlife impacts would be local, minor, temporary, and limited to construction and establishment phases of project. Long-term beneficial effects for wildlife are anticipated.

d. Air emissions, odors, noise, and traffic. This topic was addressed in Items 16, 17, and 18 of the EAW.

A measurable increase in general traffic due to this Project is not anticipated. No long-term transportation or traffic features are planned other than the parking areas described above. Construction activities, including by the use of heavy construction equipment accessing the area, may impede traffic at times from the start of construction through the end of construction in 2018. Heavy construction equipment would emit CO_2 while the Project is being constructed, but the amount of emissions is expected to be short-term and minimal.

The Marsh Lake construction area is remote, surrounded by an MNDNR Wildlife Management Area. Construction activities during dry periods and the heavy equipment's burning of fossil fuel may result in a temporary increase in dust, odors, and noise, but effects are expected to be minimal. The Project site is remote and a temporary increase in noise levels during construction periods is anticipated to create minimal disturbance to nearby receptors. Increased dust, odor, and noise as a result of Project construction would typically occur during normal daytime operating hours and would be limited from the start of construction through the end of construction in approximately 2018. Once the Project is constructed, there would be no additional dust, odor, or noise effects.

d. Cumulative Potential Effects. This topic was addressed in Item 19 of the EAW.

The potential environmental effects of this proposed Project could combine with environmental effects from other past, present, or reasonably foreseeable future projects for which a basis of expectation has been laid. The only foreseeable future

project that is known at this time is a potential project of the Upper Minnesota River Watershed District. However, no reasonable basis of expectation has been laid, as no permit applications have been submitted. The cumulative potential effects to surface water; water quality; wildlife and vegetation; and, air emissions, odors and noise are expected to be local, minor, temporary, and limited.

22. The MNDNR has determined that the following issues reviewed for potential environmental effects in the EAW have no or very limited potential for environmental effects.

    a. **Historic Properties (EAW Item No. 14).** A review of the site by MNDNR archeologist concluded that no historical properties would be affected and the State Historic Preservation Office (SHPO) reviewed the project and concluded the same. Construction materials and dredge materials, and the placement of same will be reviewed and their use approved before such materials are placed on-site or near historic properties.

23. The following permits and approvals would be needed for the Project:

Unit of Government	Type of Application/Approval	Status
MDNR	Public Waters Work Permit with Wetland Conservation Act (WCA) exemption finding	Application submitted and pending
Minnesota Pollution Control Agency (MPCA)	NPDES/SDS Construction Stormwater Permit	Application submitted and pending
Minnesota Pollution Control Agency (MPCA)	Clean Water Act Section 401 Water Quality Certification	Application submitted and pending
SHPO	Archeological and Historic Properties review, clearance, and approval	Pending
U.S. Army Corps of Engineers (USACE)	Clean Water Act, Section 404 permit	Completed
U.S. Fish & Wildlife Service (USFWS)	Bald and Golden Eagle Protection Act involvement	Determination pending
U.S. Fish & Wildlife Service (USFWS)	Northern long-eared bat involvement/concurrence	Determination pending
Upper Minnesota River Watershed District	Local project sponsor funding	Pending

CONCLUSIONS

1. The Minnesota Environmental Review Program Rules, Minnesota Rules, chapter 4410.1700, subparts 6 and 7 set forth the following standards and criteria, to which the effects of a project are to be compared, to determine whether it has the potential for significant environmental effects.

   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 of related or anticipated future projects;
   c. extent to which the environmental effects are subject to mitigation by on-going regulatory authority; and
   d. the extent to which environmental effects can be anticipated and controlled as a result of other environmental studies undertaken by agencies or the project proposer, including other EISs.

2. *Type, extent, and reversibility of environmental effects*

   Based on the Findings of Fact above, the MNDNR concludes that the following potential environmental impacts, as described in Finding No. 21, would be either limited in extent, short-term, temporary, minor, or reversible:

   a. Physical impacts to water resources
   b. Water quality impacts
   c. Impacts to wildlife, wildlife habitat and vegetation
   d. Air emissions, odors, noise, and traffic
   e. Cumulative potential effects

   Based on the Findings of Fact above, the MNDNR concludes the following potential environmental effects of the project, as described in Finding No. 21, would be beneficial:

   The proposed Project activities would result in reduced populations of Common carp, greater habitat and species diversity, and restore the Pomme de River back to its historic channel, and promote the development of waterfowl hunting and associated recreation.

3. *Cumulative potential effects of related or anticipated future projects.*

   As described in Finding No. 21, overall cumulative potential effects are expected to be minimal and temporary. Habitat impacts to fish and wildlife; physical impacts to water resources; water quality impacts; and air, odors, noise and traffic impacts would be limited to the construction timeframe, or would be beneficial over the operation of the Project, and are not expected to contribute to cumulative potential effects of future projects. Mitigation measures and best management practices have been identified and would be utilized to minimize these impacts. No reasonably foreseeable projects are expected to occur within the

same geographic scale or timeframe to result in cumulative effects.

4. *Extent to which environmental effects are subject to mitigation by on-going public regulatory authority.*

   Based on the information in the EAW and Findings of Fact above, the MNDNR has determined that the physical impacts to water resources and water quality impacts as described in Finding No. 21, are subject to mitigation by ongoing public regulatory authority:

   Prior to initiation of this project, the following permits and approvals would be required: the MDNR Public Waters Work permit, USACE Section 404 permit, CWA 401 Water Quality Certification, and a WCA exemption that will be included in the MDNR Public Waters Work Permit. When applying standards and criteria used in the determination of the need for an environmental impact statement, the MDNR finds that the Project is subject to these regulatory authorities and the Project's potential environmental effects on water resources would be sufficiently mitigated through measures identified in the EAW.

5. *Extent to which environmental effects can be anticipated and controlled as a result of other environmental studies undertaken by public agencies or the project proposer, or other EISs.*

   The MDNR has completed, or developed in collaboration with others, numerous habitat improvement projects within public waters that have included the preparation of EAWs. The information gained on the effects and results of past projects provides part of the basis for predicting the effects of similar future projects, such as the proposed Project.

   The MNDNR has prepared EAWs for other habitat improvement projects that have similar environmental effects. These include, but are not limited to, the Goose Prairie Marsh Enhancement, Roseau River Wildlife Management Area, Upper Lightening Lake, Radio Tower Bay, and Solid Bottom Creek.

6. The MNDNR has fulfilled all the procedural requirements of law and rule applicable to determining the need for an environmental impact statement on the proposed Marsh Lake Ecosystem Restoration Project.

7. Based on consideration of the criteria and factors specified in the Minnesota Environmental Review Program Rules (Minnesota Rules, chapter 4410.1700, subpart 6 and subpart 7) to determine whether a project has the potential for significant environmental effects, and on the Findings and Record in this matter, the MNDNR determines that the proposed Marsh Lake Ecosystem Restoration Project does not have the potential for significant environmental effects.

ORDER

Based on the above Findings of Fact and Conclusions:

The Minnesota Department of Natural Resources determines that an Environmental Impact Statement is not required for the Marsh Lake Ecosystem Restoration Project in Big Stone, Lac qui Parle, and Swift Counties, Minnesota.

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

Dated this 30th day of August, 2016.

STATE OF MINNESOTA
DEPARTMENT OF NATURAL RESOURCES

Barb Naramore
Assistant Commissioner