**DEPARTMENT OF NATURAL RESOURCES**
**RECORD OF DECISION**

**In the Matter of the Determination of the Need for an Environmental Impact Statement for the Lower Pool 2 Channel Management Study: Boulanger Bend to Lock and Dam 2 Maintenance Project in Washington and Dakota Counties, Minnesota**

**FINDINGS OF FACT, CONCLUSIONS AND ORDER**

## FINDINGS OF FACT

### Project Description

1. The U.S. Army Corps of Engineers (USACE) proposes to construct two new channel training structures in Lower Pool 2 of the Mississippi River between Boulanger Bend and Lock and Dam 2 to redirect the flow of the Mississippi River to maintain the congressionally-authorized navigational channel width (the Proposed Project). The navigational channel ranges from 450 to 350 feet wide. The Proposed Project would be located between River Miles 816 and 821, between the City of Cottage Grove (Washington County) and Nininger Township (Dakota County), Minnesota. The Proposed Project would be 1.8 miles above Lock and Dam 2 at Hastings, Minnesota.

2. The major components of the Proposed Project includes excavation and maintenance to create a wider navigational channel that is still within authorized dimensions, and construction of two new rock sill training structures. One of the training structures would be southwest of Freeborn Island, on the right descending bank from River Mile 819.5 to 819.8 (West Training Structure), and the other training structure would be on the left descending bank from River Mile 818.4 to 818.9, east of Freeborn Island (East Training Structure). It is estimated that a maximum of 400,000 cubic yards would be dredged as a result of the Proposed Project. Once constructed, the Proposed Project would improve navigability, safety, and reduce ongoing channel maintenance requirements. *See* Attachment 1: Project Map. The Proposed Project also includes the disposal of dredged material as outlined in ¶¶ 6 through 8 of this Findings of Fact.

3. The East Training Structure would generally parallel the navigation channel to reduce or block "breakout flows" from the river, where flow diverts from the main channel. The structure is used to direct channel flows to the main navigation channel and keep any water movement outside this main channel flowing in the same direction. The horseshoe-shaped island southwest of Freeborn Island would reduce breakout flows upstream of Freeborn Island. The result of the widened channel would be higher flow velocities but less sediment deposition leading to reduced dredging volumes. There would also be reduced breakout flows, which would improve navigability.

4. The West Training Structure is a rock-mound-type of 'island' with a 10-foot-wide top. A 10-foot top width has been shown to provide enough mass to withstand the forces that expanding and moving ice would exert on the structure. The crest of the rock mound island would be at 687.4 feet (1912 datum). The island crests would only be about 0.8 feet above the Low Control Pool (LCP) elevation in this portion of the river. The island would be 0.8 feet above the water surface at low flows. The water surface would reach the island crest in a 2-year flood event. Because this island would be in the lower end of Pool 2, it would be subject to water level pool operations the dam. The pool is operated at the dam to 686.5 between 10,000 and 60,000 cfs.

5. During the 2017 project environmental review, discussed in ¶¶ 9 through 12, dredged material was proposed to be placed on Lower Grey Cloud Island site within a 15-acre site that had been previously used for placement of dredged material. Following the remand of the Record of Decision by the Court of Appeals back to the Department of Natural Resources (DNR) in June 2018, the USACE revised the project to include to the additional four placement sites listed below. On October 24, 2018, the USACE wrote to DNR indicating that Lower Grey Cloud Island was no longer proposed as a disposal site for the dredged material.

6. Dredged material associated with the Proposed Project would be placed at the locations shown on Attachment 2: Dredge Material Locational Map (showing disposal sites for dredged material). Dredged material would be placed in a combination of the following locations: Pig's Eye Islands (current capacity 400,000 cubic yards), Pine Bend Island (current capacity 125,000 cubic yards), Upper Boulanger Island (current capacity 50,000 cubic yards), and Lower Boulanger Island (current capacity 125,000 cubic yards).

7. Three of the four proposed dredge disposal sites, (Pine Bend Island, Upper Boulanger Island, and Lower Boulanger Island), were analyzed in the 1997 Federal EIS for the Channel Maintenance and Management Plan (CMMP) for the lower Mississippi, which discussed upland placement sites for dredged materials (CMMP Sites). The CMMP Sites are also permitted through an existing State Disposal System (SDS) permit issued by the Minnesota Pollution Control Agency (MPCA) issued in approximately 1985 and a Public Waters Work Permit issued by the Department of Natural Resources in 1984.

8. The fourth site, the Pigs Eye disposal site was subject to separate environmental review. An Environmental Assessment Worksheet (Pig's Eye Islands Project EAW) was conducted by Ramsey County for the Pig's Eye Islands disposal site. The Negative Declaration on the need for an Environmental Impact Statement was signed by Ramsey County on May 24, 2018.

9. Because all of the newly proposed dredge disposal sites have undergone environmental review, they do not constitute a substantial change which may affect the potential for significant adverse environmental effects that were not addressed in the 2017 EAW, and therefore do not require an new EAW as required by Minn. R. 4410.1000 subp. 5.

## State Environmental Review of the Proposed Project

10. The Proposed Project is an outgrowth of a project advanced by the USACE in the Lower Pool 2 Channel Management Study: Boulanger Bend to Lock and Dam No 2 (Boulanger Bend Project).[1] The 2017 Project involved constructing the project elements of the Proposed Project set forth in ¶¶ 1 through 4 but, contrary to the Proposed Project, included disposing of dredged material on Lower Grey Cloud Island. In 2017, the USACE prepared a federal environmental assessment (Federal EA) for the Boulanger Bend Project.

11. The DNR prepared an environmental assessment worksheet (EAW) for the Lower Pool 2 Channel Management Study: Boulanger Bend to Lock and Dam 2 Maintenance Project (2017 EAW) pursuant to Minn. R. 4410.1400 and 4410.1500. in 2017. The 2017 EAW was prepared as a mandatory EAW pursuant to Minn. R. 4410.4300, subp. 27A.

12. As allowed by Minn. R. 4410.1300 the DNR circulated the Federal EA in place of the EAW form. The Exhibit I of the Federal EA identifies how the each of the environmental effects identified in the EAW form were addressed in the Federal EA. Dredged material associated with the project proposed at the time included deposition onto a portion of Lower Grey Cloud Island. This disposal site was also analyzed in the Federal EA.

13. The 2017 EAW was filed with the Minnesota Environmental Quality Board (EQB) and a notice of its availability was published in the EQB Monitor on June 26, 2017. A copy of the 2017 EAW was sent to all persons on the EQB Distribution List and to those persons known by the DNR to be interested in the proposed project. A news release announcing the availability of the 2017 EAW was distributed statewide. Copies of the 2017 EAW were also made available for public review and inspection at the Minneapolis Central Library, the Washington County Public Library in Cottage Grove, the Dakota County Public Library at Hastings, the DNR Library (500 Lafayette Road, St. Paul), and the DNR Central Region Office (1200 Warner Road, St. Paul). The 2017 EAW was also made available to the public via posting on the DNR's website.

14. Pursuant to Minn. R. 4410.1600 (2016), the 30-day public review and comment period for the 2017 EAW began June 26, 2017 and ended at 4:30 p.m. on July 26, 2017. The public was provided the opportunity to submit written comments to the DNR by the U.S. Postal Service, facsimile, or email.

[1] A previous version of the Proposed Project was analyzed by the DNR in 2017. That project involved construction as described in ¶2 but proposed disposing of project-related dredge material on Lower Grey Cloud Island. A non-profit group with an interest in developing Lower Grey Cloud Island, PAS Associates, Ltd., challenged the adequacy of the DNR's environmental review of the 2017 Project in the Minnesota Court of Appeals. The Court of Appeals remanded the matter to the DNR. In 2018 the USACE advanced the Proposed Project at issue here which includes the training structures but relocates dredged material disposal locations as described in ¶¶ 6 through 8 of this Record.

15. The 2017 EAW was incorporated by reference into the 2017 Record of Decision on the determination of need for an environmental impact statement (EIS).

16. During the 30-day public review and comment period, the DNR received written correspondence from the individuals and agencies listed below. The comment letters are included in the Record of Decision in Attachment 3. A discussion of comments received and DNR responses thereto are set forth in ¶ 17.

    1. Unidentified commenter 1
    2. Unidentified commenter 2
    3. National Park Service, U.S. Department of the Interior (received as a copy of comments directed to the USACE during the EA public comment period)
    4. PAS Associates, Ltd
    5. Minnesota Pollution Control Agency (no comments)

**Response to Comments**

17. A summary of the comments received by DNR during the comment period is set forth below together with DNR's response to comments:

    **Comment 1 Takings:** An unknown commenter questions the USACE's ability and authorization to conduct property takings as part of project development. The commenter further expresses frustration regarding this stated practice.

    **Response:** Because the comment does not address the accuracy or completeness of the material contained in the 2017 EAW, potential impacts that may warrant further investigation before the project is commenced, or the need for an EIS for the project as required by Minn. R. 4410.1600 there is no response to this comment. The jurisdictional authority of the project proponent is beyond the scope of environmental review. Copies of all comments will be provided to the USACE and to permitting and/or approval entities and/or authorities for their consideration as part of the permitting, approval, and/or implementation processes.

    **Comment 2 Habitat Impacts:** An unknown commenter questioned the surface water and potential habitat impacts to connected waters downstream of Hastings.

    **Response:** Based on the hydraulic and hydrologic modeling included in the Federal EA (Appendix D), the proposed project is anticipated to reduce sediment displacement throughout the project area, including the Nininger Bluff to Lock and Dam 2 area, which ends at Hastings. No adverse impacts to surface water or wildlife habitat outside of the project area were identified via the Federal EA. Impacts to surface waters and wildlife habitat during construction of the proposed project are

anticipated to be temporary and limited and are not anticipated to extend downstream of the Hastings area.

**Comment 3 Mississippi National River and Recreation Area:** The National Park Service requested that the Federal EA include references to the Mississippi National River and Recreation Area (MNRRA) in Sections 1.2 and 2.4 and that the Federal EA recognize the MNRRA as containing resources within the Proposed Project area.

**Response:** The USACE concurred with the National Park Service in its response to this comment and has updated the Federal EA record to include this reference.

**Comment 4 Volume of Dredged Material:** The National Park Service expressed concerns that there would be a significantly larger quantity of dredged material l under the preferred alternative as a result of channel widening. The commenter states its interest in reviewing the USACE's proposed Pool 2 Dredged Material Management Plan (DMMP) when it becomes available.

**Response:** The comment is acknowledged. The USACE has agreed to coordinate with the National Park Service as the DMMP becomes available. In an average year, 72,000-75,000 CY are dredged from Lower Pool 2. The channel widening undertaken during the Proposed Project will generate a one-time additional 300,000-325,000 CY of dredged material. However, following completion of the Proposed Project completion, the annual average dredging needed to maintain the navigational channel is expected to return to historic volumes of 75,000 CY or less material.

**Comment 5 Mussels:** The National Park Service expressed concerns regarding impacts the Proposed Project may have on mussel populations in the area, especially those species of State conservation concern. The National Park Service supports the Mussel Mitigation Plan and requests notification (1) prior to the relocation of mussels, and (2) of the results of the mussel survey and relocation effort.

**Response:** The comment is acknowledged. Potential project impacts on mussels were addressed in EAW Item No. 13 and in § 6.2 of the Federal EA. The USACE has agreed in its response to the National Park Service comments to coordinate with the National Park Service as the mussel relocation plan is implemented.

**Comment 6 Phased Action Associated with Dredging**: PAS Associates Ltd. asserts that the future disposal of the dredged material under a yet undeveloped DMMP is a phased and connected action that should be considered when evaluating the environmental effects of the Proposed Project.

**Response:** Disposal of dredged material for this project would be consistent with the current existing and approved DMMP, which was evaluated in a 1997 EIS. During the environmental review process, the DNR did assess whether any future DMMP

met the requirement of a phased and/or connected action. The DNR found that a future DMMP would meet the definition of a phased action pursuant to Minn. Rules 4410.0200, subp. 60. However, because the DMMP is in an initial stage of development and the DNR has yet to receive data submittals on the DMMP, the DMMP cannot be analyzed at this time. The applicable environmental review of the DMMP will be conducted once it is more fully developed. Potential environmental effects can then be sufficiently identified and addressed through the state environmental review process. The DMMP will also require federal environmental review under the National Environmental Policy Act (NEPA).

**Comment 7 Waters of the US Designation:** PAS Associates, Ltd. argues that a federal determination regarding whether the water-filled gravel pit is a Waters of the United States (WOTUS) is a necessary and critical requirement to make an adequacy determination on both the Federal EA and the 2017 EAW. PAS Associates further argue that the water-filled gravel pit is a lake.

**Response:** The USACE conducted a jurisdictional determination in September 2017, as part of the development of the DMMP Project data submittal to determine whether the water filed mine pit was a WOTUS. The jurisdictional determination indicated that, in accordance with the preamble to the Army Corps of Engineers 1986 regulations, the mine pit on Lower Grey Cloud Island in question is not a WOTUS and, therefore, is not regulated under Section 404 of the Clean Water Act (CWA). The USACE concluded, in its Jurisdictional Determination dated September 15, 2017, that the mine pit was excavated dry land for the purpose of obtaining fill, sand or gravel. The site excavation was for the purpose of obtaining fill, sand, or gravel and is ongoing. The USACE, therefore concluded, that an ongoing gravel mining operation does not meet the WOTUS definition at this time as set forth in 33 CFR 328.3(a). Fifteen (15) acres of the mine pit was also analyzed in the 1997 EIS as a disposal site for the placement of dredged material from Mississippi channel maintenance projects. This analysis is now no longer relevant as the USACE, by email dated October 24, 2018, advised the DNR that it no longer intends to use the Lower Grey Cloud Island site for disposal of dredged material. *See* ¶¶ 5 through 8.

**Comment 8 Impact on Future Development**: PAS Associates Ltd also expressed concern about the impact of disposing of dredge material at the mine pit site on Lower Grey Cloud Island on future development opportunities.

**Response**: Existing land use and the proposed project's compatibility with future planned uses are addressed in § 6.1.5 of the Federal EA. Land use on Lower Grey Cloud Island has been dominated by active aggregate mining and includes previously mined and re-claimed areas. The USACE has historically used portions

of Lower Grey Cloud Island as well as Upper and Lower Boulanger Islands for the placement dredged materials resulting from navigational channel maintenance. Placement of sand from the channel onto Lower Lower Grey Cloud Island is in keeping with the currently approved Reclamation Plan associated with the aggregate mine's permit. In addition, in the recently published Mississippi River Corridor Critical Area District Map, Lower Lower Grey Cloud Island is designated as a Rural & Open Space District (CA-ROS). Filling in portions of the existing gravel pit with sand, placing top soil and plantings of native grasses and trees is in keeping with this designation. Existing comprehensive plans for both Dakota County and Washington County were reviewed for compatibility with the Proposed Project, and no incompatibilities with the long-term development plans for Lower Grey Cloud Island were found. This comment is now no longer relevant as the USACE, by email dated October 24, 2018, advised the DNR that it no longer intends to use the Lower Grey Cloud Island site for disposal of dredged material. *See* ¶¶ 5 through 8.

**Comment 9 Land Use**: PAS Associates is concerned about the use of an unidentified 56-acre site for disposal of dredged material.*)*

**Response:** There is no 56-acre site that is being considered as part of the Proposed Project. There is an approximately 15-acre area that has been previously used for sediment disposal that was proposed as a sediment disposal site for the Proposed Project. Use of this site is for potential disposal is consistent with the 1997 EIS. This analysis is, however, no longer relevant as the USACE, by letter dated October 24, 2018, advised the DNR that it no longer intends to use the Lower Grey Cloud Island site for disposal of dredged material. *See* ¶¶ 5 through 8.

## Analysis of Potential Environmental Effects

18. Based upon the information contained in the 2017 EAW, the DNR identified the following topics of potential environmental effects associated with the proposed project:

    a. Surface Waters
    b. Water Quality
    c. Wildlife and Habitat
    d. Air
    e. Noise
    f. Visual Effects
    g. Cumulative Potential Effects

    Each of these environmental effects is discussed in more detail below.

    a. **Surface Waters**

    This topic was addressed in the 2017 EAW under Items 11a and 11b, and in Federal EA §§ 2.2.1.3: Hydrology & Hydraulics and 2.2.8: Water quality.

The Proposed Project would take place in Lower Navigation Pool 2 of the Mississippi River (Public Water Inventory: "U.S. Lock & Dam #2 Pool 19-5 P"). The area is part of the MNRRA. The river segment in which the Proposed Project would occur has not been designated a wild or scenic river under the Federal Wild and Scenic Rivers Act. The Lower St. Croix flows into the Mississippi River 6.5 river miles downstream of the project area, and approximately 3.5 miles downstream of the proposed staging area at Lock and Dam 2. The Lower St. Croix River was designated as a Federal Wild and Scenic River for its recreational and scenic values. There are no Minnesota-designated Wildlife Lakes in Dakota or Washington Counties and no state-designated trout lakes, trout streams or calcareous fens in the project vicinity.

Other water resources in the project area include several unnamed streams, several named features of the Mississippi River (e.g., Spring Lake, Grey Cloud Slough, etc.), and several wetlands.

b. **Water Quality**

This topic was addressed in the 2017 EAW under Items 11b and 13 and in the Federal EA at § 6.2.8.

Lower Pool 2 has an approved Total Maximum Daily Load (TMDL) Plan for Mercury in Fish Tissue; Mercury in Water Column, and Additional Impairments of Polychlorinated biphenyl (PCB) in Fish Tissue, Perfluorooctanesulfonic acid (PFOS) in Fish Tissue, and Turbidity under the CWA.

The Proposed Project would have temporary and minor adverse effects on water quality attributed to the disruption and displacement of sediments during project construction, including both during dredging of the channel and construction of project features. The Proposed Project would also have periodic minor adverse effects on water quality associated with maintenance dredging events post construction. These effects would be similar to the minor adverse effects associated with existing dredging events.

Increases in turbidity associated with the Proposed Project would generally be local and short term. Anticipated impacts on water quality are most commonly related to the type of equipment used to complete a dredging job. Hydraulic dredging equipment tends to have less impact on water quality at the dredge cut site than mechanical equipment. Conversely, mechanical dredging equipment tends to have less impact on water quality at the placement site because there is no carriage water to manage either on- or off-site. Both methods of dredging can be conducted using best management practices to minimize effects to water quality, resulting in negligible impacts to water quality.

Because all work associated with the Proposed Project would take place within the waterbody adverse effects are not anticipated due to stormwater runoff. The project would not require a water appropriation permit and no wetlands are known to exist in the project area.

*Water Quality due to Sediment*

Sediment testing of materials in Boulanger Slough occurred in 2008 and identified the presence of PFOS and Polyfluoroalkyl substances (PFAS). The results of this testing has been provided to MPCA, consistent with the SDS permit requirements. During project development prior to the 2017 EAW, the USACE considered a number of project design options, and ultimately the Boulanger Slough area was not included in Proposed Project.

The USACE conducted testing for PFAS compounds in sediment from the Boulanger Bend area in 2017 and 2018. Samples were analyzed for seventeen different PFAS compounds. The various PFAS compounds measured in these samples were detected at very low concentrations, ranging from 0.033 to 1.2 ug/kg (parts per billion, ppb). Current Soil Reference Values (SRVs) for PFAS range from 330-63,000 ppb, and testing of dredged material in Pool 2 has found levels of PFAS ranging from less than one to about three ppb. SRVs are numerical values representing the amount of a chemical in soil that is safe for people who use a site. The PFAS levels detected in Pool 2 navigation channel sediments have been comparable to the relatively low levels found commonly throughout Pool 2.

The proposed project would have temporary and minor adverse effects within the project footprint and adjacent areas of suspended sediment and surficial sediment from the disruption and displacement of sediments during project construction, both during the dredging of the channel and the construction of the proposed project features. The widening of the channel would also expose more sediment to disruption, but this material only showed slight Sediment Quality Target (SQT) Level I exceedances. However, the 2015 testing of the substrate within the proposed training structure footprints showed several parameters with SQT Level II and MPCA's Soil Reference Value (SRV) Recreational/Residential exceedances in these areas (as fully detailed in Appendix H of the EA). Following construction of the proposed project, these sediments would be capped to prevent their further movement. Through coordination with the MPCA, Best Management Practices would be employed during construction that could also reduce disturbance.

### c. **Wildlife and Habitat**

This topic was addressed in the 2017 EAW under Item No. 13 and Federal EA § 6.2.

The Upper Mississippi River provides habitat for a wide diversity of fish and wildlife. The combination of aquatic area, floodplain forest, and terrestrial communities near the Proposed Project provide habitat for fish, mussels, and other aquatic invertebrates, amphibians, and mammals.

The 200-foot wide main navigation channel conveys the primary flow of the Mississippi River. Typically, flows within the main channel move at a higher velocity than border areas or secondary channels, resulting in shifting substrates and the absence of vegetation. Main channel border areas lie between the main navigation channel and

the riverbank (i.e., island shorelines) and may harbor river training structures, submerged logs and riprap that provide habitat for a variety of biota. Secondary channels (including Boulanger and Nininger sloughs) carry less flow than the main channel, and typically have characteristics such as clearly defined shorelines or inundated natural bank lines. Secondary channels offer variable habitats depending on flow, water depth, substrate, submerged structures, light penetration, wind, and water quality.

Boulanger Slough's depth ranges between 6 – 20 feet and is dominated by a hard-packed clay substrate with scattered woody debris. Boulanger Slough is situated on the lower portion of Pool 2, but is laterally connected to the main channel and floodplain. Habitat in impounded areas is variable and influenced by water depth, substrate, wind, submerged structures, light penetration, water quality, flow, etc. The impounded area that separates Boulanger Slough from the current main channel generally ranges from 4-6 feet deep, with a hard clay substrate overlain by a flocculent layer of silt and interspersed by woody debris. The flocculent silt is often suspended by current flowing through the area and by wind-driven waves. Contiguous backwater floodplain lakes (i.e., Spring Lake) are hydraulically connected to the main channel and offer a wide variety of plant and animal habitat.

*Federal Protected Species*

The U.S. Fish and Wildlife Service's "Information for Planning and Conservation (IPaC) website was consulted on November 3, 2016 to determine if any proposed, candidate, threatened, or endangered species occurred within the Proposed Project area. The results indicated that a total of four Federally-listed endangered species and two Federally-listed threatened species *may occur* in in the vicinity of the Proposed Project. This includes the following three freshwater mussel species which are listed as endangered: the Higgins eye pearlymussel (*Lampsilis higginsii*), sheepnose (*Plethobasus cyphyus*), and snuffbox (*Epioblasma triquetra*). The other federally listed species is the endangered the rusty-patched bumble bee (*Bombus affinus*). Species listed as threatened include one mammal - the northern long-eared bat (*Myotis septentrionalis*), and one flowering plant – the prairie bush-clover (*Lespedeza leptostachya*).

However, further examination indicates that the Proposed Project would not affect any Federally-listed threatened or endangered species. Mussel surveys in 2012 and 2015 conducted in and around the project area (as described in the Federal EA § 6.2.4) recovered no Federally-listed species. The DNR also reviewed additional mussel surveys conducted between 1999 and 2017 that were conducted nearby for unrelated purposes, including surveys conducted by the Minnesota DNR and Ecological Specialists, Inc. These surveys indicated that there has been one recent collection (2010) of a single, live individual Federally-listed endangered Higgins eye pearlymussel approximately one-tenth of a mile upstream from the Proposed Project. The mussel was found off the main channel behind a small rock island. However, it is unlikely that the species occurs within the area that would be disturbed by the project

given the marginal habitat conditions identified during the surveys. Higgins' eye are typically associated with dense, high-quality mussel beds. Substrate conditions in the project area are less than ideal for the Higgins eye, consisting of a loose, 'mucky' mixture of silt, clay, and sand, but with pockets of homogenous sand and hardpan clay. Furthermore, it is highly unlikely that any other species of Federally-listed endangered mussels inhabit the project area. The snuffbox was recently re-introduced in upper Pool 2, but has not otherwise been recently collected in Pool 2. The sheepnose is not known to be extant in Pool 2 of the Upper Mississippi River.

The rusty patched bumblebee occupies grasslands and tallgrass prairies of the Upper Midwest and Northeast. This bumblebee needs areas that provide food (nectar and pollen from flowers), nesting sites (underground and abandoned rodent cavities or clumps of grasses above ground), and overwintering sites for hibernating queens (undisturbed soil) (USFWS 2016). The rusty patched bumblebee is not closely associated with the riverine environment. As described in § 2.2.5 of the Federal EA no habitat suitable for these species would be disturbed by the proposed project. If any upland disturbance is proposed as part of the dredged material placement, this determination will be reviewed prior to construction.

Suitable habitat for the northern long-eared bat is variable depending on the season and the life stage of the individual bat. In the summer, these bats often roost under the bark of tree species such as maples and ashes within diverse mixed-age and mixed-species tree stands, commonly close to wetlands. In the winter, the northern long-eared bat hibernates in caves and abandoned mines. During periods of migration and foraging, these bats tend to use the 'edge habitat' where a transition between two types of vegetation occurs (Wisconsin DNR 2013b). The northern long-eared bat is not closely associated with the riverine environment. As described in § 2.2.5 of the Federal EA, no habitat suitable for the northern long-eared bat would be disturbed by the proposed project. If any upland disturbance is proposed as part of the dredged material placement, this determination will be reviewed prior to construction.

Suitable habitat for the prairie bush clover includes well-drained soils in prairies of the Midwest. The prairie bush clover is a terrestrial species, not closely associated with the riverine environment. As described in § 2.2.5 of the Federal EA, no habitat suitable for these species would be disturbed by the Proposed Project. If any upland disturbance is proposed as part of the dredged material placement, this determination will be reviewed prior to construction.

*State Protected Species*

A licensed review of the DNR Natural Heritage Information System (NHIS) database and the Statewide Mussel Survey was conducted in December 2016 by the USACE to obtain the records of any known state endangered or threatened species, as well as species of special conservation concern, native plant communities, and other natural features documented within one mile of the Proposed Project. A number of species that

are listed by the State of Minnesota as endangered or threatened have been historically documented in the vicinity of the Proposed Project.

The NHIS database identified twelve state-listed threatened and endangered mussel species that have been historically-documented in the area. This list was compared to the results of recent mussel surveys in Lower Pool 2 to determine which species have recent records of occurrence. Of the twelve historically-recorded mussel species, four have not been found in Lower Pool 2 in thirty-five or more years. These species include: the mucket (*Actinonaias ligamentina*), elephant ear (*Elliptio crassidens*), spike (*Elliptio dilatata*), and ebonyshell (*Fusconaia ebena*). Two of these species – the mucket and spike – have been reintroduced in Upper Pool 2, but there has been no evidence of recruitment within Lower Pool 2. Therefore, it is assumed that these species do not currently occur in the Proposed Project area. The remaining eight species have been recently collected within Lower Pool 2, three of which were found in surveys conducted specifically for the Proposed Project. These species are: the pistolgrip (*Tritogonia verrucosa)* listed in Minnesota as endangered, and the butterfly (*Ellipsaria lineolata*), and wartyback (*Quadrula nodulata*), both listed in Minnesota as threatened. There are five other State-listed mussel species that were not collected during the mussel surveys conducted in the project footprint, but that have been previously found live in other areas of Lower Pool 2. These are the Higgins' eye (*Lampsilis higginsii*), which is listed as endangered both federally and by Minnesota, the washboard (*Megalonaias nervosa*) and the Rock pocketbook *(Arcidens confragosus),* which are listed as endangered in Minnesota, and the monkeyface (*Quadrula metanevra*) and the fawnsfoot (*Truncilla donaciformis*), which are both listed as threatened in Minnesota. It is possible that individuals of these species occur within the Propose Project area; but based on their absence in the project surveys, it is not likely that the Proposed Project area includes significant portions of their populations. Therefore, the Proposed Project would have only a minor effect on these species or their state status. The black sandshell (*Ligumia recta*), listed as a species of special concern in Minnesota, and the hickorynut (*Obovaria olivaria*), listed in Minnesota as a 'watchlist' species were also identified by the NHIS database to occur within one-mile of the Proposed Project area.

A mussel survey was conducted for the Proposed Project in July 2015 and included both qualitative and quantitative sampling of the project area. The survey is summarized below and a full discussion of the survey methods and results of the mussel survey are included in Appendix G of the Federal EA. Mussel surveys were conducted in and around the study area to quantify the mussel resources within the project footprint, including in and around the footprints of the channel training structures that would be constructed under the proposed plan. Another survey focused on the area that would be disturbed by the proposed Boulanger Slough Channel project. Timed searches were conducted in the current main navigation channel and main navigation channel border areas. Several searches were also conducted in Lower Spring Lake, although no currently proposed project features would extend into that area.

Within the proposed training structure footprints, about half of the mussel species known to be living in the pool were found in the immediate vicinity of the Proposed

Project and density was relatively low (3.34/m2 ± 1.01) compared to higher-quality mussel areas in Pool 2. Davis (2007) reported native mussel density about three times greater, 9.02/m2 ± 1.29 in Upper Pool 2 at Hidden Falls County Park. Similarly, adjacent to Lower Grey Cloud Island in Pool 2 (River Mile 822 to 820), which is across the navigation channel from the study area, Kelner and Davis (2002) reported average mussel density of 9.8/m2 ± 0.8.

The wartyback was found during quantitative sampling for the Proposed Project throughout the two structure footprints at a relative abundance of nearly 9%. Based on the sampled density, it is estimated that the wartyback density within the Proposed Project Area are approximately 1,340 ± 890 wartyback mussels per acre, and therefore approximately 5,340 ± 3,560 are estimated to exist within the footprint of the proposed channel control structures. Although the wartyback is rare throughout the state, including other locations within the Upper Mississippi River, the species has healthy populations in Pool 2.

Additionally, two individuals of the state-endangered pistolgrip, one individual of the state-threatened butterfly, and eight individuals of the state-special concern black sandshell were found in qualitative timed-searches within the Proposed Project Area. A population estimate cannot be calculated based on survey data for these species because they were only found in qualitative searches. It is reasonable to assume that a small number of each of these species exists within the Proposed Project footprint.

The effects of the Proposed Project on individuals of these species are discussed in § 6.2.4 of the Federal EA and below in *Aquatic Species – Potential Effects*. Effects to these species would be minor due to the mussel relocation mitigation and monitoring plan that has been incorporated into the Proposed Project (Federal EA Appendix G: Mussel Relocation Plan and Mussel Survey Results).

The paddlefish (*Polydon spathula*) is a large and long-lived planktivorous fish species that has been historically observed in Pool 2. Both Minnesota and Wisconsin state-list paddlefish as threatened. It is not known if paddlefish use the project area, and surveys for paddlefish were not conducted because the rarity of the fish makes it extremely difficult to detect their presence using standardized sampling methods (Schmidt 2004). However, if any paddlefish are present in the project area, the project would not be likely to directly impact them since fish present in the construction areas would be expected to vacate when the area is disturbed. Following project construction, effects to paddlefish are expected to be minimal. During the majority of the year, studies have associated paddlefish with deeper water (usually >3m) and generally low current velocities (Zigler et al. 2003). During spawning, paddlefish use gravel substrates or hard surfaces with enough current to keep eggs free of silt (Jennings & Zigler 2000). Neither of these habitats are present within the project footprint, so effects are anticipated to be minor and limited.

Kitten-tails (*Besseya bullii*), listed in Minnesota as threatened, is an upland perennial herb that primarily inhabits oak savanna communities, and less frequently, other dry

prairies and woodlands. Many of Minnesota's populations of kitten-tails occur on the bluffs and terraces of the Mississippi River valley. No suitable habitat for kitten-tails is located within the Proposed Project footprint, so no adverse effects are anticipated.

The loggerhead shrike *(Lanius ludovicianus),* listed in Minnesota as endangered, generally inhabits upland grassland and agricultural areas, and is not strongly associated with riverine habitats. Therefore, the Proposed Project would not have any effect on loggerhead shrike.

Seven additional species listed by Minnesota as "Species of Special Concern" and on the "watchlist" have been documented near the Proposed Project area. This includes two fish: the American eel (*Anguilla rostrata*) and pirate perch (*Aphredoderus sayanus*); three terrestrial vascular plants: American ginseng (*Panax quinquefolius*), Laurentian bladder fern (*Cystopteris laurentiana*), and long-bearded hawkweed (*Hieracium longipilum*); one bird: the peregrine falcon (*Falco perigrinus*); and one reptile: western foxsnake (*Pantherophis ramspotti*). The fish, snake, and bird are mobile species and would be expected to avoid the Proposed Project area during construction. Wild ginseng favors deep shade in dense deciduous forests, and no such habitat would be disturbed by the Proposed Project. The Laurentian bladder fern is found on wet limestone cliffs, which is also a habitat type that would not be disturbed by the Proposed Project. Long-bearded hawkweed is found on high-quality dry prairies and there is not habitat of this type in the vicinity of the Proposed Project. The Proposed Project would not adversely affect habitat for any of these species.

Seven terrestrial plant communities were identified as existing within a mile of the project area. No habitat of the types supporting these communities would be impacted by the Proposed Project.

*Aquatic Species – Potential Effects*

To assess the changes in aquatic habitat that would occur under project conditions, geomorphological, hydrological, and biotic characteristics were used to delineate regions that provide similar habitat for aquatic organisms. Data used to determine the habitat types included bathymetry, stream velocity, wind fetch analysis, vegetation surveys, and professional on-site visual surveys. Once the aquatic areas were mapped, Geographic Information System (GIS) software was used to calculate the change in area between the existing and project conditions.

The project would decrease main channel border habitat (-13.7 acres), impounded aquatic habitat (-7.8 acres), and wing dam habitat (-3.6 acres), although historic wing dam habitat may be overestimated as it was mapped from historic data and many of the wing dams once present no longer exist. The project would increase main channel areas (+15.2 acres), revetment (+5 acres), and floodplain shallow aquatic habitat (+4.9 acres). These proposed changes in habitat would lead to different habitat types available for fish in the area. Overall, these changes would be expected to have an overall negative impact on the value of the habitat in Lower Pool 2. The habitat types that would be lost

– main channel border, impounded aquatic, and wing dam habitats – are abundant elsewhere in Lower Pool 2 near the Proposed Project area. No special habitat characteristics or values have been identified in the Proposed Project footprint. The channel control structures may increase habitat diversity in Lower Pool 2 by reducing wind and wave action in the shallow area between Boulanger Slough and the current main navigation channel, which could serve to protect and stabilize the areas near them and promote aquatic vegetation growth.

The dredged material would be placed on established dredge placement locations that have been reviewed by other MEPA documents and regulated by the MPCA-authorized SDS permit and the DNR-authorized Public Waters Work permit. The existing sites have a capacity that exceeds the estimated 400,000 cubic yards (325,000 from the project plus 75,000 from routine dredging), generated by the Proposed Project would not significantly change the nature of the dredge sites. Therefore, the proposed sand placement would not have any negative effects on aquatic habitat.

The Proposed Project would have minor adverse effects on the biological productivity of macroinvertebrates including freshwater mussels. Any macroinvertebrates living within the footprint of the project features (the dredge cuts and training structures) would be directly impacted during project construction.

Impacts to freshwater mussels from dredging would be minimal, as mussel surveys in the main channel and main channel border areas showed low-density, little diversity, and mostly common species. These mussel survey results are to be expected because the same conditions that tend to precipitate channel maintenance problems, such as dynamic and shifting sediment, make these areas poor habitat for mussels. The mussel relocation effort planned in the footprint of the proposed training structures would reduce this adverse effect, but a small number of mussels would still be expected to be killed as a result of the Proposed Project.

Mussels within the footprints of the training structures would be buried and killed during project construction. Because mussel surveys in the area of the footprint of the training structures revealed moderate mussel density, and included several rare species, mitigation measures are being incorporated into the Proposed Project to minimize the project's potential effects. Divers would be tasked with searching the footprints of the proposed training structures and collecting as many freshwater mussels as they can find. These mussels would be relocated to other nearby areas in order to augment the mussel communities. Past studies on mussel relocation efforts have shown that a high percentage of the mussels can be collected (90% or greater), and that survival rates following relocation are considered successful if average mortality remains below 15%. Appendix G of the Federal EA describes the methodologies and protocols that would be used during the mussel relocation and following, in order to monitor survival rate and the relocation's success.

Native mussels could also be impacted by indirect effects of the training structure components of the Proposed Project. There are two primary potential impacts outside of

the project footprint: flow and sediment deposition. Flow behind the training structures is anticipated to be reduced but not eliminated, with gradual sediment deposition expected. The Proposed Project would be expected to change habitat in the area slowly over time. However, this change would not be expected to negatively affect the mussels that currently exist in the area because sediment deposition rates will likely change as a result of the construction and presence of the training structures, but the largest changes in deposition predicted by the study's model were ~0.6 feet over the course of approximately 5 years. Mussels would not be negatively impacted by that level and slow rate of sediment deposition given adaptations of mussels to tolerate moderate increases in depositional sediment. Therefore, the USACE does not believe the project would cause measurable indirect effects to mussels, and does not propose to relocate mussels in the vicinity of the training structures. Nonetheless, the USACE would conduct ongoing surveys to monitor changes in the area during the relocation effort pre-project and five-years post-project to verify that impacts are absent or negligible. If, during ongoing monitoring it is determined that mussels have been adversely impacted from reduced flows and increased sedimentation related to the training structures, the USACE, in coordination with the DNR, will further investigate the potential remedies to the failure and loss of ecological function.

d. **Air**

This topic was addressed in the 2017 EAW under Item No 16 and in the Federal EA at §§ 2.2.10 and 6.2.10.

The Proposed Project is being assessed to determine the air quality effects of the Proposed Project on several levels: for compliance with the Clean Air Act and its associated rules, to analyze Proposed Project effects on greenhouse gas emissions and potential effects on climate change, and to assess the impacts of the Proposed Project on local receptors.

The 1990 Federal Clean Air Act Amendments directed the Environmental Protection Agency (EPA) to develop Federal conformity rules. Those rules are designed to ensure that Federal actions do not cause, or contribute to, air quality violations in areas that do not meet the National Ambient Air Quality Standards (NAAQS). The EPA has developed NAAQS for six principal air quality pollutants: carbon monoxide, nitrogen dioxide, ozone, lead, particulate matter, and sulfur dioxide. The final rule dictates that a conformity review be performed whenever a Federal action generates air pollutants in a region that has been designated a non-attainment area for one or more of the six NAAQS criteria pollutants. The Proposed Project boarders on both Washington and Dakota Counties. Washington County is in “attainment” for Washington County. Dakota County is listed as a nonattainment area for lead under the 2008 standard. However, because no lead would be emitted during the construction of or as a result of the Proposed Project, the action would be exempt from the Federal conformity rules. Therefore, no conformity analysis is required for the Proposed Project.

The Proposed Project would be expected to produce greenhouse gasses during construction in the form of exhaust from various types of machinery used for dredging, material transport, and material placement. The Proposed Project would also have recurring minor adverse impacts on air quality from dredging events required for maintaining the navigation channel at approximately the same level as the existing conditions.

The Council on Environmental Quality (CEQ), in February 2010, released draft NEPA guidance for to guide federal agencies in assessing the impacts of federal projects on climate change and greenhouse gas emissions. The guidance proposed a level of 25,000 metric tons or more of carbon dioxide-($CO_2$) equivalent greenhouse gas emissions annually as a review threshold suggesting that this level of carbon dioxide is an indicator that a detailed assessment of greenhouse gasses may be meaningful to decision makers and the public. Using estimates of fuel usage and production quantities for mechanical dredging, it is estimated that dredging and associated placement of dredged material from the Proposed Project would result in a release of approximately 1,000 metric tons of $CO_2$-equivalent greenhouse gas emissions. Although it is more difficult to estimate the emissions related to the construction of the training structures, the level of construction effort is anticipated to be similar to that of project dredging. Thus, the greenhouse gas analysis would utilize similar construction equipment to estimate emissions for both channel dredging and construction of the training structures.

At a local scale, the nearest sensitive receptor for air pollutants is Spring Lake Regional Park, which is located on top of the bluff, a little over 1,000 feet south of the Western training structure. Several residential properties lie to the east of the park, also on top of the bluff, and they would be approximately 2,000 feet away from the tip of one of the training structures. No other receptor sites have been identified within 2,000 feet of any proposed construction. During project construction, the Proposed Project would have a temporary, minor, and localized adverse effect on air quality due to emissions produced by construction equipment. This would be short-lived and would end upon project completion. Construction activities are expected to produce very little dust because the materials manipulated during construction would be either wet (dredged material) or larger materials (large rocks for training structure construction) that are not generally mobilized by wind.

e. **Noise**

This topic was addressed in the 2017 EAW under Item No. 17 and in Federal EA at §§ 2.1 and 6.1.4.

Construction of the Proposed Project would result in a temporary, minor adverse increase in noise. Construction of the Proposed Project requires the operation of heavy equipment, such as towboats, barges, dredges, excavators, and bulldozers. These machines would generate noise during construction. This effect would be minor and

would end upon construction completion. No ongoing adverse effects are anticipated following project completion.

f. **Visual Effects**

This topic was addressed in the 2017 EAW under Item No. 15.

The Proposed Project would have a minor adverse effect on local aesthetics. The training structures would be constructed of rock riprap and would likely appear unnatural to those who see the training structures in the Mississippi. This aesthetic effect would likely be limited to river users, but could also affect shoreline users in some areas. For example, users of the scenic overlook at Schaar's Bluff Vista at Spring Lake Regional Park would likely be able to see the structures. The training structures would be apparent at most flow rates. More specifically, at flows lower than the 50-percent annual exceedance probability flood (i.e., "2-year flood"), the training structures would be above the water surface and would be visible to those on the vista or by river users near the training structures. When Pool 2 is at the lowest-controlled elevation, the top of the training structures would be approximately 0.8 feet (10 inches) inches above the water. At river flow rates higher than the 50-percent annual exceedance probability, the training structures would become submerged.

g. **Cumulative Potential Effects**

This topic was addressed in the 2017 EAW under Item No. 19 and in the Federal EA at §6.4.

Anticipated environmental effects of the Proposed Project include surface water effects, water quality effects, effects on aquatic wildlife, visual effects, and air effects. Additionally, short-term air and noise effects would be anticipated during project construction. All environmental effects would be expected to be limited to an area immediately surrounding the Proposed Project site. Construction-related air and noise effects would be expected to be short-term, and would conclude at the completion of construction, which would occur no later than summer 2018. The timeframes of other environmental effects resulting from the project would be anticipated to occur for the life of the project, which the USACE estimated to be 40 years.

While the USACE included several ongoing management plans and potential future projects in its Cumulative Effects Analysis included in the Federal EA, DNR is aware of only one project that meets the standard of "reasonably foreseeable future projects for which a basis of expectation has been laid," per Minnesota Rules 4410.0200 Subpart 11a. This project is the Proposed Nelson Mine Expansion, described in the Federal EA at § 6.4.2.

Short-term air and noise effects associated with the construction of the Proposed Project are expected to have limited potential for cumulative effects due to the minor incremental increases of these effects during the project activities. Potential cumulative

effects to surface waters, water quality, aquatic wildlife, visual and air effects from the Propose Project in combination with the other reasonably foreseeable future projects are discussed in §§ 6.4.2 and 6.4.3 of the Federal EA under the following headings: Recreation, Aesthetic Values, Hydrology, Hydraulics and Sediment Transport, Mussels, and Water Quality.

19. The DNR requested and was granted by the Minnesota Environmental Quality Board (MEQB) a 15-day extension for making a decision on the need for a State EIS for the proposed project, consistent with Minn. R. 4410.1700, subp. 2b.

20. The forthcoming DMMP for Lower Pool 2 is currently in the initial stages of development. Pursuant to Minn. R. 4410.0200, subp. 60, the DMMP meets the definition of Phased Action associated with the Proposed Project , thus requiring assessment of potential environmental effects as a component of the project as a whole. Since the data necessary to assess the potential effects of this project has not yet been developed, it is not possible to adequately address this project component as a phased action within the meaning of Minn. R. 4410.0200, subp. 60. Subsequent environmental review under Minn. Stat. Ch. 116D will be required to be completed for the DMMP prior to use of disposal sites that are proposed for use by the DMMP.

21. The following permits and approvals are needed for the project:

| **Unit of Government** | **Type of Application** | **Status** |
|---|---|---|
| DNR | Public Waters Permit #2017-2038 | Pending |
| MPCA | 401 Water Quality Certification | Waived |
| MPCA | State Disposal System Permit: Dredge Placement | Pending |

22. Based on the information contained in the 2017 EAW, the proposal by the USACE to use dredge placement sites previously subject to environmental review, and comments received, the DNR determined the Boulanger Bend project did not have the potential for significant environmental effects and no Environmental Impact Statement would be required. The Record of Decision was signed on September 6, 2017.

23. The Record of Decision was appealed on October 17, 2017 to the Minnesota Court of Appeals. The primary focus of the litigation was the placement of dredge material on Lower Lower Grey Cloud Island and water quality data. As a result of the appeal, the Court on June 4, 2018 remanded the case to the DNR, for clarifying the disposal location

of dredged materials associated with the Proposed Project. The remand was related to failure to specify the disposal location on Lower Grey Cloud Island.

24. Upon remand the USACE revised the Proposed Project to verify that it would not be using Lower Lower Grey Cloud Island for a disposal site but instead would be using a combination of the following locations for dredge material disposal: Pig's Eye Islands (current capacity 400,000 cubic yards), Pine Bend Island (current capacity 125,000 cubic yards), Upper Boulanger Island (current capacity 50,000 cubic yards), and Lower Boulanger Island (current capacity 125,000 cubic yards). As set forth in ¶¶ 7 and 8, all of these sites have previously been subjected to environmental review. Attachment 2 specifies the disposal locations that the USACE will use for the Proposed Project.

25. Following the October 17, 2017 appeal, additional questions were raised regarding the presence of PFAS and PFOS in the Project Area since there was existing sediment sampling from 2008 taken in an area nearby, but outside of, the Proposed Project Area. The USACE conducted testing for PFAS compounds in sediment from the Boulanger Bend area in 2017 and 2018. Samples were analyzed for seventeen different PFAS compounds. The various PFAS compounds measured in these samples were detected at very low concentrations, ranging from 0.033 to 1.2 parts per billion (ppb). Current SRVs for PFAS range from 330-63,000 ppb, and testing of dredged material in Pool 2 has found levels of PFAS ranging from less than one to about three ppb. The PFAS levels detected in Pool 2 navigation channel sediments have been comparable to relatively low levels found almost ubiquitously throughout Pool 2. The SDS permit authorized by MPCA includes SRVs for a list of parameters, including PFAS and PFOS. Testing for these parameters and others are conducted consistent with SDS permit requirements.

## CONCLUSIONS

1. The following standards and criteria are applied by the RGU to determine whether the proposed project has the potential for significant environmental effects and requires the preparation of an EIS.

   *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;*
   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.*

   Minn. R. 4410.1700, subp. 6-7 (2016)

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

   Based on the Finding of Fact ¶ 18 above, the DNR concludes that the following potential environmental effects will be limited in extent, temporary, or reversible:

   - Surface Waters
   - Water Quality
   - Air
   - Noise
   - Visual Effects
   - Cumulative Potential Effects

3. *Cumulative potential effects.*

   Based on the Finding of Fact ¶ 18 above, the DNR concludes that the following cumulative potential effects do not have the potential to be significant environmental effects:

   - Surface Waters
   - Water Quality
   - Noise
   - Air
   - Wildlife and Habitat

   The proposed project's contribution to cumulative potential effects to surface waters, water quality, noise, and air is limited when viewed in connection with other contributions. The USACE has proposed mechanisms to mitigate or minimize potential cumulative potential effects associated with potential effects to wildlife and habitat.

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

   The following environmental effects are subject to mitigation by DNR regulatory authority:

   - Surface Waters
   - Water Quality
   - Wildlife and Habitat

   The following environmental effects are subject to mitigation by MPCA regulatory authority:

   - Surface Waters
   - Water Quality
   - Air
   - Noise

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 environmental effects outlined in the 2017 EAW are anticipated and will be control as a

result of the following environmental studies prepared by the USACE or other public entities:

The Channel Maintenance Management Plan. St. Paul District U.S. Army Corps of Engineers. October 1995.

Monitoring Freshwater Mussels in the Mississippi National River and Recreation Area. Mussel Monitoring Report. Mike Davis. Minnesota Department of Natural Resources. 2003.

Final Report: Mussel (Bivalvia: Unionidae) survey of the Mississippi National River and Recreation Area Corridor, 2000-01. Contract report to the National Park Service Mississippi National River and Recreation Area and the Great Lakes Network Inventory and Monitoring Program. Dan Kelner and Mike Davis. Minnesota Department of Natural Resources. 2002.

Definite Project Report and Environmental Assessment for Relocation Plan for the Endangered Higgins' Eye Pearlymussel (*Lampsilis higginsii*). St. Paul District U.S. Army Corps of Engineers in cooperation with the Mussel Coordination Team. July 2002.

6. The DNR has fulfilled all the procedural requirements of law and rule applicable to determining the need for an environmental impact statement on the proposed Boulanger Bend to Lock and Dam 2 Project.

7. Based on considerations of the criteria and factors specified in Minn. R. 4410.1700, subp. 6 and 7 (2019) to determine whether a project has the potential for significant environmental effects, and on the Findings and Record contained herein, the DNR determines that the proposed Boulanger Bend to Lock and Dam 2 Maintenance Project does not have the potential for significant environmental effects.

## ORDER

Based on the above Findings of Fact and Conclusions the DNR Concludes and Orders:

1. The Minnesota Department of Natural Resources determines that an Environmental Impact Statement is not required for the Boulanger Bend to Lock and Dam 2 Maintenance Project in Washington and Dakota counties, Minnesota.

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

Dated this 21st day of May 2019.

**STATE OF MINNESOTA**
**DEPARTMENT OF NATURAL RESOURCES**

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Jess Richards
Assistant Commissioner