

Minnesota Department of Natural Resources

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Date: June 18, 2014

To: Parties on the EAW Distribution List
Other Interested Parties

From: Ronald Wieland, Environmental Planner
Environmental Review and Policy Unit
Division of Ecological and Water Resources

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Re: Radio Tower Bay Wetland Restoration Project
St. Louis County, Minnesota
Record of Decision on Environmental Assessment Worksheet

The Minnesota Department of Natural Resources (DNR), as the Responsible Governmental Unit for environmental review of the Radio Tower Bay Wetland Restoration project in St. Louis County, Minnesota, has issued the attached Record of Decision regarding the Need for an Environmental Impact Statement for the project.

The DNR has concluded that an Environmental Impact Statement (EIS) is not required because the project does not have the potential for significant environmental effects. The justification for this determination is contained in the Record of Decision. The Record of Decision also contains the Department's responses to all substantive written comments received on the Environmental Assessment Worksheet during the 30-day review and comment period.

Issuing this Record of Decision concludes the State environmental review process for this project according to the Minnesota Environmental Quality Board rules, *Minnesota Rules*, part 4410.1000 to 4410.1700. This project can proceed to permitting and approvals.

For additional information, or copies of the Record of Decision, please call (651) 259-5157.

Attachment: Record of Decision (June 17, 2014)

DEPARTMENT OF NATURAL RESOURCES

RECORD OF DECISION

**In the Matter of the Determination of
the Need for an Environmental
Impact Statement for the Radio
Tower Bay Wetland Restoration in St.
Louis County, Minnesota**

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

FINDINGS OF FACT

1. The framework for addressing degradation of Great Lakes aquatic resources has evolved over more than a quarter century into a binational effort to remove impairments in specific areas of the Great Lakes where wildlife habitat had degraded or serious sediment contamination had occurred. The Minnesota Department of Natural Resources (MDNR) became a partner in this effort, working along with other federal, state, and local agencies and community partners to focus on one specific area of the Great Lakes, the St. Louis River. As part of this process of remediation planning, the MDNR and partners identified the need to restore wetlands in Radio Tower Bay, which contained a large volume of wood waste from early lumber milling operations.
2. Under the management of the Environmental Protection Agency and the Government of Canada, the U.S.-Canada Great Lakes Water Quality Agreement (Annex 2 of the 1987 Protocol) was established to identify Areas of Concern (AOCs) as "geographic areas that fail to meet the general or specific objectives of the agreement where such failure has caused or is likely to cause impairment of beneficial use (BUIs) of the area's ability to support aquatic life." More simply put, an AOC is a location that has experienced significant environmental degradation. Forty-three AOCs have been identified: 26 located entirely within the United States; 12 located wholly within Canada; and five that are shared by both countries.
3. Seven of the AOCs selected, including the St. Louis River AOC, are located within the Lake Superior basin. The St. Louis River is the only AOC located in Minnesota and one of five AOCs in Wisconsin. The St. Louis River, the largest U.S. tributary to Lake Superior, enters the southwest corner of the lake between Duluth, Minnesota and Superior, Wisconsin. As it approaches Duluth and Superior, the river takes on the characteristics of a 12,000 acre freshwater estuary.
4. The two federal governments are cooperating with state and provincial governments to develop and implement Remedial Action Plans (RAPs), which address any one of 14 beneficial use impairments identified for the Great Lakes AOCs. Examples of BUIs associated with the St. Louis River AOC include fish consumption advisories, fish tumors and other deformities, excessive loading of sediment and nutrients, and loss of fish and wildlife habitat. Sediment contamination is a serious problem in many AOCs. The binational effort is meant to restore beneficial uses of the ecosystem by cleaning up severely contaminated and degraded locations around the Great Lakes.
5. Remediating the AOCs contributes to the sustainability of local communities and of the Great Lakes region. Remediation is achieved by essentially two processes: restoring fish and wildlife

habitat and populations that are ecologically and economically significant at a local, lake and basin-wide scale; and removing major sources of contaminants and other stressors that have been impairing water quality and restricting beach use and fish and wildlife consumption.

6. In 1992, the remedial action plan for the St. Louis River AOC outlined future cleanup projects necessary for delisting the area of concern. The RAP was updated in 1995 and 2013. Wisconsin and Minnesota have been working together since 2010 on restoration and remediation projects at the most critical sites in the St. Louis River.
7. The 2013 RAP update, referred to as the St. Louis River AOC Implementation Framework and completed by the Minnesota Pollution Control Agency (MPCA), outlined plans to be taken by federal, state, and local organizations to remove the nine BUIs identified for the St. Louis River AOC. The comprehensive strategic action plan provides the procedures necessary to delist this AOC by 2025.
8. Loss of Fish and Wildlife Habitat (BUI-9) was listed for the St. Louis River AOC because fish and wildlife habitats were threatened by water quality impairments and large losses of physical habitat had occurred. Water quality impairments included inadequately treated municipal and industrial wastes, contaminated sediments, degraded benthic communities, and high sedimentation rates resulting in turbidity. Physical habitat impairments included loss through dredging and filling activities and decline in the quality of wetlands due to an increasing presence of non-native vegetation.
9. Given the amount physical habitat that was lost or degraded during the last century, fish and wildlife habitat impairments are being targeted for restoration and protection against further losses. Removal of the Loss of Fish and Wildlife Habitat BUI will be justified when several key tasks are completed, including the rehabilitation of at least 1,700 aquatic habitat acres, 50% of the area known to be degraded, through the implementation of projects at specified restoration sites. Completion of the Radio Tower Bay Wetland Restoration project will contribute towards meeting this acreage goal.
10. The Radio Tower Bay Wetland Restoration was defined as one of twenty projects needed to achieve the removal of the Fish and Wildlife Habitat BUI listed for the St. Louis River. Radio Tower Bay is located in the City of Duluth, Minnesota, approximately 16 river miles upstream from Lake Superior.
11. Radio Tower Bay (RTB) is a 75-acre shallow-water wetland located in the Lower St. Louis River AOC that is degraded with logging-era wood waste. The project includes two phases of construction, with Phase 1 encompassing the wintertime removal of remnant trestle pilings in 2012. No EAW was required for this phase of the project. Under Phase 2, the MDNR intends to remove the anthropogenic waste and restore native wetland communities. The MDNR proposes to use a hydraulic dredge to excavate the wood waste/muck from RTB, pulverize it into slurry and transport it through a pipeline to a dewatering facility, where the materials will be settled and stored for beneficial use as a soil amendment (organic mulch) or if necessary, disposed into an authorized landfill. The slurry will be pumped into permeable holding containers called geotubes that will be arranged and stacked at the dewatering facility to drain off water and settle its organic solids. The decanted carriage water (waste water) will be monitored for quality and drained back into Mud Lake.

12. Most of RTB is under public ownership by the State of Minnesota and City of Duluth. The dewatering facility will be located on an historic industrial site owned by United States Steel Corporation (US Steel).
13. Restoration is defined as the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to the site, such as identified in RTB. Resource assessments completed in 2011 and 2012 provided baseline information about the environmental conditions and biota of RTB. After the excavation to restore the bathymetry in the bay is completed, the MDNR will monitor the reestablishment of marsh vegetation and use by fish and wildlife species in RTB. The restoration approach chosen includes a process referred to as Monitored Natural Recovery (MNR), which entails periodically monitoring the condition of the habitat and recovery of aquatic plant and animal communities to determine whether a healthy marsh ecosystem is achieved in RTB.
14. The restoration project is proposed to excavate the wood waste/muck from 29 acres of wetlands that are below the ordinary high water level of the St. Louis River. Projects affecting more than one acre of public waters require the completion of an Environmental Assessment Worksheet (EAW) (*Minnesota Rules*, part 4410.4300, subpart 27, item A).
15. The MDNR prepared an EAW for the proposed project according to guidance under *Minnesota Rules*, parts 4410.1400 and 4410.1500.
16. The EAW was filed with the Minnesota Environmental Quality Board (EQB) and a notice of its availability was published in the EQB Monitor on April 28, 2014. A copy of the EAW was sent to all persons on the EQB Distribution List, to those persons known by the Department 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 made available for public review and inspection at the Minneapolis Public Library; the MDNR Library (St. Paul); the Duluth Library; and the MDNR Northeast Regional Office (Grand Rapids). The EAW was also made available to the public via posting on the MDNR's website.
17. The 30-day EAW public review and comment period began April 28, 2014 and ended May 28, 2014, pursuant to *Minnesota Rules*, part 4410.1600. The comment period closed at 4:30 pm. The opportunity was provided to submit written comments on the EAW to the MDNR by U.S. Mail, by facsimile, or electronically by email.
18. The EAW is incorporated by reference into this Record of Decision on the determination of need for an environmental impact statement (EIS).
19. During the 30-day EAW public review and comment period, one written comment on the EAW was received from the Minnesota Pollution Control Agency (MPCA) and is included with this Record of Decision (Attachment 1). Comments have been organized by the most applicable environmental effect / EAW Item No. to which the comment is associated.

a. Project Construction.

What will be the construction of the piping? How will the joints be sealed?

RESPONSE: As indicated in the EAW under Item 6b, the contractor will choose the type and size of pipe that will be employed during the dredging operation, with some floatable

and some underwater sections possible. Pipe sections are typically connected and sealed with a locking collar system.

What is the final disposition of the membrane and rock weir when the project is complete?

RESPONSE: As indicated under Item 6b, when no longer of use, the geotubes and impervious membrane will be recycled or disposed in a landfill. The materials may not be of suitable condition for recycling. At the end of the dewatering process, the facility will be decommissioned and the grounds regraded to fit the surrounding terrain.

b. Physical Impacts to Water.

Why is there a low risk of environmental contamination from the installation, operation or removal of the slurry pipe and associated booster pumps?

RESPONSE: Care will be taken to avoid disturbance of marsh habitat during project operations. It is likely the pipeline assembly will be conducted from boats or barges, thus preventing rutting associated with the use of traction-wheeled vehicles. The pipeline will be used for a period of several months, thus limiting effects on the marsh associated with long term placement. As noted under Item No. 12, the pipeline's location will allow good access for monitoring. Personnel would monitor the system on a 24-hour basis to insure proper functioning, with a kill switch incorporated into the system should breakage occur. Construction specifications require the contractor to prepare response plans and address and remedy all accidental or intentional discharge of slurry into a water body or wetland. Spillage will be removed quickly under the MDNR's supervision and the area receiving waste material will be returned to previous elevations.

c. Surface Water.

What surface water will the discharged water be sent to? Where does Mud Lake discharge to?

RESPONSE: As indicated in the EAW under Item No's 6b, No. 12, No. 17, and No. 18a, the discharge water will drain into Mud Lake. As indicated under Item No. 15, Mud Lake is a shallow sheltered bay of the St. Louis River. Under Item No. 17b Mud Lake is referred to as an off-channel wetland of the St. Louis River. Under Item No. 18, Mud Lake is referred to as a broad wetland/lake within St. Louis Bay. Mud Lake contains a large area of emergent marsh/shrub swamp habitat.

d. Wastewater.

It is indicated that testing will be conducted during the startup and periodically thereafter until processing is complete. This should be more explicit, and what parameters will be tested? Will the final discharge meet surface water criteria for the area it will be discharged to?

RESPONSE: As noted in the EAW under Item No. 18b, prior to being discharged, the wastewater will be tested for total suspended solids and possibly other water quality parameters. As addressed under Item No. 17b, the St. Louis Bay waters are managed as class 2B waters. If sampling indicates water quality standards for class 2B waters are not met, adjustments in the treatment process will be need to be made to meet water quality standards. As identified in the EAW under Item No. 18b, the US Army Corps of Engineers (USACE) Section 404 permit stipulates that all discharges to a watercourse resulting from

permitted construction activities, particularly hydraulic dredging, must meet applicable Federal, State, and local water quality and effluent standards on a continuing basis. In collaboration with the MPCA, the USACE will be amending the Section 404 permit to establish a sampling protocol for determining whether the discharge waters meet applicable water quality standards.

e. Groundwater.

How will the dewatering into Mud Lake affect the hydraulic conductivity in the area?

RESPONSE: The proposed project will likely not have a measurable effect on the subsurface lateral movement of groundwater, i.e., its hydraulic conductivity. Groundwater levels will be monitored utilizing the existing wells up-gradient, within the dewatering facility, and down-gradient of the facility during the operation of the facility, in accordance with a sampling plan agreed upon between MDNR and US Steel. Monitoring will be completed to assess whether project actions affect water table levels and groundwater flow. As identified under Item No. 6b, Mud Lake is presently receiving some contaminants from the industrial slag/sand/cement waste materials. The proposed project will not worsen the present rate of contamination.

f. Solid Wastes.

It should be indicated to the reader whether or not the wood waste/mucky soil is contaminated or not.

RESPONSE: As introduced on page 2 and page 5 of the EAW, Table 1 summarized the sample results of the concentration of contaminants found in sediments from RTB for the following: 9 metals, poly-aromatic hydrocarbons (PAHs), and poly-chlorinated biphenyls (PCBs).

The issue of sediment contamination was addressed for both the dredging area and the dewatering site under Item No. 9, where the EAW form specifies information to describe the site... "including soil contamination." Also, under Item No. 20 of the EAW, contaminants in the wood waste/mucky soil were discussed. The levels of the nine metals, PCBs, and PAHs were found to be relatively low, which would qualify the dredge materials to be used for beneficial purposes in residential or in industrial areas, i.e. at Management Level 1 or Level 2, respectively.

The issue of the potential contamination of dioxin in RTB sediments was identified under Item No. 9. It was indicated under Item No. 9 that further sampling would be conducted on the RTB sediments. This sampling would be completed under standards identified in a Quality Assurance Project Plan (QAPP) for quality assurance purposes. The QAPP for the dioxin sampling is currently under review. A proposed dioxin management strategy for contamination found within the solid wastes and discharge waters was discussed under Item No. 20.

Under a general scoping effort to determine the layout of contamination in sediments throughout St. Louis Bay, samples not affiliated with the proposed project were taken, one of which was located in RTB. The results of that RTB sediment sample showed a dioxin level that could require the solid waste to be managed under Level 3, which dictates that the waste materials be placed in a landfill. Because of the paucity of samples and the local irregularity

of dioxin concentrations, this single data point proved inconclusive for determining the management level requirements for the waste materials. (see Finding 21m for additional information.)

Contamination identified at the dewatering facility site was also briefly discussed under Item No. 9. Information about the dewatering facility “soil contamination” was included under Item 6b because the conditions of the site’s “soil” affected the design of the dewatering facility. Groundwater at the proposed site already had high pH levels and other contamination. The potential for infiltrating some of the carriage water on-site could have increased the movement of contaminants into the groundwater. This was the impetus for isolating the carriage water from the slag waste substrates. To avoid affecting the quality of the groundwater, the dewatering facility platform was constructed with an impermeable membrane. Geotubes were determined to be the best option for dewatering the dredge slurry.

How will the organic mulch be transferred for beneficial reuse? Where will it be transferred to?

RESPONSE: The dewatered, dredged material will remain in the geotextile fabric tubes until it is needed for re-use. The material will be transferred by excavating from the tubes and loading into trucks. Geotextile fabric and other unallowable materials will be removed prior to transporting to the final disposition location. It is anticipated that most of wood waste/muck materials will be used as mulch to remediate the US Steel Superfund site cleanup, located just north of the dewatering facility. The materials would be used for stabilizing soils, improving vegetative cover, aesthetics, etc.

Likewise with the materials that will not be used for beneficial reuse, how will these materials be transferred to a landfill? Has a landfill been designated?

RESPONSE: The goal for the project is to clean up Radio Tower Bay, hopefully through the dredging and subsequent reuse of the wood waste/muck for beneficial purposes. However, as indicated in the EAW under Item No. 9 and Item No 20, there is a possibility that contaminated wood wastes could reach Management Level 3. The proposer is responsible for meeting obligations of the State Disposal System (SDS) permit, which stipulates the necessary disposal measures to be taken. Appropriate waste disposal location evaluations will be performed only if testing indicates contaminant levels reach the threshold for Management Level 3. The movement of Level 3 contaminated waste materials would likely require trucking with protection features to avoid spillage during transport, a stipulation of the MPCA SDS permit.

g. Hazardous Waste.

How will the equipment be refueled and maintained? What kind of containment will be in place for overfills? What best management practices to prevent soil/water contamination will be used?

RESPONSE: As indicated under Item No 19, excavation equipment will be re-fueled from a boat. Pumps along the slurry pipeline and in the dewatering facility will be re-fueled by trucks or ATVs. Prior to project startup, the selected contractor will be required to develop and implement a written refueling strategic plan and an emergency spill response plan. Spill containment apparatus will be identified in the spill plan.

20. The City of Duluth provided comment after the public review period had closed. Correspondence is provided with this Record of Decision (Attachment 1). Comments have been organized by the main environmental effect / EAW Item No. to which the comment is associated.

a. Environmental review process.

The 2008 EAW form was used but a newer version was introduced.

RESPONSE: The project's environmental assessment worksheet was already under development prior to the release of the new EAW form, as adopted in 2013 by the EQB.

b. Project Description.

The EAW describes RTB as being in the City of Duluth. Since this is a public water, it is not under the jurisdiction of the City. The City of Duluth is not listed as a beneficiary. Part of RTB is City of Duluth property.

RESPONSE: Comment noted.

c. Wildlife and Habitat.

If the levels of copper sulfate are potentially harmful, when it is applied to the water, it might be appropriate to place warning signs or some other method of public notice to protect citizens.

RESPONSE: The application of copper sulfate will be closely followed by closure of RTB to the public when the turbidity curtain is installed. Entrance from the shoreline is not likely.

d. Erosion and Sedimentation.

What specific erosion and sediment controls will be installed? Will the City of Duluth storm sewer system be utilized?

RESPONSE: The City of Duluth storm sewer system will not be engaged for use as a conduit for handling stormwater from the facility.

Best management practices (BMPs) for construction of the dewatering facility include the following: stabilizing the exposed ground surface along the construction entrance/exit road, installing a silt fence along the perimeter of the facility, placing a concrete barrier (Jersey barriers) around the storage area, laying an impermeable membrane on the base and along the sides of the facility's storage area, installing a rock weir to control outflow, and constructing a rock-lined carriage water ditch and splash pad for the discharge water. Prior to construction, the downslope erosion controls will be in place and functioning properly. The facility will be decommissioned after all the wood waste has been distributed. The site will be regraded to match the local contour and seeded with perennial native vegetation to provide soil erosion protection and improved habitat qualities. The MPCA Construction Stormwater (SW) permit that is applicable to the dewatering facility will require documentation of the BMPs to be used as part of the Stormwater Pollution Prevention Plan.

e. Noise.

The pumps will run around the clock. Might this cause a noise issue for residents? The project proposer should have a contingency plan established to handle noise complaints and the City should be provided the contact information, if complaints are received.

RESPONSE: Noise pollution effects may be occasionally annoying to nearby residences. Contact information for the project officer will be provided to the City of Duluth to address complaints / inquiries about the RTB Wetland Restoration project. The Minnesota Pollution Control Agency (MPCA) administers the State of Minnesota noise rules. Occupational Safety and Health Administration (OSHA) has regulations to protect against hearing loss in the workplace, and restricting the amount of noise an employee receives over a period of time. The diesel engines will be equipped with muffling devices to control the amount of noise generated during project activities. The contractor will monitor the amount of noise generated at the construction site. Arrestor devices with sufficient muffling capacity will be employed to achieve daytime and nighttime noise standards set for residential areas. Noise effects are anticipated to be limited, temporary, and localized.

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

- a. Project Construction
- b. Land Use
- c. Wildlife and Habitat
- d. Invasive Species
- e. Rare Features
- f. Physical Impacts to Water
- g. Water-related Management (Floodplains and Shorelands)
- h. Water Surface Use (Recreation and Navigation)
- i. Erosion and Sedimentation
- j. Water Quality
- k. Wastewater
- l. Groundwater contamination
- m. Solid Waste
- n. Hazardous Waste
- o. Traffic
- p. Air emissions, odors, and dust
- q. Noise
- r. Archaeological, historical, or architectural resources
- s. Visual Impacts
- t. Compatible with Plans/Regulations
- u. Cumulative Potential Effects

Each of these environmental effects is discussed in more detail below. In the following discussion, several permits' requirements mitigate the environmental effect of the project by on-going regulatory authority. The permits are identified and the status of their approvals is described. Abbreviated names for permits (in bold) will be used for brevity:

The application for the Minnesota Department of Natural Resources MDNR Public Waters Work permit (No. 2014-1664) [**MDNR PWW**] was made available for a 30-day request for comments review, which closed on April 4, 2014. The MDNR PWW permit is ready for a permit decision, pending the completion of the environmental review process.

The U.S. Army Corps of Engineers, (USACE), with jurisdiction under Section 10 of the Rivers and Harbor Act of 1899 and Section 404 of the Clean Water Act, has determined that the aquatic resources impacted by the proposed project are regulated by the USACE under Section 404 of the Clean Water Act. In May 2013, the USACE authorized the proposed project under Section 10 of

the Rivers and Harbors Act by Department of the Army (DA) Nationwide Permit (27) [USACE Section 10] and under Section 404 of the Clean Water Act by the DA Regional General Permit (RGP-003-MN) [USACE Section 404]. The USACE is amending its Section 404 permit to incorporate regulatory oversight into the processing of wastewater to meet water quality standards for the receiving waters.

The Minnesota Pollution Control Agency MPCA State Disposal System permit (MN0070611) [MPCA SDS] was available for a 30-day public review through May 28, 2014. The MPCA SDS permit is ready for a permit decision.

The MDNR will apply for the MPCA National Pollution Discharge Elimination System / State Disposal System (NPDES/SDS) Construction Stormwater General Permit [MPCA Construction SW] for the dewatering facility. The MPCA Construction SW permit requires the completion of a Stormwater Pollution Prevention Plan (SWPPP) prior to applying for the permit. The permit can be applied for on-line and becomes active within seven days of the application.

The *Minnesota Rules*, part 7030.0030 Noise Control Requirement (NCR) is administered through MPCA [MPCA Noise CR].

The Minnesota Historic Sites Act (MHSA) provides the Minnesota Historical Society, State Historic Preservation Office (SHPO) with review and concurrence responsibilities for Section 106 of the National Historic Preservation Act [Section 106 NHPA]. With the RTB project funded by the National Oceanic and Atmospheric Administration (NOAA), project compliance with Section 106 NHPA is required by NOAA. The NOAA is coordinating with SHPO to achieve concurrence on Section 106 NHPA.

- a. **Project Construction.** The mobilization and site preparation will involve equipment setup, pipeline and power systems assembly and placement, and dewatering facility site preparation and construction. The hydraulic dredge and pipeline assembly will engage several diesel engines to pulverize waste materials into a slurry and pump the it to the dewatering facility. Demobilization and site cleanup will occur once operations have been completed. Waste materials will be distributed to selected application areas for beneficial use as a soil amendment/mulch cover, or disposed at a licensed waste disposal facility. Environmental effects due to project construction have been incorporated into the topics listed below in Findings 21b through 21u.
- b. **Land Use.** This topic was addressed in the EAW under Item No. 9. This environmental effect identifies potential conflicts with nearby land uses.

Natural gas pipeline right-of-way: The dredging activities will be located near a natural gas pipeline corridor, which provides a viable access route to the dredging area. The MDNR will use the pipeline corridor for equipment access only with the assurance that the pipeline would remain undisturbed. No negative effects on the gas pipeline are anticipated.

Scenic Overlook Dump Site: The runoff from the waste dump area flows into RTB. The dump is closed for use as a waste dump. The information provided on the MPCA “What’s In My Neighborhood” web page (WIMN) did not identify risk of contamination to nearby areas. No environmental effect or conflicts are anticipated.

Compatibility with Adjacent and Nearby Land Uses: Noise, visual effects, and other potential environmental effects of project actions on nearby land uses are discussed under the specific environmental effect as organized in the topics below.

- c. **Wildlife and Habitat.** This topic was addressed in the EAW under Item No. 11a.

Removal of Wood Waste and Deepening of RTB: Wetland restoration in RTB would entail the removal of the wood waste and deepening a portion of RTB. Baseline surveys conducted in RTB in 2011 and 2012 showed that the flora and fauna communities in RTB are degraded due to the thick layer of wood waste and that invasive plant species are common throughout the estuary marsh. Currently the ability of fish, reptiles, and amphibians to use RTB for feeding and nursery habitat is diminished because of existing eutrophic conditions. Environmental conditions, such as low water temperature, low dissolved oxygen, and lack of currents within the bay, combined with the high volume of wood waste, limit the effectiveness of natural processes to break down or disperse the wood waste. The waste materials have remained in RTB for approximately 110 years. The eutrophic conditions present in the bay induce the establishment and spread of invasive plant species. The condition of the vegetation, fish, and invertebrate communities described in the baseline studies indicated that the quality of wildlife habitat is low.

The dredging actions would disrupt or destroy the contemporary flora, fauna, and vegetative communities over a 29-acre wetland area. Environmental resources specifically evaluated in the EAW included plant, fish, reptiles, and amphibian communities and species of greatest conservation need (SGCN) identified as occurring in the area. The plant communities affected by the project include estuarine marsh, northern rich fen, willow-dogwood shrub swamp, and black ash - silver maple terrace forest. Over twenty acres of estuarine marsh and a few acres of shrub swamp and northern rich fen would be destroyed. The terrace forest community would not be affected.

Fish and aquatic wildlife, including some birds and SGCN, would be displaced during project operations. To prevent the entrainment of aquatic species in the hydraulic dredge during operations, copper sulfate would be applied to aquatic areas in the bay to encourage fish, amphibians, and reptiles to leave the area prior to excavation. With the silt curtain positioned across the mouth of the RTB, recreational users will not have access to RTB. The silt curtain would also prevent aquatic species from moving back into RTB.

Communities of aquatic species and habitats in RTB will gradually recover and become more productive after project completion. Observations will be made during post-project studies to determine the degree of recovery and repopulation of RTB by aquatic plants and animals. Hybrid cattail and purple loosestrife would be removed from many areas and are less likely to reestablish in the dredged area because of the increased depth of water in RTB. Hydraulic dredging was chosen as the preferred alternative in part because the process would nearly eliminate the disturbance of peripheral habitats. Other alternatives not chosen would have relied on traction-wheeled loader and truck/barge hauling that cause greater disturbance to peripheral habitats.

General consensus among scientific authorities indicates that the vegetation and faunal communities will recover and improve following project completion. It is anticipated that the restored habitat will support a more diverse and productive ecosystem. The restoration of wetland in RTB will help to achieve the removal of the "loss of fish and wildlife habitat" BUI for the St. Louis Bay AOC by the proposed achievement date of 2025. If the monitoring reveals that the recovery progress will not meet expectations, the proposer would seek ways to remedy the restoration process outside the scope of this project through interventions such as re-seeding wild rice, invasive species control, or other applicable restoration techniques.

The proposed project will result in numerous environmental benefits for wildlife and habitat, including but not limited to:

- Contributes to addressing fish and wildlife habitat Beneficial Use Impairment (BUI) concerns within the AOC and advances the AOC delisting process.
- Improves natural hydrologic conditions for habitats in RTB.
- Creates and enhances spawning, nursery, foraging and overwintering habitat for fish.
- Exposes native substrate, increases average water depth, restores connectivity of the shallow bay with the river, and removes substantial debris settled along the shoreline.
- Improves access for recreational boaters and anglers.
- Restores biological services to a level similar to those prior to the construction and operation of the saw mills.
- Waterfowl loafing and foraging areas will be improved because of increased water depth and increased aquatic plant abundance.
- An additional 8 acres of shallow marsh habitat will be created and targeted for wild rice establishment. Potentially provides opportunities for domestic harvest of wild rice.
- If materials are cleared for beneficial use, the solid wastes can be used as soil cover amendments to help in the reclamation of a nearby degraded industrial site

Another benefit from the project will be the data gathered and the experience gained before, during, and after project completion. The effort contributes to the overall body of knowledge on the character and ecology of the St. Louis Bay and on methods used for marsh restoration. Negative effects on wildlife and habitats associated with the dredging operation are local, temporary, and reversible. The vegetation is expected to recover within several years after the dredging operation is complete.

- d. **Invasive Species.** This topic was addressed in the EAW under Item No. 11a. Invasive plant species are common throughout the estuary marsh in RTB. Invasive species could become reestablished in the dredged portion of RTB and at the dewatering facility after closure.

During the process of removing wood wastes there would be a synergistic benefit of removing invasive species. Invasive species located in areas peripheral to the assigned dredging area may also be specifically targeted for removal. The presence and spread of invasive species in the project area will be monitored after project completion during the post-project sampling studies. The dewatering facility area would be re-vegetated with approved seed mixes that help prevent invasive species from becoming established.

The MDNR requires authorization to transport aquatic plants and/or prohibited invasive species for disposal (*Minnesota Rules*, part 6216.0265). The vegetative materials in the wood waste may include aquatic invasive propagules including weed seed. The wood waste will be reused as mulch on nearby upland areas where the propagules would become nonviable.

If substantial re-infestation of wetlands in RTB or upland habitats at the dewatering site occurs, the MDNR Invasive Species Program would be contacted for additional guidance on which control treatments would prove feasible and most effective. The MDNR procedures for the management and control of invasive species are defined in Operational Orders No. 113 and No. 59. The increased depth of water in RTB would make the dredged area somewhat less prone to the reestablishment of the presently established invasive species, such as purple loosestrife and hybrid cattail.

- e. **Rare Features.** This topic was addressed in the EAW under Item No. 11b.

Estuarine marsh community: Twenty-nine acres of freshwater marsh/fen/shrub swamp vegetation would be destroyed, including more than twenty acres of estuarine marsh that is considered an

imperiled (S1) community in Minnesota. The present condition of the estuarine marsh is lower due to the wood waste that has accumulated on the bottom of RTB. Removing wood wastes would destroy the standing vegetation of the estuarine marsh. There is risk of a slow natural recovery or re-infestation of the dredge area with invasive species.

Restoring the estuarine habitat in RTB to a healthy functioning wetland system is the key purpose of this project. The habitat for the estuarine marsh would not decrease and its quality would be improved by the removal of the wood waste from RTB. With the exposure of the native unconsolidated bottom sediments by the dredging operation, a better rooting medium for the marsh vegetation would be available. With the improvement of the RTB bottom, the estuarine community should also improve in a relatively quick timeframe, possibly in three to five years, although the rate of improvement is unknown. Post-project monitoring will be conducted to determine the rate of recovery. The restored community will support a more diverse animal assemblage, including species of fish, amphibians, reptiles, birds, and macro-invertebrates. The MDNR PWW and the USACE Section 404 permits address mitigation responsibilities for restoration projects in public waters. Minor temporary effects would occur. Important beneficial effects on the community are anticipated.

Minnesota Biological Survey (MBS) Site of High Biodiversity Significance: The proposed dredging would create a temporary disturbance in a 29-acre project area out of the 1,700-acre MBS Site (Bear Island to Smithville). The site rating is based on the uniqueness of the estuary within Minnesota, the moderate to good quality native plant communities that are within the site, and the reestablished presence of lake sturgeon in the St. Louis River.

The estuarine vegetation is anticipated to become reestablished within a 3-5 year period after dredging. The effect on the estuarine marsh is considered beneficial because once vegetation re-establishes, the condition of the marsh should improve beyond its present quality. The environmental effects on the rare features within the Site of High Biodiversity Significance are minor, local, temporary, and reversible.

Lake sturgeon: There is a risk that juvenile lake sturgeon could be using the RTB marsh at the time project operations commence or during project operations. During fish sampling conducted in RTB no sturgeon were observed. Safe levels of copper sulfate will be applied as a fish irritant to encourage fish to leave the bay prior to dredging. A silt curtain will be used at the mouth of RTB to prevent fish movement into the bay. The MDNR evaluated the potential of sturgeon using RTB and concluded that the risk of disturbing or killing sturgeon is small. With the mitigation measures applied, the effects of construction on the lake sturgeon population would be minor. Once the wood waste has been removed, the habitat for juvenile sturgeon is expected to improve in RTB.

Mussels: Dredging the access channel into RTB could disturb a small amount of potentially suitable habitat for several State of Minnesota listed mussels (threatened and special concern) that inhabit the lower St. Louis River. The 29-acre dredging area in RTB is not suitable habitat for these rare mussels. No effect on rare mussels is anticipated because the disturbance would be confined to a few hundred square feet of a non-riffle area of the river bank.

Rare Plants: Suitable habitat may occur in RTB for two vascular plant species listed by the State of Minnesota: (*Bidens discoidea*, bur-marigold, a species of special concern, and *Elodea bifoliata*, twoleaf waterweed, an endangered species), according to historical records (1940s) in the Natural Heritage Information System (NHIS) database. No rare plants were identified during the baseline vegetation surveys completed in 2012. Bur-marigold will not be affected because it prefers

wooded terrace communities, which occur in areas of RTB that are uninvolved with proposed dredging activities. The potential habitat in RTB for the twoleaf waterweed will be improved after wood waste is removed from the bay. Impacts to either of these species are not anticipated.

- f. **Physical Impacts to Water.** This topic was addressed in the EAW under Item No. 12. The proposed dredging operation would affect the cross section (bathymetry) of a public water by dredging approximately 29 acres of wetland habitat below the ordinary high water level (OHWL) in a shallow bay. Approximately 114,000 cubic yards of material would be removed from the bay, increasing the bay's depth an average of 2.5 feet. No filling of a jurisdictional body of water will occur to achieve habitat objectives. A deep water hole and deep access with a maximum depth of six feet below the mean water elevation would be created.

Public Waters: Project appears to meet the provisions of Minnesota Rules 6115 regarding the excavations to restore public waters in RTB, which requires a MDNR PWW permit. The permit requires that excavation projects designed for the "restoration of fish and wildlife habitat" must describe the nature and degree of habitat to be benefited; must not create other adverse effects on the environment (sedimentation, flooding, etc.); and must be compared with other alternatives to justify the preferred alternative is a minimal impact solution. Proposed technology has a proven record for removing sediments; is feasible to implement in RTB; and is more efficient than other methods considered. The project operations would generate only minor additional traffic; would avoid causing additional disturbance to peripheral habitats; and the potential for waste spillage during transport will be lower than other alternatives considered. The dredging operation will be isolated from the St. Louis River flowage during project operations. The MDNR PWW, USACE Section 404, and USACE Section 10 permits identify conditions including: mitigation/sequencing, equipment restrictions, preventative measures, spill contingency, etc.

Compensatory mitigation is not proposed for this project because it serves to restore fish and wildlife habitat. Other important beneficial hydrological aspects of the project are that it: improves natural hydrologic conditions of RTB; reestablishes the historical bathymetry of a portion of RTB; and requires no fill into a jurisdictional body of water to achieve objectives.

Wetlands: All surface waters affected by the proposed project are classified as jurisdictional public waters of St. Louis Bay, which are regulated through the work in public waters permit. The project does not affect wetlands under the jurisdiction of the Wetlands Conservation Act. The project results in no net loss of public water wetlands. A "No-Loss Decision" on wetlands in RTB has been approved by the City of Duluth. The USACE Section 404 permit has been approved with no compensatory mitigation required.

Marsh Vegetation in Mud Lake: Damage to the St. Louis River marshes could occur within the slurry pipeline corridor during the assembly, operation, monitoring, and maintenance of the pipeline. Depending on their placement, booster pump stations could damage small areas of marsh. Some incidental fallback of waste into Mud Lake could occur along the pipeline corridor.

Care will be taken to avoid disturbance of marsh habitat during project operations. Pipeline assembly and placement will likely be conducted from boats or barges, thus preventing rutting associated with the use of traction-wheeled vehicles. The pipeline will be used for a period of several months, thus limiting effects on the marsh associated with long term placement. Minor areas of marsh would be damaged during project operations.

- g. **Water-related Management (Floodplains and Shorelands).** This topic was addressed in the EAW under Item No. 14.

The proposed project will change the cross section of a public water. The project will deepen a shallow bay situated within the St. Louis River floodway. The project is compatible with the City of Duluth floodplain land use restrictions because no net fill into the St. Louis River will occur and no structures will be built in the floodplain.

The public waters that will be affected by the project are classified as Natural Environment waters. The proposed dredging and dewatering operations will not occur within a regulated shoreland management zone established for these waters. No environmental effects are anticipated in the shoreland zone.

- h. **Water Surface Use (Recreation and Navigation).** This topic was addressed in the EAW under Item No. 15. The pipeline assembly has a potential to interfere with recreational boating during the period of project operations. Noise generated during operations could affect recreational users on the St. Louis River. The pipeline and pump assembly will be located in areas away from the normal navigation corridor of the St. Louis River. The pipeline may restrict boaters from accessing a shallow portion of the western part of Mud Lake. Most of the pipeline will be situated along marsh habitats not frequented by boaters. Boater safety will be enhanced by clearly marking the pipeline with buoys and signage that provides lighted warning of equipment obstructions. Provision in the MDNR PWW and the USACE Section 10 permits requires the pipeline not obstruct navigation or create a water safety hazard. Navigation on St. Louis River will not be affected; minor effects on surface water users are anticipated. The effects of noise are described under Finding 21q.

With the exception of canoe and kayak users, recreational boaters currently do not have access to RTB. A condition for obtaining a MDNR PWW permit for restoration projects is that the project needs to show improvements, which may include an improvement for recreational uses, will occur. The proposed increase in the depth and width of the access channel and bay is expected to increase accessibility of the bay to recreational use.

- i. **Erosion and Sedimentation.** This topic was addressed in the EAW under Item No. 16.

Dredging in RTB. Surface water turbulence (suspended solids) within RTB will be high during project operations, with some sediment potentially escaping into the St. Louis River flowage. A large amount of sediment could be released during an extreme rainstorm event, if the silt curtain placed across the mouth of RTB is breached by the storm.

A silt fence will be placed along the upslope side of the dredge zone in RTB. The silt curtain will contain most sediment within RTB. The silt curtain will be firmly anchored, inspected regularly, and quickly repaired if a breach occurs. The USACE Section 404 and Section 10 permits stipulate conditions that operators must apply to achieve BMP soil erosion and sediment controls, i.e., silt curtain, silt fence, and other measures. The MDNR PWW permit for a habitat restoration project is contingent on minimizing sedimentation and other adverse impacts. Suspended sediments will be largely confined to areas within the RTB and only minor effects of sedimentation are anticipated. As stipulated in the provisions of the USACE Section 404 permit, if turbidity and/or sedimentation caused by the project are observed outside and downstream of the defined work area, authorized activities must cease until alternative BMPs that control these adverse effects have been implemented. The risk of breaching the silt curtain is minor.

Pipeline Corridor. Operation of the pipeline could cause a resuspension of sediments at a few shoreline/shallow bottom contact points and along the hill-slope leading from Mud Lake to the dewatering facility. Sediment control measures will be implemented at vulnerable shore/bottom

contact points, if necessary. Erosion control BMPs will be applied along the upland pipeline segment. A minor effect on water quality is anticipated along the pipeline corridor.

Dewatering Facility. Grading and other construction activities would remove vegetative cover of the dewatering facility site and the drainage pattern would be altered somewhat to create a level platform for the geotubes. The dewatering facility pad will be designed to minimize amount of grading required. Best management practices for construction of the dewatering facility include the following: stabilizing the exposed ground surface along the construction entrance/exit road; installing a silt fence along the perimeter of the facility, placing a concrete barrier (Jersey barriers) around the storage area; laying an impermeable membrane on the base and along the sides of the facility's storage area, installing a rock weir to control outflow; and constructing a rock-lined carriage water ditch and splash pad for the discharge water. Prior to construction, the downslope erosion controls will be in place and functioning properly. The facility will be decommissioned after all the wood waste has been distributed. The site will be regraded to match the local contour and seeded with perennial native vegetation to provide soil erosion protection and improved habitat qualities. The MPCA Construction SW permit for construction of the dewatering facility will require documentation of the BMPs to be used and a SWPPP is required with the application.

- j. **Water Quality.** This topic was addressed in the EAW under Item No. 17.

Dredging in RTB. All activities within RTB would occur below the OHWL of the St. Louis River. Some resuspension of sediment could occur along the pipeline in Mud Lake during project operations. A silt fence will be placed in the surrounding marsh along the upslope side of the proposed dredging area and a sediment curtain will be secured at the mouth of RTB. A SWPPP is not required for this portion of the project because activities are restricted to below the OHWL of a public water. Project activities will not exacerbate any existing impairments of the St. Louis River, a listed water body pursuant to the Clean Water Act, Section 303(d). A minor effect on water quality is anticipated.

Dewatering Facility. The pad used for the placement of geotubes will be impermeable and cause all drainage originating from the facility to flow into Mud Lake. An increase in runoff is anticipated from the storage area. The additional precipitation runoff will comingle with waste water (carriage water) that is generated during consolidation of the solid waste materials at the facility. Standard erosion control BMPs for the construction and operation of the facility are identified in engineering specifications and provisions of the MPCA Construction SW permit that includes the SWPPP. A minor effect on water quality is anticipated. (See the discussion on wastewater under Finding 21k.)

- k. **Wastewater.** This topic was addressed in the EAW under Item No. 18. As stated under Item No. 12 of the EAW, the pipeline system's location will allow easy access for monitoring.

Slurry Pipeline Construction/Operation. There is a potential for incidental fallback of dredge material into Mud Lake during project operations. Personnel would monitor the system on a 24-hour basis to insure proper function, with a kill switch incorporated into the power system to disengage the power source if a problem arises. The operator will be required to suspend operations until leaks are fixed. Spillage will be removed quickly under the MDNR's supervision and the area receiving waste material will be returned to previous elevations. There is a low risk of environmental contamination due to inadvertent spillage of slurry along the pipeline corridor.

Dewatering Facility. The amount of wastewater drainage from the geotubes at the dewatering facility is estimated to fall within a range of from 130 to 170 million gallons. To settle the solids quickly, the dredge slurry will be treated at the dewatering facility with a cationic polymer. With the use of an impermeable membrane lining the storage area, the wastewater will not be allowed to contact subsurface landfill materials at the dewatering facility. The wastewater will be allowed to settle in a basin behind a weir prior to being released into Mud Lake. Total suspended solids and possibly other parameters will be tested prior to releasing the wastewater into Mud Lake. Potential additional dioxin measurements would be taken for sediments in the settling basin, if prior testing indicates the need to do so.

As noted in the EAW under Item No. 18b, prior to being discharged, the wastewater will be tested for total suspended solids and possibly other water quality parameters. As addressed under Item No. 17b, the St. Louis Bay waters are managed as class 2B waters. As identified in the EAW under Item No. 18b, the USACE Section 404 permit stipulates that all discharges to a watercourse resulting from permitted construction activities, particularly hydraulic dredging, must meet applicable Federal, State, and local water quality and effluent standards on a continuing basis. In collaboration with the MPCA, the USACE will be amending the Section 404 permit to establish a sampling protocol for monitoring discharge waters for meeting applicable water quality standards. It is anticipated that the drainage water will meet water quality standards for the St. Louis River. A modification in the management of the wastewater outflow will be made if standards are not met. Minor water quality effects are anticipated from the discharge waters.

1. **Groundwater contamination.** This topic was addressed in the EAW under Item No. 19. As described under Item No. 6 of the EAW, the dewatering facility is located on a highly disturbed site due to historic industrial use and waste deposition, including slag, sand, and concrete rubble.

Dewatering Facility. The initial designs for the dewatering facility would have allowed the discharge water to infiltrate through the landfill waste materials, which could have increased the potential for groundwater contamination. The dewatering facility was redesigned to ensure that the carriage water (waste water) did not percolate into the landfill substrates. Waste materials will be placed in geotubes to allow drainage and wood waste solids to settle. The geotubes will be placed on an impermeable membrane to isolate the waste water from historic landfill substrates. All precipitation and waste water will flow over the membrane to prevent groundwater contamination. Redirecting precipitation to overland flow may cause a small depression cone in the level of the water table. This is not regarded as a negative effect on the groundwater. Monitoring wells to evaluate environmental effects on the groundwater are available upslope and down slope of the proposed dewatering facility site. Minor fuel or petroleum spills could occur during facility operations. A spill plan will be prepared and fuel will not be stored within project areas. A minor effect on the groundwater is anticipated.

- m. **Solid Waste.** This topic was addressed in the EAW under Item No. 20.

Dewatering Facility. Solid waste materials could increase pollution levels in area soil, water, and air if handled improperly, and could affect human health if exposure occurs. To reduce the risk of pollution and human exposure to pollutants, Management Levels have been established by MPCA that set limits on how waste materials can be handled, whether they can be used for beneficial purposes or require disposal in a licensed landfill. The Management Levels are based on acceptable Soil Reference Value thresholds, which identify pollutant levels in the waste materials. Management Levels 1 and 2 define acceptable pollutant levels for residential areas and industrial areas, respectively. Management Level 3 materials require disposal in a licensed landfill. RTB sediments were analyzed for 9 metals, PCBs, and PAHs: except for one sample

that exhibited an elevated level of arsenic, all met Management Level 1--deemed acceptable for beneficial use in residential areas.

In unrelated sampling, one dioxin sample that was taken in RTB during a St. Louis Bay areawide study of legacy contamination exhibited a high level of dioxin. Resampling of RTB for dioxin will be conducted prior to dredging to determine the magnitude of dioxin in the sediments in RTB. Additional sampling will be conducted at the dewatering facility on solid wastes in geotubes and sediments in settling basin. If compartmentalized solid waste batches exceed the acceptable standards for beneficial use, the materials will be disposed in a licensed landfill. Solid waste management at the dewatering facility requires an SDS permit issued by the MPCA. The MPCA administers the SDS permit that regulates the management of solid waste according to specified contamination thresholds for the beneficial reuse or the disposal of waste materials in a licensed landfill.

- n. **Hazardous Waste.** This topic was addressed in the EAW under Item No. 20b and No. 20c. No above or below ground tanks are present on the site. There is a potential for fuel and petroleum spills during project operations. Pumps along the slurry pipeline and in the dewatering facility will be re-fueled by trucks or ATVs. Excavation equipment will be re-fueled from a boat.

Prior to project startup, the selected contractor will be required to develop and implement a written refueling strategic plan and an emergency spill response plan. The USACE Section 404 permit requires that preventative measures and a spill contingency plan must be in effect during project operations. Preventative measures must be adopted to prevent potential pollutants from entering the watercourse. Materials, debris, and petroleum products cannot be stored in the construction area in a manner that would allow them to enter surface waters. The Minnesota Duty Officer Program, established by Minnesota Department of Public Safety, provides a single answering point for emergencies, serious accidents or incidents, or for reporting hazardous materials and petroleum spills. The risk of spills or other exposure to hazardous wastes is minor.

- o. **Traffic.** This topic was addressed in the EAW under Item No. 21.

Dredging and Dewatering Facility Operations. No parking spaces will be created and traffic generated during project operations will be limited. Traffic will be similar to pre-project conditions. Hydraulic dredging was chosen as the preferred alternative because other alternatives considered would have generated a large volume of truck or barge traffic to transport the wood waste. Moving materials containing invasive species propagules over highways and rivers should be avoided in this instance because of the possibility of spreading invasive species. No traffic effects are anticipated.

- p. **Air emissions, odors, and dust.** This topic was addressed in the EAW under Item No. 22 and No. 24. Operating the hydraulic dredge and other equipment (maximum of six diesel motors) will contribute air emissions (diesel exhaust), odors, and dust.

Dredging and Dewatering Facility Operations. The equipment will have emission controls that meet the local air quality standards. The general isolation of the site will allow air emissions to disperse prior to reaching the receptor sites. The energy efficiency of the hydraulic dredging process, is higher than if truck or barge transport is employed. Air emissions from project operations will have minor local effects. Odors released from the operation are anticipated to be limited, temporary and localized. The moisture content of the wood waste will reduce the amount of fugitive dust generated. Dust generated from service vehicle traffic will be minor in extent.

- q. **Noise.** This topic was addressed in the EAW under Item No. 24. The operation of diesel equipment could be annoying occasionally and possibly exceed noise standards for the closest receptor sites. Minnesota's noise limits are set by "noise area classifications" (NACs) based on the land use at the location of the person exposed to the noise. The MPCA noise standards for residential areas during the daytime are 65 decibels (dB) (L10) and 60 dB (L50) and during the nighttime are 55 dB (L10) and 50 dB (L50). The closest receptor site is at least 500 feet away from the nearest point of the active dredging area.

Dredging in RTB. The Minnesota Pollution Control Agency (MPCA) administers the State of Minnesota noise rules. Occupational Safety and Health Administration (OSHA) has regulations to protect against hearing loss in the workplace, restricting the amount of noise an employee receives over a period of time. The diesel engines will be equipped with muffling devices to control the amount of noise generated during project activities. The contractor will monitor the amount of noise generated at the construction site. Arrestor devices with sufficient muffling capacity will be employed to achieve daytime and nighttime noise standards set for residential areas. Project contact information will be provided to the City of Duluth in the event that the City staff receives questions or complaints about the project. Noise pollution affects are anticipated to be limited, temporary, and localized.

- r. **Archaeological, historical, or architectural resources.** This topic was addressed in the EAW under Item No. 25. Investigations to evaluate the potential of historical properties in the project area were carried out in 2011 and 2012, during the early phases of project planning. Three historic properties were identified within the proposed project excavation area: railroad trestle/bridge remnant pilings, two sawmills, and a radio station tower complex. The historic properties were considered as potentially eligible for placement on the NRHP. No cultural resources occur in the area of the dewatering facility located one mile north of RTB.

Dredging in RTB. The remnant railroad pilings were evaluated by SHPO and considered not eligible for placement on the National Register of Historic Places (NRHP). Pilings were subsequently removed in wintertime during Phase 1. The project has incorporated avoidance measures into the project development to protect the remaining potential historic properties by establishing protection zones for them where construction activity is prohibited. No mitigation will be required because the project will not affect the identified potential historic properties.

The Section 106 NHPA requirements are invoked in non-federal projects when federal funds are used in financing the project or federal permits are contingent on the determination of the project's potential environmental effects on cultural resources. The USACE Section 404 and Section 10 permits require compliance with Section 106 NHPA. The NOAA, which is a project funding source, is facilitating coordination with the State Historic Preservation Office (SHPO). The historic properties review goes through the SHPO, pursuant to Minnesota Historic Sites Act. No effect on the historic properties is anticipated.

- s. **Visual Impacts.** This topic was addressed in the EAW under Item No. 26. The lighting of the construction zone for nighttime operation may affect nearby residences. Facility lighting for nighttime operations must meet safety standards for operators.

Dredging in RTB & Establish/Operate Dewatering Facility. One of the nearest residences located upslope from the project will be largely screened from view by an existing tree line. The dredging activities will be located at a position on the landscape below the position of nearby residences and not within their direct line of sight. Minor visual impacts are anticipated. The effect will be limited in extent, temporary, and reversible.

- t. **Compatible with Plans/Regulations.** This topic was addressed in the EAW under Item No. 27. The City of Duluth Comprehensive Plan (2006) and the St. Louis River Habitat Plan (May 2002) are in effect for the project area. The proposed project is identified as a necessary action for meeting remediation goals established for the St. Louis Bay AOC in the 2013 Implementation Framework: Roadmap to Delisting (Remedial Action Plan Update) produced by MPCA. The project will be compatible with these plans and regulations.
- u. **Cumulative Potential Effects.** This topic was addressed in the EAW under Item No. 29. The potential environmental effects related to this 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 environmental effects of Phase 1 and Phase 2 actions in Radio Tower Bay were considered in total in the EAW under Item No. 6e and Item No. 29. The EAW identified the potential for a cumulative increase in sedimentation in the St. Louis River and the noise levels experienced in the vicinity of the project area.

Dredging in RTB & Establish/Operate Dewatering Facility. Construction for Phase 1 was carried out during the winter on an ice covered wetland. No cumulative effects from Phase 1 were identified in the EAW.

The risk of releasing a large amount of sediment into the St. Louis River, if the silt curtain is breached, was considered and determined to be a minor risk during the several month dredging period. As stipulated in the provisions of the USACE Section 404 permit, if turbidity and/or sedimentation caused by the project is observed outside and downstream of the defined work area, authorized activities must cease until alternative BMPs that control these adverse effects have been implemented.

Noise contributions from the proposed project could have a cumulative effect in addition to nearby rail and highway transportation corridor noise. A few residences are situated not less than 500 feet from the site. Noise in areas surrounding the project area may be annoying to some residences even though applicable standards are being met. The machinery will be monitored to insure it meets the noise regulations applicable to residential areas. The machinery will be sufficiently removed from most residences on most occasions to avoid disturbance. Noise arrestor devices available for muffling equipment have improved capabilities and will be upgradable, if elevated noise levels are identified. The cumulative effects of noise will be limited in extent and temporary – they will extend over the several months of project operations.

Additional projects proposed for the St. Louis Bay AOC, including the remediation of the US Steel Superfund Site, are being planned at this time and slated for implementation during the next eleven years. These AOC projects could contribute temporary environmental effects such as disturbance to wildlife and rare features, increase in sedimentation and noise, effects on water quality of the St. Louis River environment. If an environmental review threshold is reached, the projects will be evaluated under the EQB rules, Minnesota Rules, Chapter 4410. The Radio Tower Bay project is smaller, in a different timeframe, and distant from most other AOC projects. The project will contribute an incrementally small effect relative to other larger proposed project in St. Louis Bay. All of the proposed projects are anticipated to be beneficial to the restoration of St. Louis River AOC, contribute towards the delisting of the area, and have negative effects that will be temporary and manageable.

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

Government	Type of Application	Status
State of Minnesota		
MDNR	Public Waters Work Permit	To be obtained
	Prohibited Invasive Species Permit	To be obtained
MPCA	SDS Permit	To be obtained
	NPDES/SDS Construction Stormwater General Permit: dewatering facility	To be obtained
MHS/SHPO	Section 106 Archaeology/Historical Review	NOAA processing the review / concurrence
City of Duluth	MS4 Statement of Compliance	To be obtained
	Floodplain –Special Use Permit	To be obtained
	Temporary access agreement/license	To be obtained
	No Loss Decision for WCA	Obtained
U.S. Government		
USACE	Section 404 Permit, Clean Water Act	Obtained, needs amendment
	Section 10, Rivers and Harbors Act	Obtained
Other		
US Steel	Temporary access agreement/license	To be obtained
EPA/MPCA	Quality Assurance Project Plan (QAPP) resource assessment/dioxin sample protocols	Both QAPPs have been prepared

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 MDNR concludes that the following potential environmental effects, as described in Finding No. 20, will be limited in extent, temporary, or reversible:

- a. Project Construction
- b. Land Use
- c. Wildlife and Habitat
- d. Invasive Species
- e. Rare Features

- f. Physical Impacts to Water
- g. Water-related Management (Floodplains and Shorelands)
- h. Water Surface Use (Recreation and Navigation)
- i. Erosion and Sedimentation
- j. Water Quality
- k. Wastewater
- l. Groundwater contamination
- m. Solid Waste
- n. Hazardous Waste
- o. Traffic
- p. Air emissions, odors, and dust
- q. Noise
- r. Archaeological, historical, or architectural resources
- s. Visual Impacts
- t. Compatible with Plans/Regulations
- u. Cumulative Potential Effects

Based on the Findings of Fact above, the MDNR concludes the following potential environmental effects of the project, as described in Finding No. 20 will be beneficial:

- Restores the historic bathymetry of Radio Tower Bay.
- Restores the habitat for a rare plant community of Minnesota (estuarine marsh).
- Restores aquatic habitat for wildlife and fish resources.
- Physically removes invasive species and creates habitat less conducive to their establishment.
- Improves surface water recreation potential in Radio Tower Bay.
- If materials are cleared for beneficial use, the solid wastes can be used as soil cover amendments to help in the reclamation of a nearby degraded industrial site.

The proposed project will yield several environmental benefits, as listed previously, and less tangible broad scale benefits to the public in general and individuals that directly use and depend on the St. Louis River because of the improvements associated to water quality, aquatic habitats, and biota.

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

The effects of all past projects comprise the existing conditions of the project area. The cumulative environmental effect of the proposed project and future projects add to existing conditions. Cumulative environmental effects for future projects are assessed by evaluating the effect on the environment resulting from the incremental effects of the project under review plus similar effects from certain future projects that overlap spatially or temporally with the proposed project.

Based on the Findings of Fact above, the MDNR concludes that cumulative potential effects from sedimentation, noise, and other proposed AOC remediation projects, as described in Finding 20q, are not significant in terms of:

Sedimentation: With the implementation of proper mitigation actions identified, there is a low probability and a minor risk of a breach in the silt curtain during the several month period of project operation.

Noise: The project will meet noise standards applicable to the area; the short term project and other noise sources in the area would not have significant cumulative effects.

Planned AOC remediation projects: The St. Louis River AOC remediation projects are anticipated to have negative effects that will be temporary and manageable, as well as long term beneficial effects contributing to the restoration of the St. Louis River and to delisting of the area from its AOC status.

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 MDNR has determined that the following environmental effects, as described in Findings 20a through 20u, are subject to mitigation by ongoing public regulatory authority:

The effects on Wildlife and Habitat: MDNR PWP permit (plans need to show the nature and degree of habitat to be benefited; requires that the project not exceed more than the minimum damage to the environment; project must achieve beneficial purpose of restoring fish and wildlife habitat).

The physical impacts on Water Resources: MDNR PWW permit (rules – mitigation, least adverse alternatives analysis, natural hydrological condition improvement); USACE Section 404 permit, activities authorized: Item I – stream and wetland restoration (standard conditions – mitigation/sequencing, equipment restrictions, preventative measures, spill contingency, etc.); USACE Section 10; (general conditions – equipment operation, mitigation, etc.).

The effects on Water Surface Use: MDNR PWW, USACE Section 404 and Section 10 permits (conditions – project needs to demonstrate project will not obstruct navigation or create a water safety hazard, etc.); MDNR PWW permit (purpose – show improvements, including recreational uses).

The effects of Erosion and Sedimentation on Water Quality: MDNR PWW, USACE Section 404 and USACE Section 10 permits (conditions – soil erosion and sediment controls, i.e., silt curtain, silt fence, and other measures); MPCA Construction SW permit for constructing the dewatering facility (conditions – application of BMPs and preparation of SWPPP).

The effects of Wastewater: USACE Section 404 permit amendment (conditions – discharge water from dewatering facility meets water quality standards for Class 2B waters).

The effects of Solid Waste: MPCA SDS permit (conditions – management of solid waste according to specified contamination thresholds for beneficial reuse or disposal in landfill).

The effects of hazardous wastes on Water Quality: USACE Section 404 permit (conditions – preventative measures and spill contingency plan).

The effects of Noise: *Minnesota Rules*, part 7030.0030 Noise Control Requirement administered through MPCA (conditions – sets receiver-based standards); Occupational Safety and Health Administration (OSHA) (protects against hearing loss in the workplace).

The effects on Archaeological, Historical, or Architectural Resources: Minnesota Historic Sites Act and Section 106 NHPA (projects funded by National Oceanic and Atmospheric Administration (NOAA) must comply with Section 106 NHPA, through which the SHPO has review and concurrence responsibilities); USACE Section 404 and USACE Section 10 permits (conditions – requires compliance with Section 106 NHPA).

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.*

MDNR. Best Practices for Meeting MDNR General Public Waters Work Permit (GP2004-0001).

6. The MDNR has fulfilled all the procedural requirements of law and rule applicable to determining the need for an environmental impact statement on the proposed Radio Tower Bay Wetland Restoration Project.
7. Based on considerations of the criteria and factors specified in the Minnesota Environmental Review Program Rules (*Minnesota Rules*, chapter 4410.1700, subpart 6 and 7) to determine whether a project has the potential for significant environmental effects, and on the Findings and Record in this matter, the MDNR determines that the proposed Radio Tower Bay Wetland 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 Radio Tower Bay Wetland Restoration Project in St. Louis County, 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 17th day of June, 2014.

**STATE OF MINNESOTA
DEPARTMENT OF NATURAL RESOURCES**



Barb Naramore
Assistant Commissioner