Draft Environmental Assessment for Issuing Right-of-Way Permits to the Minnesota Department of Natural Resources for the Minnesota Valley State Trail Across the Minnesota Valley National Wildlife Refuge

FEBRUARY 2022

Prepared by

Minnesota Valley National Wildlife Refuge

Bloomington, Minnesota

Table of Contents

DRAFT Environmental Assessment

Minnesota Valley National Wildlife Refuge

Environmental Assessment for Issuing Right-of-Way Permits to the Minnesota Department of Natural Resources for the Minnesota Valley State Trail

DATE: FEBRUARY 2022

This Environmental Assessment is being prepared to evaluate the effects associated with the proposed action and complies with the National Environmental Policy Act in accordance with Council on Environmental Quality regulations (40 CFR 1500-1509) and Department of the Interior (43 CFR 46; 516 DM 8) and U.S. Fish and Wildlife Service (550 FW 3) regulations and policies. The National Environmental Policy Act requires examination of the effects of proposed actions on the natural and human environment. Appendix A outlines all law and executive orders evaluated through this Environmental Assessment.

Proposed Action

The Minnesota Department of Natural Resources proposes to construct 13.5 miles of the Minnesota Valley State Trail, from the Bloomington Ferry Bridge to the Minnesota Valley National Wildlife Refuge Bloomington Education and Visitor Center in Bloomington, Minnesota. This will require several right-of-way permits for the 7 miles of the state trail on refuge property (Figure 1, Appendix B). The entire proposed project area includes a mosaic of lands stewarded by the U.S. Fish and Wildlife Service, the City of Bloomington, the State of Minnesota and a handful of private landowners. This Environmental Assessment evaluates allowing the extension of the Minnesota Valley State Trail on refuge property, as it relates to the ability to fulfill the refuge mission and the mission of the U.S. Fish and Wildlife Service, relative to the refuge's purpose; biological integrity, diversity and environmental health; and implications for future operations and maintenance costs (funds and staffing).

A proposed action may evolve during the National Environmental Policy Act process as the agency refines its proposal and gathers feedback from the public, tribes and other agencies. Therefore, the final proposed action may be different from the original. The final action will be decided after the conclusion of the public comment period for the Draft Environmental Assessment. The decision will be outlined in the final National Environmental Policy Act document and be implemented once the decision document is published.

Background

National wildlife refuges are guided by the mission and goals of the National Wildlife Refuge System, the purposes of an individual refuge, Service policy, and laws and international treaties. Relevant guidance includes the National Wildlife Refuge System Administration Act of 1966, as amended by the National Wildlife Refuge System Improvement Act of 1997, Refuge Recreation Act of 1962 and selected portions of the Code of Federal Regulations and Fish and Wildlife Service Manual.

The refuge was established pursuant to the Minnesota Valley National Wildlife Refuge Act of 1976 (16 U.S.C. 668kk). The primary purposes of the refuge are to (1) provide habitat for a large number of migratory waterfowl, fish and other wildlife species; (2) to provide environmental education, wildlife recreational opportunities and interpretive programs for hundreds of thousands of Twin Cities residents; (3) to protect important natural resource areas from degradation; and to (4) protect the valley's unique social, educational and environmental assets. The refuge act also acknowledged the presence of the Minnesota Valley State Trail and the establishment of a wildlife recreation area, both to be administered by the Minnesota Department of Natural Resources.

The mission of the National Wildlife Refuge System also guides the refuge. As outlined by the National Wildlife Refuge System Administration Act, as amended by the National Wildlife Refuge System Improvement Act (16 U.S.C. 668dd et seq.), is

> *"... to administer a national network of lands and waters for the conservation, management and, where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans"*

The National Wildlife Refuge System Administration Act mandates the Secretary of the Interior in administering the National Wildlife Refuge System (16 U.S.C. 668dd(a)(4)) to:

- Provide for the conservation of fish, wildlife and plants, and their habitats within the National Wildlife Refuge System;
- Ensure that the biological integrity, diversity and environmental health of the National Wildlife Refuge System are maintained for the benefit of present and future generations of Americans;
- Ensure that the mission of the National Wildlife Refuge System described at 16 U.S.C. 668dd(a)(2) and the purposes of each refuge are carried out;
- Ensure effective coordination, interaction and cooperation with owners of land adjoining refuges and the fish and wildlife agency of the states in which the units of the National Wildlife Refuge System are located;

- Assist in the maintenance of adequate water quantity and water quality to fulfill the mission of the National Wildlife Refuge System and the purposes of each refuge;
- Recognize compatible wildlife-dependent recreational uses as the priority general public uses of the National Wildlife Refuge System through which the American public can develop an appreciation for fish and wildlife;
- Ensure that opportunities are provided within the National Wildlife Refuge System for compatible wildlife-dependent recreational uses; and
- Monitor the status and trends of fish, wildlife and plants in each refuge.

The Secretary of the Interior is authorized to permit the use of any areas within the system whenever they determine that such uses are compatible with the purposes for which these areas are established (16 U.S.C. 668dd (d) (1)). The circumstances and procedures for permitting such uses are further described in the Code of Federal Regulations (50 CFR 29.21) and the Fish and Wildlife Service Manual (340 FW 3).

Persons, or entities, wanting to use or alter refuge real property or natural resources may seek authorization to do so via a right-of-way permit (340 FW 3). As noted, the Minnesota Department of Natural Resources has requested such authorization for the purposes of developing a recreational trail.

Purpose and Need for the Action

The Minnesota Department of Natural Resources has submitted a right-of-way permit application for a portion of the Minnesota Valley State Trail to be constructed on the refuge from Highway 77 and running approximately 1.7 miles west (Figure 2, Appendix B). The purpose of this proposed action is to respond to the right-of-way permit request from the Minnesota Department of Natural Resources to continue the Minnesota Valley State Trail through areas of the refuge to provide for recreation. The Minnesota Department of Natural Resources expects to submit future rights-of-way applications as funding becomes available (Figures 3 and 4, Appendix B). This Environmental Assessment covers the current right-of-way permit application and future applications as the general trail alignment is currently known.

The need for the action is based on several factors. The first being the Minnesota Valley National Wildlife Refuge Act, which established the refuge, states that the refuge Comprehensive Plan shall “provide for the Minnesota Valley Trail Corridor, authorized by Minnesota Statute, 1969, section 85.198, as an integral part of the Minnesota Valley National Wildlife Refuge and the adjacent wildlife recreation area” (Minnesota Valley National Wildlife Refuge Act 1976). In addition, the National Wildlife Refuge System Improvement Act of 1997 identified six priority public uses that support the mission of the U.S. Fish and Wildlife Service when appropriate and compatible with the purpose for which the refuge was established. Those priority public uses are environmental education, fishing, hunting, interpretation, photography and wildlife observation. The trail would support access for all these activities.

The refuge recently developed the Minnesota Valley National Wildlife Refuge Visitor Services Plan (U.S. Fish and Wildlife Service 2020). This plan reiterates refuge priorities and identifies a mission to "Welcome diverse communities through meaningful connections, educational opportunities and recreational experiences, while conserving wildlife habitat in the Minnesota River Valley." Providing refuge access through trails can be an important way to experience the refuge. Interagency coordination between Minnesota Department of Natural Resources, the refuge and other relevant agencies and municipalities has been ongoing since the early planning stages of the trail.

The Minnesota Department of Natural Resources Parks and Trails Division has a vision of creating unforgettable park, trail and water recreation experiences that inspire people to pass along the love for the outdoors to current and future generations. The mission for the Minnesota Valley State Recreation Area, managed by the Parks and Trails Division, is to protect, manage, restore and interpret the remaining natural features, cultural landscapes and sacred places in the Lower Minnesota River Valley; to focus on telling the stories of the people who have chosen to live in these landscapes; and to provide a recreational travel route through the valley that connects these features (Minnesota Department of Natural Resources 2006). This proposed continuation of the Minnesota Valley State Trail further meets this mission.

The submitted right-of-way permit application proposes constructing a segment of the legislatively authorized Minnesota Valley State Trail that is accessible by a variety of users on refuge lands (Figure 2, Appendix B). The trail will provide opportunities for non-motorized recreation and, through signage and interpretive programs, interpretation of the variety of natural and cultural resources in the Lower Minnesota River Valley. Developing the Minnesota Valley State Trail on refuge property will allow the refuge, the Minnesota Department of Natural Resources and partners to provide interpretative opportunities that would help visitors better understand the history of the river valley and conservation of the river. By fostering appreciation and awareness, visitors are more likely to feel a connection to the river and to act as stewards of the resource.

Alternatives

For the purpose of this environmental assessment, two alternatives will be addressed. Alternative A is No Action which allows for the continuation of current management. Alternative B is the Proposed Action to issue the currently applied for, and future, right-of-way permits to allow for the construction, operation and management of the Minnesota Valley State Trail. Other trail alignment alternatives were considered but were deemed not feasible due to private property ownership and landscape limitations. Alternative B was selected for assessment as it follows the footprint of existing roads, trails and preexisting disturbed areas where possible in order to minimize environmental impact.

ALTERNATIVE A – RECOMMEND CONTINUATION OF CURRENT MANAGEMENT – NO ACTION ALTERNATIVE

Continue current management of the refuge. The refuge would not issue right-of-way permits to the Minnesota Department of Natural Resources for the construction of the State Trail on refuge lands.

Much of the habitat on the Long Meadow Lake and Bloomington Ferry units of the refuge consists of floodplain forest, emergent wetlands and small creeks. This alternative would continue current management, including invasive species control; managing water levels for waterfowl and water birds; and, where appropriate, wetland and floodplain forest restoration. Habitats for species of special concern will remain as it currently exists.

The existing natural surface trails and service roads will remain as they are. Regular maintenance by refuge staff will continue.

ALTERNATIVE B – ISSUE RIGHT-OF-WAY PERMITS TO ALLOW FOR CONSTRUCTION OF THE MINNESOTA VALLEY STATE TRAIL – PROPOSED ACTION ALTERNATIVE

Issue the currently applied for permit, and allow for future submittal of additional permit applications, from the Minnesota Department of Natural Resources for rights-of-way on Minnesota Valley National Wildlife Refuge to construct the Minnesota Valley State Trail. The trail corridor would be 25-feet wide and 7 miles long on refuge lands and would be constructed and maintained by the Minnesota Department of Natural Resources. The proposed trail will be a multiple-use, non-motorized recreational facility consisting of a 10-foot wide paved surface with 2-foot vegetated shoulders (Figure 5, Appendix B). Proposed trail uses include walking, hiking, bicycling and in-line skating. Accepting the Proposed Action Alternative to issue right-of-way permits on refuge lands would allow the Minnesota Department of Natural Resources to develop the entire 13.5 miles of the Minnesota Valley State Trail from the Bloomington Ferry bridge to the refuge's Bloomington Education and Visitor Center. This alternative covers the current proposed right-of-way and any future proposals by Minnesota Department of Natural Resources. In total, these right-of-way parcels are estimated to span 20 acres of land on two separate refuge units. During trail construction, impacts within the 25-foot corridor would be minimized to the extent practicable.

The first right-of-way permit has been submitted and covers refuge property starting at Highway 77 and running approximately 1.7 miles west. Figure 2, Appendix B, shows the trail alignment footprint. Additional right-of-way permit applications are expected to be submitted in the future as funding becomes available. Figures 3 and 4, Appendix B, depict future right-of-way permit application project areas. The final 25-foot trail corridor will be located within the estimated project area. The trail alignment depicted on the maps is based on preliminary

designs drafted by Minnesota Department of Natural Resources engineers and finalized prior to submittal of future right-of-way applications. This environmental assessment will evaluate the impact of the refuge portions of the Minnesota Valley State Trail on the human environment. This fulfills the environmental review requirement associated with the current, as well as future; right-of-way permit applications as long as the future rights-of-way and trail requested are equivalent to that described here.

About 5 miles of the proposed total 7 miles of trail on refuge property will be on the Long Meadow Lake unit (figures 4 and 5, Appendix B). Presently, there is a mixture of natural and gravel surface two-track roads (10 – 12 feet wide) and user-made single-track trails. Approximately 2 miles of the trail will be on the refuge's Bloomington Ferry unit. Presently, there is a user-made narrow (2 – 4 feet wide) natural surface trail at this location.

Authorization for the Minnesota Valley State Trail is in Minnesota Statutes 85.015, subpart 6. The authorizing language requires that the trail be paved between the Bloomington Ferry Bridge and Highway 77, primarily for hiking and biking. When state trails are authorized, the expenditure of state resources to develop and maintain the trail along the general corridor is described in statute as approved by the legislature and signed by the Governor. For the sake of continuity and accessibility, the Minnesota Department of Natural Resources proposes to pave all segments of the trail. The overall grade of the facility will average 5% or less and comply with Americans with Disabilities Act standards. The proposed facility will include numerous culverts and bridges. Preliminary engineering suggests that two to three larger concrete bottomless arch culverts that allow natural floodplain connectivity to persist will be required on refuge property along with numerous corrugated culverts 36" in diameter or smaller.

The Minnesota Department of Natural Resources will be responsible for the operation and maintenance of the facility via formal agreement. Additional information can be found under Alternative B in the Administrative section of Refuge Management and Operations. If granted, the right-of-way permits will describe expectations for trail maintenance on refuge lands.

The refuge would select and implement the Proposed Action Alternative and issue a permit to the Minnesota Department of Natural Resources only if it is found to be appropriate and compatible with the ability to meet the overall agency mission and fulfill the purposes for which the refuge was established (Compatibility policy 603 FW 2). The draft compatibility determination for the Proposed Action Alternative can be found in Appendix C. The evaluation of this alternative includes the beneficial, as well as adverse, effects of having the trail constructed as proposed by the Minnesota Department of Natural Resources. The evaluation includes the extent to which the Minnesota Department of Natural Resources can design a facility that avoids, minimizes and mitigates adverse effects of constructing, operating and maintaining the state trail.

For more information on the Proposed Action Alternative, see the Minnesota Department of Natural Resources Environmental Assessment Worksheet for the Minnesota Valley State Trail, Bloomington Segment (Minnesota Department of Natural Resources 2018).

Avoidance and Mitigation Measures to Avoid Conflict:

Avoidance and mitigation measures are designed to avoid or substantially reduce adverse effects of the proposed action. The mitigation measures would be applied, as needed, to reduce the potential for adverse effects and are incorporated as part of the action alternative. These mitigation measures apply to both the submitted, and future, right-of-way permit requests due to occurring in similar habitats. The permittee will adhere to Avoidance and Mitigation Measures, Appendix D which will help to reduce environmental impact.

Affected Environment and Environmental Consequences

This section is organized by affected resource categories and for each affected resource discusses both (1) the existing environmental and socioeconomic baseline in the action area for each resource and (2) the effects and impacts of the proposed action and any alternatives on each resource. The effects and impacts of the proposed action considered here are changes to the human environment, whether adverse or beneficial, that are reasonably foreseeable and have a reasonably close causal relationship to the proposed action or alternatives. This Environmental Assessment includes the written analyses of the environmental consequences on a resource only when the impacts on that resource could be more than negligible and therefore considered an “affected resource.”

The refuge is part of a corridor of land and water stretching nearly 70 miles along the Minnesota River, from Bloomington to Henderson, Minnesota. The authorized boundary of the refuge encompasses approximately 26,018 acres (calculated using geographic information system mapping), with approximately 12,900 acres currently owned by the refuge in fee title or by the Minnesota Valley National Wildlife Refuge Trust (U.S. Fish and Wildlife Service 2018). The refuge consists of 13 management units in seven counties (Carver, Dakota, Hennepin, Le Sueur, Ramsey, Scott and Sibley), offering a variety of free outdoor recreational experiences for individuals and families. The refuge also manages a 14-county Wetland Management District (Figure 6, Appendix B).

Minnesota Valley National Wildlife Refuge ranges from urban to rural, providing a unique opportunity to enjoy wildlife-related recreation in the shadows of skyscrapers and grain elevators. The refuge is part of the Mississippi Headwaters/Tallgrass Prairie Ecosystem as currently defined by the U.S. Fish and Wildlife Service. The refuge provides valuable habitat for a diversity of waterfowl and other migratory birds, fish and resident wildlife.

Within the refuge, the proposed trail route would be located within the Long Meadow Lake and Bloomington Ferry units (Figure 1, Appendix B). The Long Meadow Lake Unit is 2,411 acres in

size and consists of floodplain forest, a large emergent marsh, spring-fed streams, deep water fishing ponds and oak savanna. This unit stretches from the refuge visitor center to the Russell A. Sorensen Landing on the most southern stretch of Lyndale Avenue in Bloomington, Minnesota. This unit is one of the most visited units of the refuge by birders, anglers and hikers. Long Meadow Lake is an important resource to migratory birds such as shorebirds, wading birds, waterfowl and other waterbirds. Several bald eagles nest on the unit and use Long Meadow Lake and other smaller wetlands as feeding areas. (U.S. Fish and Wildlife Service 2018).

The Bloomington Ferry unit is made up of 347 acres of floodplain forest and wetlands between the Minnesota River and nearby bluffs. This unit provides habitat for bald eagles, prothonotary warblers and wood ducks (U.S. Fish and Wildlife Service 2018).

For purposes of this assessment, the proposed project area outlined in Figures 2 through 4, Appendix B, represents potentially suitable locations where the multi-use trail could be constructed. This area generally reflects the land with the highest elevation between the Minnesota River and the bluff and is proposed to traverse 7 miles on two refuge units. The actual route will be refined and specified in each right-of-way permit application. The trail route and actual footprint of the developed trail and construction activity will be limited to the 25-foot (or limited to the footprint the developed trail will occupy) right-of-way permit on federal lands, as specified in each right-of-way permit application. The project area for the proposed state trail right-of-way on refuge property is estimated to be 20 acres.

For more information regarding the general characteristics of the refuge's environment, please see Chapter 3 of the Habitat Management Plan (U.S. Fish and Wildlife Service 2018), which can be found here: https://ecos.fws.gov/ServCat/DownloadFile/155544.

NATURAL RESOURCES

Migratory Birds and Other Wildlife Resources

Affected Environment and Environmental Consequences

Description of Relevant General Features of Affected Environment

Resident wildlife species in the project area include a variety of amphibians and reptiles, bald eagle and other raptors, beaver, deer, fox, mink, muskrat, rabbit, raccoon, squirrel, wild turkey and wood duck. Multiple species of birds take advantage of available habitats in the valley for breeding and year-round use. Forests and wetlands serve as critical stop-over habitat for birds as they make their way through the flyway during migration.

The refuge is located within the Mississippi Flyway and attracts over 260 species of birds to its diverse habitats. The Migratory Bird Treaty Act, as amended, 16 U.S.C. 703-712; 50 CFR Parts 10, 12, 20, and 21, originally passed in 1918, and Executive Order 13186 – Responsibilities of

Federal Agencies to Protect Migratory Birds, 66 Federal Register 3853 (2001), protects bird species. This makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests or eggs of such a bird except under the terms of a valid federal permit.

The proposed project area is also within the Lower Minnesota River Valley Important Bird Area. Important bird areas, identified by Audubon Minnesota in partnership with the Minnesota Department of Natural Resources, are part of an international conservation effort aimed at conserving critical bird habitats. This important bird area incorporates the riparian corridor and adjacent river valley and upland communities along the Minnesota River, and it supports an exceptional diversity of birds. The woodland and grassland areas within the important bird area are important breeding habitat for the more than 100 bird species that nest in the area.

Federal and state listed species are discussed later in the *Threatened and Endangered Species, and Other Special Status Species* section of this document.

Description of Relevant Environmental Trends and Planned Actions

Changes in climate in the midwest are expected to affect wildlife populations in many ways. Extreme heat-producing, abnormal drought conditions, followed by abnormal precipitation events and flooding, will disrupt the natural cycle of wetlands and could impact waterfowl and other waterbirds. The composition of the region's forests is also expected to change as rising temperatures shift the distribution of many tree species northward (U.S. Global Change Research Program 2014). Changes in forest composition will cause nesting birds and other wildlife to shift in search of suitable habitats. Such changes may impact species distribution on the refuge.

Impacts on Affected Resource

Alternative A

There are existing trails on the refuge which facilitate participation in priority outdoor recreational uses such wildlife observation, photography, hunting, fishing, environmental education, interpretation, hiking and biking. Non-motorized recreational trail use was found to be appropriate and compatible in the refuge's Comprehensive Conservation Plan (U.S. Fish and Wildlife Service 2004) and non-motorized recreational trail use compatibility determination (U.S. Fish and Wildlife Service 2016). On existing trails, the refuge takes measures to minimize any potential conflicts with wildlife. The current forest and wetland habitat will remain the same under the no-action alternative. One can reasonably expect that wildlife species currently residing and using the refuge will continue to do so, except when impacted by climate change or other environmental factors.

Alternative B

The refuge currently allows non-motorized recreational uses in the project area. Allowing for the continuation of the state trail system will provide increased opportunities to view wildlife and their habitats. Wildlife and associated habitat would be affected by project-related construction, trail maintenance and usage when complete. Disturbances may vary with the wildlife species involved and the type, level, frequency, duration and the time of year such activities occur. The presence of people on refuge trails and roads can lead to displacement of animals from and around trails, although disturbance usually is a negligible influence on large mammal distributions and movements (Purdy et al. 1987, Boyle and Samson 1985). It has been shown that in areas of high-level recreation, trail use does have an impact on the density and abundance of birds close to trails as opposed to areas further away (Bötsch et al. 2018).

Potential environmental effects include changes in ground habitat due to limited removal of trees and understory vegetation along the trail; accidental introduction of invasive species; and human-related disturbance during construction, operation and maintenance of the trail. Construction-related effects would be temporary, while disturbance effects associated with trail use would be ongoing and vary as a function of the level of site use.

Trails can often break up large blocks of habitat into smaller isolated fragments, which can have an impact on wildlife. Careful trail planning can help minimize affects from habitat fragmentation. By designing a narrow footprint as feasible for the project and using existing trail corridors where possible, the Minnesota Department of Natural Resources will reduce fragmentation as much as possible.

Some trees will need to be removed in the construction of the trail. Removing floodplain forest trees has the potential to reduce habitat for cavity and other nesting species. The Minnesota Department of Natural Resources will coordinate with the refuge on known wildlife nesting areas and will minimize tree removal with timing and conscientious trail alignment planning. Measures incorporated into the project to minimize effects to wildlife and habitat include: leaving most of the tree canopy intact; aligning the trail to minimize loss of mature trees; minimizing impacts to ecologically significant areas to the extent practicable; and controlling the potential introduction and spread of invasive plant species.

In summary, although there could be temporary disturbances to wildlife during construction and subsequent use, there is adequate habitat adjacent to the trail. The new trail will follow the existing natural surface footprint as much as possible. Although wider than existing natural surface trails, a paved trail will encourage visitors to stay on the established surface and allow enough undisturbed habitat for wildlife species to thrive. Therefore, these disturbances should not have sustained negative impacts on wildlife and their ability to have healthy viable populations.

Threatened and Endangered Species, and Other Special Status Species

Affected Environment and Environmental Consequences

Description of Relevant General Features of Affected Environment

Federally listed and special concern species

In accordance with the Endangered Species Act of 1973, as amended, 16 U.S.C. 1531-1544; 36 CFR Part 13; 50 CFR Parts 10, 17, 23, 81, 217, 222, 225, 402 and 450, the project has undergone an Intra-Service Section 7 review by the U.S. Fish and Wildlife Service. The Endangered Species Act requires any federal agency that funds, authorizes or carries out an action to ensure that their action is not likely to jeopardize the continued existence of any endangered or threatened species (including plant species) or result in the destruction or adverse modification of designated critical habitats. A list of federally listed threatened, endangered and candidate species that may occur within the project area was constructed by consulting the U.S. Fish and Wildlife Service's Information for Planning and Consultation (IPaC) system. IPaC is an online project planning tool used to streamline the U.S. Fish and Wildlife Service's environmental review process. The project area was then evaluated for the potential occurrences of federally listed threatened and endangered species as well as bald eagles, since they are protected under the Migratory Bird Treaty Act, as amended, 16 U.S.C. 703-712; 50 CFR Parts 10, 12, 20 and 21; the Bald and Golden Eagle Protection Act, as amended, 16 U.S.C. 668-668c, 50 CFR 22; and Executive Order 13186 – Responsibilities of Federal Agencies to Protect Migratory Birds, 66 Federal Register 3853 (2001). The federally listed species known to occur on the project area or have ranges that include the project area are discussed further under Alternative B.

State listed species

Minnesota Department of Natural Resources maintains a Rare Species Guide, the state's authoritative reference for Minnesota's endangered, threatened and special concern species (Minnesota Department of Natural Resources 2021b). Minnesota's Rare Species Guide was also used to identify rare features within Hennepin County and within the proposed project area. The state listed species known to occur on the project area or have ranges that include the project area are discussed further under Alternative B.

Description of Relevant Environmental Trends and Planned Actions

Climate change may have an impact on habitat for federally listed and special concern species. The area surrounding the proposed location of the trail consists of natural habitat provided by the refuge located in a suburban area. An increase in development can further fragment habitat important to threatened and endangered species by reducing available continuous usable habitat.

Impacts on Affected Resource

Alternative A

Under this alternative habitat restoration, trail maintenance and public use of existing natural surface trails will continue and additional impacts to federal and state protected species are not expected. Habitat restoration, trail maintenance and trail use activities may cause temporary disturbances to wildlife. The refuge will continue management strategies of educating trail and roadway users on how their activities affect wildlife and how to modify their use to minimize impacts on wildlife. Potential conflict with priority public uses will continue to be minimized by using trail head signs and other media to inform the various users about current public uses. Ongoing monitoring will continue and if any disturbances are found, the refuge will take appropriate actions to avoid or minimize effects on federal and state protected species.

Alternative B

Federally listed, protected and candidate species

After consulting IPaC for the submitted right-of-way for the state trail (Figure 2, Appendix B), an Intra-Service Section 7 Biological Evaluation was conducted as part of this environmental assessment (Appendix E). This Section 7 covers the currently submitted right-of-way permit area, as well as two additional right-of-way permit applications that will be submitted in the future as funding becomes available. The following federally listed and protected species may occur within the project area (state status is also provided for federally listed species). IPaC identified no critical habitat in the project area. Determinations for each species are listed below. The Minnesota Department of Natural Resources will consult with the appropriate agency to minimize disturbance to listed species. Further avoidance and mitigation measures will ensure these species will not be adversely affected and are outlined in Avoidance and Mitigation Measures, Appendix D.

Federally listed and candidate species

- **Northern long-eared bat** (*Myotis septentrionalis*), Federal Status: Threatened; Minnesota Status: Special Concern

  The project area contains roosting and foraging habitat suitable for the northern long-eared bat. The U.S. Fish and Wildlife Service indicates that acoustic sampling has positively identified the species to be present in the project area. Females with pups also have been observed roosting on the Highway 77/Cedar Avenue bridge nearby. Although observed near the project area, no disturbance is anticipated due to timing of tree removal. There is a known northern long-eared bat hibernacula located within the same township as a portion of the project, however there are no known hibernacula within 0.25 miles of the proposed trail project.

Removal of large trees with suitable bark, cavities or degree of decay could diminish available roosting and rearing habitat, especially if these trees are removed during the pup rearing period from June 1 – July 31. Disturbance from construction equipment near the Highway 77/Cedar Avenue bridge during the pupping season may also negatively impact this species.

After consulting IPaC, a *Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-eared Bat and Activities Excepted from Take Prohibitions* was received (Appendix F). This programmatic biological opinion letter addresses activities excepted from "take"[1] prohibitions applicable to the northern long-eared bat under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

- **Prairie bush clover** (*Lespedeza leptostachya*), Federal Status: Threatened; Minnesota Status: Threatened

  Prairie bush clover can be found in upland prairies, however this species has not been found on the refuge and is not likely to occur in the project area.

- **Rusty patched bumble bee** (*Bombus affinis*), Federal Status: Endangered; Minnesota Status: Not Listed

  The project occurs within the high potential zone for the rusty patched bumble bee and contains some suitable habitat, therefore, it may be possible to have bees near the area. However, the area is mainly within the floodplain and has minimal habitat for bees. The rusty patched bumble bee could be negatively impacted by the project through habitat loss, such as conversion of grassland habitat, and by soil disturbance within overwintering forest habitat used by the queens. The potential exists that soil disturbance due to tree removal could impact overwintering queens. However, the probability of disturbance is low since it is poor overwintering habitat due to the propensity to flood. Although there may be minimal habitat loss by the construction of the trail, most of the trail footprint is along the alignment of an existing trail. There will be some habitat loss along the trail itself, but by restoring and enhancing native habitats along the trail shoulder and larger construction footprint at the conclusion of the project, there will be habitat for this species in the area. The Department of Natural Resources will follow guidance to avoid impacts to rusty patched bumble bees (Avoidance and Mitigation Measures, Appendix D).

- **Higgins eye (pearlymussel)** (*Lampsilis higginsii*), Federal Status: Endangered; Minnesota Status: Endangered

  The Higgins eye (pearlymussel) could be present in the Minnesota River adjacent to the project area, however, there have been no live specimens detected in over 30 years.

The closest documented record is approximately 1.9 river miles upstream of the construction area, and this specimen was a dead half shell in 1989. We do not expect there to be any Higgins eye (pearlymussel) in or adjacent to the project area.

Although we do not expect the Higgins eye (pearlymussel) to be in the project area, measures will be taken to protect the Minnesota River from any increased sedimentation and erosion as a result of the additional impervious surface. The Minnesota Department of Natural Resources will follow the appropriate avoidance and mitigation measures outlined in Avoidance and Mitigation Measures, Appendix D.

- **Monarch butterfly** (*Danaus plexippus*), Federal Status: Candidate; Minnesota Status: Not Listed

  The monarch butterfly may potentially be negatively impacted by the project through habitat loss. However, there is minimal suitable habitat for monarchs within the project area. Where the species may occur, measures will be taken to avoid impacts to monarch butterflies and to ensure the action will not jeopardize the continued existence of the species.

Through the IPaC and the Intra-Service Section 7 Biological Evaluation it was determined that the project will have *No Effect* on the Higgins eye (pearlymussel) and prairie bush clover. It *May Affect but is Not Likely to Adversely Affect* the northern long-eared bat (but timing of tree removal will eliminate or reduce any potential affects) and the rusty patched bumble bee and is *Not Likely to Jeopardize* the monarch, a candidate species.

Other protected species

- **Bald eagle** *(Haliaeetus leucocephalus)*, Federal Status: Protected under Migratory Bird Treaty Act and The Bald and Golden Eagle Protection Act; Minnesota Status: Not Listed

  Due to the presence of active and alternate nests in the vicinity of the proposed trail corridor, there will be specific consultation with the refuge regarding this protected species. The Minnesota Department of Natural Resources will be responsible for conducting an onsite survey for any nests prior to the start of the project. No removal of bald eagle nest trees will occur as part of this project. Construction activity could result in physical, visual and noise disturbance effects to this species, especially from January 15 to August 15 when eagles are most sensitive to disturbance. The Minnesota Department of Natural Resources' activities shall comply with the avoidance measures of the Bald and Golden Eagle Protection Act (16 U.S.C. 668-998c).

State listed species

The following state-listed species were identified during consultation with Minnesota Department of Natural Resources ecological and water resources-nongame wildlife staff to

potentially occur in the vicinity of the proposed project area (federal status is also provided for state listed species). In order to avoid impact to listed species, construction activities will be completed with appropriate timeframes and techniques consistent with permits, approvals and applicable avoidance plans in coordination with Minnesota Department of Natural Resources nongame wildlife and U.S. Fish and Wildlife Service. For more specific information regarding these or otherwise protected species within the project area, see the Minnesota Department of Natural Resources Environmental Assessment Worksheet for the Minnesota Valley State Trail, Bloomington Segment (Minnesota Department of Natural Resources 2018).

- **Blanding's turtle** (*Emydoidea blandingii*), Minnesota Status: Threatened; Federal Status: Proposed
- **Gopher snake** (*Pituophis catenifer*), Minnesota Status: Special Concern; Federal Status: Not Listed
- **Milk snake** (*Lampropeltis traingulum*), Minnesota Status: Not listed, but noted as a Species in Greatest Conservation Need; Federal Status: Not Listed
- **Trumpeter swan** (*Cygnus buccinator)*, Minnesota Status: Special Concern; Federal Status: Not Listed
- **Little brown bat** (*Myotis lucifungus*), Minnesota Status: Special Concern; Federal Status: Not Listed
- **Tricolored bat** (*Perimyotis subflavus*), Minnesota Status: Special Concern; Federal Status: Proposed
- **Mudpuppy** (*Necturus maculosus*), Minnesota Status: Special Concern; Federal Status: Not Listed
- **Kittentails** (*Besseya bullii*), Minnesota Status: Threatened; Federal Status: Not Listed
- **Snow trillium** (*Trillium nivale*), Minnesota Status: Special Concern; Federal Status: Not Listed
- **Regal fritillary** (*Speyeria idalia*), Minnesota Status: Special Concern; Federal Status: Proposed
- **Blanchard's cricket frog** (*Acris blanchardi*), Minnesota Status: Endangered; Federal Status: Not Listed

Habitat and Vegetation

Affected Environment and Environmental Consequences

Description of Relevant General Features of Affected Environment

The project area on refuge land consists of a range of habitats and vegetation types (Table 1: Habitat Types within the Project Area on Minnesota Valley National Wildlife Refuge; Figures 5-7, Appendix B). Most of the site is a combination of former agricultural fields and floodplain forest. Some of the former agricultural fields consist of early successional forest while others are dominated by herbaceous vegetation. Much of the current floodplain forests is suspected of being previously impacted by row crop agriculture. Other habitats include oak savanna,

upland forest, wetlands, wet meadows and wet/mesic prairie. Short-term inundation due to stormwater runoff and river flooding is common and strongly influences vegetation and soils.

Table 1: Habitat Types Within the Project Area on Minnesota Valley National Wildlife Refuge

Habitat Type	Approximate Acreage
Floodplain Forest	11
Oak Savanna	1
Upland Forest	1
Wetland	1
Wet Meadow	3
Wet/Mesic Prairie	3
Total	**20**

Native Plant Communities and Ecologically Significant Areas

The refuge habitat types discussed above also includes certain native plant communities that have been designated as ecologically significant. The proposed trail right-of-way on refuge lands intersects several locations of identified native plant communities including: Southern Terrace Forest, Silver Maple - (Virginia Creeper) Floodplain Forest, and Red Oak - White Oak - (Sugar Maple) Forest.

The Minnesota Department of Natural Resources defines a native plant community as "…a group of native plants that interact with each other and with their environment in ways not greatly altered by modern human activity or by introduced organisms." Native plant communities are sometimes referred to as native habitats or natural communities, named for the characteristic plant species or environmental features within them (Minnesota Department of Natural Resources 2021a).

There are many kinds of vegetated areas that are not defined as native plant communities. These are places where native species have been replaced by exotic or invasive species and areas that have been planted. Other areas not considered to be native plant communities include areas where modern human activities such as farming and development have destroyed or greatly altered the vegetation (Minnesota Department of Natural Resources 2021a).

The proposed project area is located within areas identified by the Minnesota Biological Survey as sites of high biodiversity significance and sites of moderate biodiversity significance. Sites of biodiversity significance have varying levels of native biodiversity and are ranked based on the relative significance of this biodiversity at a statewide level. Sites ranked as "high" contain very good quality occurrences of the rarest species, high quality examples of the rare native plant communities and/or important functional landscapes. Sites ranked as "moderate" contain occurrences of rare species and/or moderately disturbed native plant communities and/or landscapes that have a strong potential for recovery.

The western-most portion of the project area is located within the Izaak Walton Nature Center Site of Biodiversity Significance, assigned a rank of Moderate Biodiversity. This site is characterized as bottom lands and valley sides along the Minnesota River and is managed as part of the refuge. This is a varied site, with groundwater-fed marshes, young silver maple floodplain forest and contains user-made trails.

The eastern portion of the project area is within the Long Meadow Lake Site of Biodiversity Significance, assigned a rank of Moderate Biodiversity Significance. This site is characterized as bottom lands and valley sides along the Minnesota River and is managed as part of the refuge. This is a varied site, with oak woodland and oak forest on the steep slopes, groundwater-fed marshes and young silver maple floodplain forest and contains natural surface recreational trails, including mountain bike trails.

For more detailed information, see the Minnesota Department of Natural Resources Environmental Assessment Worksheet for the Minnesota Valley State Trail, Bloomington Segment habitat maps for this project (Minnesota Department of Natural Resources 2018).

Wetlands

The entire 471-acre project area for the state trail was delineated by a Minnesota Department of Natural Resources contractor during the 2017 and 2018 field seasons. The available wetland data from this process is more precise than National Wetland Inventory data. In the fall of 2017, a Wetland Delineation Report was approved by a Minnesota Wetland Conservation Act Technical Evaluation Panel (Sambatek 2017). In 2018, the remaining areas of the project area were delineated and determined to include an additional four acres of wetlands. A total of approximately 58 acres of wetlands were identified through the 2017 and 2018 delineation processes within the entire project area. Less than one acre of those wetlands occurs on refuge lands within the proposed project area (Figures 5 – 7, Appendix B). For more specific information see the Minnesota Department of Natural Resources Environmental Assessment Worksheet for the Minnesota Valley State Trail, Bloomington Segment (Minnesota Department of Natural Resources 2018).

Invasive species

Invasive plant species can adversely affect wildlife habitat and lessen site-level biodiversity, the latter due to invasive species outcompeting native plants. Although the project site has not been surveyed for the presence of invasive species, invasive plant species known to be present in the area include, but are not limited to, leafy spurge, garlic mustard and buckthorn species. Executive Order 13112 – Invasive Species, 64 Federal Register 6183 (1999), prevents the introduction of invasive species and provides for their control to minimize economic, ecological and human health impacts.

Description of Relevant Environmental Trends and Planned Actions

Minnesota is already experiencing climate change, affecting natural landscapes and outdoor recreation resources across the state. Increasing precipitation, more frequent extreme rain events and substantially warmer winter temperatures are among the most well-documented climate change impacts (Minnesota Department of Natural Resources 2019). Extreme heat-producing, abnormal drought conditions, followed by abnormal precipitation events and flooding, will disrupt the natural cycle of wetlands. The composition of the region's forests is also expected to change as rising temperatures shift the distribution of many tree species northward (U.S. Global Change Research Program 2014). Invasive species are also expected to thrive under these new climate conditions, whereas water quality is predicted to decline.

Impacts on Affected Resource

Alternative A

Under this alternative, current habitat restoration, trail maintenance and public use of existing natural surface trails will continue. Additional impacts are not expected.

Plant communities and ecologically significant areas

With current trail maintenance, downed trees and other vegetation may need to be cleared from trails. Downed trees would be cut up and removed from trail surfaces and overhanging vegetation would be cut back from the trail. Large amounts of vegetation and continuous blocks of habitat would stay intact. Water level and wetland management would continue, and wetlands would stay intact.

Wetlands

Under this alternative, current wetland management would continue to occur. Water levels would be managed through existing water control structures as deemed necessary to benefit of wildlife and habitat. Wetlands would stay intact and continue to function as they currently do.

There are existing refuge and user-made trails in floodplain with minimal trail crossings and boardwalks. The refuge minimizes impacts to wetlands through boardwalks and bridges. Efforts

will continue to urge visitors to stay on defined trails as unauthorized user-made trails could potentially fragment wetland areas and introduce invasive species.

Invasive species

The risk of invasive species introduction exists with current habitat restoration, trail maintenance and public use. The refuge follows protocols on cleaning equipment between refuge units and includes protocols in any special use permits issued to contractors working on the refuge. Refuge staff and volunteers will continue to remove patches of invasive species where feasible.

Alternative B

Potential project-related effects to vegetation and habitat include physical disturbance during construction, habitat fragmentation and possible colonization by invasive species. Construction equipment will include moderate to small bulldozers, medium to small excavators (backhoes), compacting equipment for compacting the aggregate trail base, dump trucks, pavers for placement the bituminous trail surface and rollers for compacting the bituminous. The construction process will include installation of erosion and traffic controls; removal of trees and woody vegetation; culvert installations; place and compact approximately 12" aggregate base material; construct and install 2.5-inch-thick bituminous trail surface; seed and plant disturbed areas; repair of damage incurred to access points and roads by contractor.

Plant communities and ecologically significant areas

Within the refuge, habitat types in the project area are native plant communities that are considered higher quality The actual construction corridor is narrow, therefore impacts to native plant communities will be minimal. Assessments of the native plant community will be made prior to each construction phase to minimize impacts. For example, trail alignments may be adjusted to avoid rare species and mature trees, as necessary.

Impacts to silver maple – (Virginia creeper) floodplain forest and southern terrace forest, both rare native plant communities in Minnesota, include clearing of an anticipated 25-foot trail corridor in order to allow for construction access, placement of fill, creating the trail surface, shoulders and the associated side slopes. Some additional clearing may be necessary for culvert and bridge installation and will be addressed through a Special Use Permit.

The Minnesota Department of Natural Resources will take efforts to minimize fragmentation of habitats through mitigation measures outlined in Avoidance and Mitigation Measures, Appendix D.

Wetlands

Wetlands provide numerous beneficial services for people, fish and wildlife including, protecting and improving water quality, providing wildlife habitat, storing floodwaters and

maintaining surface water flow during dry periods. In total, the proposed 7 miles of trail will result in approximately 0.9 acres of direct wetland impacts on the refuge (Figures 5 – 7, Appendix B). This estimate is based on the Wetland Delineation Report for the Minnesota Valley State Trail, Bloomington Segment (Sambatek 2017). These impacts will be due to the placement of fill to allow for the trail to be constructed on stable soils. Effects of proposed wetland fill within delineated wetland boundaries include loss of wildlife habitat and wetland function. Broader effects include floodplain storage loss, surface water runoff, some loss of recharge area and changes to local drainage patterns.

Additionally, there may be some impacts to closed wetland basins due to hydrologic modification of the larger wetland complex. Under the current trail plan in accordance with Minnesota Wetland Conservation Act sequencing requirements, bisecting wetlands was avoided where possible and impacts were minimized where unavoidable. Some portions of the proposed trail have the potential to interrupt water flow at higher water levels, both as the Minnesota River rises and recedes. The permitting process will address additional mitigation strategies as necessary for wetland impacts. Specific mitigation strategies will be determined during the Minnesota Wetland Conservation Act process, and through coordination with appropriate federal agencies.

Wetlands that have the potential to be identified as a rare natural community will be further evaluated. Wetland effects have the potential to impact state threatened and endangered species such as Blanding's turtle and Blanchard's cricket frog. Some wetlands may require a Rare Natural Community determination pursuant to Minnesota Wetland Conservation Act.

Efforts to reduce the impacts to wetlands include avoiding as many delineated wetlands as possible, thereby reducing impacts to these important areas. Additionally, the Minnesota Department of Natural Resources intends to limit the fill sections to the narrowest corridor needed for construction of the trail. In instances where the placement of fill will bisect wetland hydrology, the appropriate water control structure will be placed to accommodate this flow and maintain hydrologic connectivity.

Invasive species

Project-related construction, maintenance and ongoing or increased visitor use (once operational) could provide opportunities for introducing and spreading of invasive plant species. Invasive plant species can adversely affect wildlife habitat and lessen site-level biodiversity, the latter due to invasive species outcompeting native plants.

This risk during the construction phase is primarily due to bringing equipment to the project area, bringing fill materials to the project area, movement of seeds and plant fragments within the site and through the disturbance of soil, which can provide an opportunity for invasive plants to take hold. The Minnesota Department of Natural Resources Operational Order Number 113 provides guidance and directives applicable to agency staff and contractors to

implement site-level management to prevent or limit invasive species' introduction, establishment and spread (Minnesota Department of Natural Resources 2017). The guidance provides procedures applicable to the proposed project that would be implemented. Executive Order 13112 – Invasive Species, 64 Federal Register 6183 (1999) must also be followed. Post construction, the trail will improve access to the project area for resource management activities such as invasive species control. For more details see Avoidance and Mitigation Measures, Appendix D.

Oak wilt due to tree injury could occur. To avoid the spread of oak wilt, clearing and potential injury of oak trees will take place during the low-risk time of year. Additional risks of invasive species spread include the transport of infected emerald ash borer plant material. Transport of all ash tree plant material will follow local county ash tree quarantine-restrictions. These will be addressed in the right-of-way permit application.

The risk of introduction and spread of invasive species during operations and maintenance of the trail is primarily tied to invasive plant seeds and plant material. This material is transported to the site by trail users and maintenance equipment and the movement of seeds and plant fragments from one portion of the site to another by way of boots, bike tires and maintenance equipment. There is also a risk of introduction through subsequent trail use. Trail user education would be used to prevent invasive species spread during operation and maintenance. Primary trail access points would have boot brush kiosks with "Play, Clean, Go" informational signs as a way to educate trail users and provide them with the equipment necessary to remove invasive species from their footwear and other gear. The Minnesota Department of Natural Resources will consult with the refuge regarding installation of boot brush kiosks at additional locations.

Geology and Soils

Affected Environment and Environmental Consequences

Description of Relevant General Features of Affected Environment

The project area lies within the Big Woods and St. Paul – Baldwin Plains and Moraines subsections. The soils within the project area are primarily classified as Alfisols, soils developed under forests. The proposed project area does not contain any sinkholes, shallow limestone formations, unconfined/shallow aquifers or karst conditions.

The portion of the project area that falls within the submitted right-of-way application and future right-of-way application #2 lies within the St. Paul – Baldwin Plains and Moraines subsection (Figure 1, Appendix B). Ordovician and Devonian dolomite (some limestone, sandstone and shale) is locally exposed within this subsection, especially in the dissected stream valleys at the eastern edge of the subsection (outside the project area). Soils within this subsection are dominantly loamy, with textures ranging from loam to clay loam. Parent material is calcareous glacial till of Des Moines Lobe origin.

The portion of the project area that falls within future right-of-way application #3 including the Bloomington Ferry unit, lies within the Big Woods subsection (Figure 1, Appendix B). The bedrock varies from 100 to 400 feet below ground surface. Underlying bedrock includes Ordovician and Cambrian sandstone, shale and dolomite along the south portion (where the Minnesota river valley is located). Soils within the St. Paul – Baldwin Plains and Moraines subsection include mixed parent materials on the moraines, including a mixture of clay loams, loams, sandy loams and loamy sands. The outwash plains have sandy parent materials. For more detailed soil information for the project area, see the Minnesota Department of Natural Resources Environmental Assessment Worksheet for the Minnesota Valley State Trail, Bloomington Segment (Minnesota Department of Natural Resources 2018).

Description of Relevant Environmental Trends and Planned Actions

Steep slopes are present at both ends of the proposed trail and considerable erosion along trails occurs in the river valley. Predicted climate changes for the midwest include more frequent rain events, causing more frequent flooding, runoff and erosion. Increased trail sedimentation will occur due to more frequent flood events.

Impacts on Affected Resource

Alternative A

Under this alternative, geology would not be affected. Trail soil erosion and sedimentation would continue to occur as current during flood and heavy rain events. Off-trail uses cause some erosion that would likely continue unless it was addressed via a separate project. Efforts will continue to urge visitors to stay on defined trails.

This alternative will not impact agricultural lands/farmlands in the vicinity of the refuge. The Farmland Protection Policy Act does not apply to the proposed project area.

Alternative B

Several soil types were identified by the Natural Resources Conservation Service soil survey as “very limited” or “somewhat limited” due flooding or slope concerns. These soils will be excavated a minimum of one foot below the existing grade, then removed and replaced. An appropriate base material will be installed as specified by Minnesota Department of Natural Resources engineers. Suitable excavated material will be reused as topsoil or as fill on the slope along the length of the trail. Any unsuitable material will become the property of the contractor and hauled off-site for disposal in accordance with applicable regulations.

In order to maintain Americans with Disabilities Act compatible grades, cut and fill sections as well as vegetation clearing will be required as the trail drops into the river valley at Bloomington Ferry bridge and exits the river valley at the refuge visitor center. Although portions of the refuge’s existing natural surface trail will be paved and re-graded under this

alternative, it is anticipated that soil erosion will still occur along adjacent trail edges and through user-made trails.

There are no anticipated further impacts to geology from the proposed action alternative. Additionally, this alternative will not impact agricultural lands/farmlands in the vicinity of the refuge. The Farmland Protection Policy Act does not apply to the proposed project area.

Air Quality

Affected Environment and Environmental Consequences

Description of Relevant General Features of Affected Environment

As part of this environmental assessment, the project was reviewed in accordance with the Clean Air Act, as amended, 42 U.S.C. 7401-7671q; 40 CFR Parts 23, 50, 51, 52, 58, 60, 61, 82 and 93; 48 CFR Part 23. No stationary source air emissions would be created by the proposed project and the scope of the proposed action does not indicate that adverse air quality impacts would be expected. Additional air quality analyses were conducted as part of the state environmental review and can be found in the Minnesota Valley State Trail, Bloomington Segment Environmental Assessment Worksheet, Item 16: Air (Minnesota Department of Natural Resources 2018).

Description of Relevant Environmental Trends and Planned Actions

According to the Minnesota Department of Health, one of the main ways climate change impacts air quality is by creating more air stagnation events (Minnesota Department of Health 2020). Air can be stagnant on calm days allowing pollutants to hang in the air. Air pollution in the form of dust and small particle particulate matter may be created during construction of the trail. Impacts would be increased if created during an air stagnation event. Despite this, we expect these impacts to be minimal at most.

Impacts on Affected Resource

Alternative A

Maintenance of existing refuge trails may cause minimal temporary effects to air quality from equipment and vehicles under this alternative.

Alternative B

Construction-related vehicle emissions will be minor and temporary in nature, arising from the use of equipment for trail and bridge construction and installation of culverts. Diesel fuel exhaust emissions contain pollutants including carbon monoxide, nitrogen oxides, reactive organic gases, sulfur dioxide and suspended particulate matter, all of which carry some associated health risks. Similar temporary effects could be present during maintenance of trail once constructed.

The proposed project will create some temporary odors and dust during construction activities. Minor odors will be generated during trail construction. Some dust will be generated during construction when topsoils are dry. Measures, such as watering, will be implemented during grade preparations to limit the generation of fugitive dust.

Nearest sensitive receptors are within residential neighborhoods located above the river bluffs in Bloomington. The nearest residence is approximately 250 feet from the trailhead location and parking lot near the Bloomington Ferry bridge, with other homes along the street further away from the trailhead and trail location. These residences may experience temporary dust and odors from construction activity. Most other residential areas or neighborhoods are 1,300 feet (0.25 mile) or greater distance from the trail corridor and are not expected to notice dust or odor from trail construction activities.

No air quality permits are required under this alternative.

Water Quality

Affected Environment and Environmental Consequences

Description of Relevant General Features of Affected Environment

There are multiple intermittent stream channels within the project area. However, they are not designated as public waters. The Wetland Delineation Report identified three of these intermittent channels on the refuge as other aquatic resources, defined as "…lakes, rivers and streams that are regulated waterbodies, but do not meet the definition of a wetland per the US Army Corps of Engineers 1987 Wetland Delineation Manual and regional supplements" (Sambatek 2017). The majority of these channels connect floodplain wetlands and convey groundwater discharge to the Minnesota River, though some receive stormwater runoff during rain events. Several water resources contain water control structures installed and maintained by the U.S. Fish and Wildlife Service, which suggests the presence of some runoff from the upland areas. Minnesota Department of Natural Resources wetland delineation contractors reported the presence of water in these channels, all of which are tributaries to the Minnesota River, during site visits in late June and early July of 2017. Channel bottoms are composed of soils with hydric ratings that vary from 25% to 100% and are covered with small to medium sized rocks in some locations. Apart from the intermittent channels, the proposed project is in the vicinity of other water resources. Water resources on refuge land include:

Mike's Marsh (locally known as Opus Marsh)**:** (PWI 27103600)

- Location: On refuge property, intersects or adjacent to project area. Mike's Marsh is located approximately 50 feet north of the proposed trail's western terminus at Bloomington Ferry bridge.
- Mike's Marsh is a 97-acre Public Water Basin in Hennepin County.
- Minnesota Pollution Control Agency Status: No Minnesota Pollution Control Agency

analysis.

Minnesota River: Public Waters Watercourse (M-055)

- Location: Adjacent to project area and refuge property (proposed trail will not intersect the river). The proposed trail runs along the Minnesota River for its entire 13.5-mile length. In accordance with the Minnesota Buffer Law, there will be a minimum 30-foot vegetated buffer between the paved trail and the river.
- The Minnesota River is a 332-mile-long tributary to the Mississippi River with an approximately 17,000-square-mile watershed spanning southwest Minnesota, eastern South Dakota and a small area in northern Iowa.
- Minnesota Pollution Control Agency Status: Impaired-dissolved oxygen and turbidity (approved total maximum daily load plans for mercury in fish, mercury in water column, dissolved oxygen and turbidity); additional impairments: polychlorinated biphenyls in fish tissue; caution for overall condition and biology due to excessive salt/chloride in water.

Long Meadow Lake: (PWI 27000200)

- Location: Adjacent to project area, proposed trail does not intersect the lake. The trail is proposed to pass within 900 feet of Long Meadow Lake near Highway 77.
- Long Meadow Lake is a 1,322-acre public water basin in Hennepin County.
- Minnesota Pollution Control Agency Status: No Minnesota Pollution Control Agency analysis.

For more information regarding additional water resources in the vicinity of the proposed project area see the Minnesota Department of Natural Resources Environmental Assessment Worksheet for the Minnesota Valley State Trail, Bloomington Segment (Minnesota Department of Natural Resources 2018).

Effects on the water quality of aquatic resources in the proposed project area may occur during construction activities and continue following construction due to the increase of impervious surface. During Construction temporary impacts, such as erosion or increased runoff can be minimized utilizing best management practices. Due to the nature of urbanization, the addition of paved roads, trails and parking lots lead to an increase in the amount of impervious surface on the landscape. Impervious surface increases the frequency and intensity of downstream runoff and decreases water quality (Chithra et al. 2015).

The authorizing language under Minnesota Statutes 85.015, subpart 6 requires that the trail be paved between the Bloomington Ferry bridge and Highway 77 primarily for hiking and biking. Paving this trail will result in up to 8.6 acres of paved surface on the refuge, some of which would be constructed over an existing current gravel service road. The new trail facility will increase stormwater runoff compared to current conditions, which may affect water quality.

Though the addition of paved impervious surface will reduce the floodplain's capacity to absorb precipitation, the overall effect is expected to be minimal due to being dispersed over a long distance. In addition to the effects of increased impervious surface have, trail materials containing polycyclic aromatic hydrocarbons may have an additional impact on water quality. Bituminous and asphalt products used in paved trails and roadways often contain polycyclic aromatic hydrocarbons. Nemeth et al. 2010 took a closer look at pollution coming from the road material itself. Their research found that polycyclic aromatic hydrocarbons are present in asphalt pavement and that they are largely a result of the pavement creation and laying procedure. According to this study, polycyclic aromatic hydrocarbons have the capacity to leach from asphalt into groundwater. Research also indicated that polycyclic aromatic hydrocarbons may be bound to particulate matter within the asphalt and leach out over time due to surface water wear and water exposure.

Description of Relevant Environmental Trends and Planned Actions

According to Minnesota's State Comprehensive Outdoor Recreation Plan 2020-2024, Minnesota is already experiencing climate-related changes. Between 1895 and 2017, Minnesota has warmed by 2.9 degrees Fahrenheit and has received an annual average of 3.4 inches of additional precipitation. The most dramatic changes have happened in the past several decades. Each of the top-10 combined warmest and wettest years on record have occurred within the last 20 years. Heavy rainfall events are more common and more intense now than any time on record. The frequency of heavy rainfall events has increased 42% in the last 50 years. There has also been an increase in storms that deliver more than 6 inches of rain over a 1,000 square mile area (Minnesota Department of Natural Resources 2019).

More frequent rain events and flooding could potentially lead to the asphalt trail requiring more frequent repair. There is also potential for increased runoff entering nearby water resources from impervious surfaces.

Impacts on Affected Resource

<u>Alternative A</u>

There are existing trail crossings over intermittent streams and wetland outlets along the natural surface trail in the proposed project area on refuge property. Under this alternative, the refuge will continue to maintain water control structures on wetland outlets of Long Meadow Lake and Opus Marsh. There is no expected change to water resources or water quality and no anticipation of any additional stream crossings or culverts.

Most refuge trails, including those in areas of the proposed state trail alignment, are natural surface trails. This allows precipitation to infiltrate into the underlying soil rather than runoff directly into water resources. Although there are already some paved areas in existence within the Long Meadow Lake and Bloomington Ferry units, most of these areas are limited to parking lots and a couple of access roads. Although there could be minimal amounts of polycyclic

aromatic hydrocarbons currently coming from these areas, under the No Action Alternative there will be no additional impervious surfaces that could impact water quality.

Alternative B

The proposed trail route crosses several intermittent streams, creeks and wetlands. On refuge property, Minnesota Department of Natural Resources proposes to cross three intermittent streams with open-bottom concrete culverts. This type of culvert has been shown to have minimal impact on channel hydrology and wildlife moving up and down the channel. Other minor drainages will be addressed using corrugated culverts applied as needed to minimize the impact that the trail has on the natural hydrology of the project area.

Impacts to water resources due to the construction phase and ongoing use of the trail within the refuge include an estimated 0.9 acres of direct wetland impact, based on the Wetland Delineation Report for the Minnesota Valley State Trail, Bloomington Segment (Sambatek 2017). These impacts would be due to the placement of fill to allow for the trail to be constructed on stable soils. Additionally, there may be some impacts to wetland hydrology due to bisection by the placement of fill and the elevated paved trail surface. The Minnesota Department of Natural Resources intends to limit the fill sections to the narrowest corridor needed for construction of the trail.

The Minnesota Department of Natural Resources will be required to meet the Minnesota Pollution Control Agency's National Pollutant Discharge Elimination System general construction storm water permit requirements during construction. Best management practices will be needed during construction due to the proximity of the project to the Minnesota River and other water resources. A storm water pollution prevention plan is required for this project, which would identify all potential sources of pollution which may affect the quality of water discharges from a construction site. Invasive species prevention and concrete washout and fuel or chemical tank best management practices are also included in the storm water pollution prevention plan. See Avoidance and Mitigation Measures, Appendix D for more information.

A near-continuous border of vegetation adjacent the trail will slow runoff and improve infiltration of runoff originating from the paved surface (Figure 7, Appendix B). Trail side slopes and minor ditching in some areas will also help to drain runoff away from the trail towards both natural and, where appropriate, designed infiltration areas in accordance with Minnesota Pollution Control Agency stormwater permitting requirements.

The proposed project will result in an increase of up to 8.6 additional acres of pavement, some of which would be constructed over a current gravel road. This increase in impervious surface may have an effect on water quality due to both runoff and directly from trail materials. Typically, most leaching is related to new products, re-coating/sealing, and products that lose their structural integrity (i.e. break up). Since the Minnesota Department of Natural Resources

does not sealcoat its trails, there would be no increases in polycyclic aromatic hydrocarbons from sealcoating products. Although there could be short term leaching during the laying of the asphalt, the majority of the runoff will be captured by using the most appropriate best management practices to prevent erosion and runoff during construction. Nemeth et al. (2010) also found that reclaimed asphalt pavement has a higher concentration of petroleum hydrocarbons with a greater complexity. Caution will be taken when deciding on whether to use reclaimed asphalt in trail materials.

Due to the proposed trail being located within the floodplain, frequent flooding is to be expected. Sections of the trail could break off during flooding events and be deposited into the Minnesota River or nearby wetlands and creeks. According to the U.S. Geological Survey, "There are many sources of [polycyclic aromatic hydrocarbons] to the environment, representing a wide range of [polycyclic aromatic hydrocarbon] concentrations, including asphalt (2-9 milligrams per kilogram, or mg/kg), tire particles (84 mg/kg), used motor oil (730 mg/kg), and coal-tar-based sealcoat (34,000-202,000 mg/kg)" (USGS 2019). Nemeth et al. (2010) also found that although the asphalt did contain petroleum hydrocarbons, these molecules seem to be leaching into runoff at a very low concentration. They also recognized that although hydrocarbons entering the environment through stormwater may be low, when the extent of roadways and parking lots in an area should be considered since the total volume of toxins may be significant. Although there is potential for leaching of polycyclic aromatic hydrocarbons from this trail and nearby sources, it is not expected to have a large impact on the environment.

Federal, state and local surface and groundwater management regulations require mitigation be provided in conjunction with proposed development. Therefore, substantial adverse effects on water quality and quantity rates are not anticipated.

Floodplains

Affected Environment and Environmental Consequences

Description of Relevant General Features of Affected Environment

Nearly the entire project area lies in the 100-year floodplain, which is subject to specific Lower Minnesota River Watershed District policies and management goals. Applicable management goals include improving and protecting water quality in the Lower Minnesota River Watershed and minimizing the adverse effects of floods and droughts on the Minnesota River and all water bodies in the watershed. Watershed district policy requires that "No filling is allowed within the 100-year floodplain which causes a rise in the 100-year flood elevation without providing compensatory floodplain storage equal to or greater than the volume of fill" (Lower Minnesota River Watershed District 2020). Although this trail will lie within the floodplain, all efforts will be made to locate it on the highest ground possible, or in current trail alignments, in order to

comply with Executive Order 11988 – Floodplain Management, 42 Federal Register 26951, 3 CFR (1977).

The trail is proposed to be constructed in the Minnesota River floodplain thereby minimizing impacts to bluffs protected by City of Bloomington ordinance. The project will cross the city's Bluff Protection Overlay District, which lies between the 722-foot elevation and the 800-foot elevation, once as it enters the valley near the Bloomington Ferry bridge and again as it approaches the refuge visitor center and exits the valley (City of Bloomington 2021). At this location, the trail is proposed to follow the Interstate 494 road grade rather than being built over the bluff itself.

Description of Relevant Environmental Trends and Planned Actions

Predicted climate changes for the midwest includes increasing extreme heat events, heavy downpours and more frequent flooding that will affect agriculture, air and water quality, forestry, health, infrastructure and transportation (U.S. Global Change Research Program 2014). Climate change is already occurring in Minnesota, affecting natural landscapes and outdoor recreation resources. Increasing precipitation, more frequent extreme rain events and substantially warmer winter temperatures are among the most well-documented climate change impacts. Heavy rainfall events are more common and more intense now than any time on record. The frequency of heavy rainfall events has increased 42% in the last 50 years. There has also been an increase in storms that deliver more than 6 inches of rain over a 1,000 square mile area (Minnesota Department of Natural Resources 2019). Changes in climate may promote more frequent rain events leading to increased flooding and impacts to the floodplain.

Impacts on Affected Resource

<u>Alternative A</u>

Although there is an existing natural surface trail on portions of the proposed project, under this alternative there will be no increase in impervious surfaces and no further impacts to floodplain hydrology.

<u>Alternative B</u>

The majority of the trail will be constructed in an area subject to frequent and prolonged flooding. To address site limitations, the trail will be designed to minimize fill and excavation in part to reduce impacts to floodplain hydrology. Floodplain modeling by Minnesota Department of Natural Resources indicates that, although fill in the floodplain would be required to complete the project, it would not cause a rise in the 100-year flood elevation. If that condition changes for any reason, each trail segment will be reviewed again before or during the permitting process. The Minnesota Department of Natural Resources would then work with Lower Minnesota River Watershed District on a compensatory mitigation plan.

Limiting the trail corridors to a maximum width of 10 feet with 2-foot vegetated shoulders and keeping tree removal and canopy opening to a minimum are the principal means to minimize fragmentation of floodplain forest habitat. Sides of the trail would be re-vegetated with native species.

Using river level forecasts, work will be adjusted to minimize environmental impacts to the construction area. In the event of river flooding during construction, all equipment and materials will be removed from the site. Disturbed soils and extra construction materials, such as uninstalled culverts and aggregate material, will be secured.

Wilderness or Other Special Designation

Affected Environment and Environmental Consequences

Description of Relevant General Features of Affected Environment

The refuge does not have any designated wilderness areas per the Wilderness Act, 16 U.S.C. 1131 et seq. nor does the refuge have any waterways that fall under the Wild and Scenic Rivers Act, 16 U.S.C. 1271 et seq. Given this, no effect to wilderness is expected.

The refuge falls within the Audubon Society's Lower Minnesota River Valley Important Bird Area. Important bird areas, identified by Audubon Minnesota in partnership with the Minnesota Department of Natural Resources, are part of an international conservation effort aimed at conserving critical bird habitats. This particularly important bird area incorporates the riparian corridor and adjacent river valley and upland communities along the Minnesota River, and it supports an exceptional diversity of birds. The woodland and grassland areas within the important bird area are important breeding habitat for the more than 100 bird species that nest in the area. Further discussion is covered in the section on Migratory Birds and Other Wildlife Resources.

Description of Relevant Environmental Trends and Planned Actions

The refuge has not identified any environmental trends or planned actions that may adversely affect the status of the important bird area.

Impacts on Affected Resource

Alternative A and B

The refuge has not identified any potential adverse impacts from either alternative on the important bird area within the project area. It can be reasonably determined that the important bird area designation will not be disproportionately affected by impacts from either action.

Visitor Use and Experience

Affected Environment and Environmental Consequences

Description of Relevant General Features of Affected Environment

Minnesota Valley National Wildlife Refuge is typically visited by over 250,000 people each year. Activities allowed on the refuge include wildlife observation, photography, hunting, fishing, environmental education, interpretation, hiking and biking. There are natural surface trails in the Long Meadow Lake and Bloomington Ferry units maintained by the refuge. User-made walking and biking trails also exist in these units. Many people come to hike and bike the trails year-round.

Refuge trails are subject to water level fluctuations of the Minnesota River inundated with floodwaters during certain times of the year. Due to impacts caused by flooding, trails may be closed. The current trail surfaces consist of packed dirt, loose sand and aggregate. Sections of the trail consist of flood deposited sands, limiting use to pedestrians and mountain bikers in the river bottoms.

Public hunting is not allowed on the Long Meadow Lake or Bloomington Ferry units of the refuge. Archery deer hunting is allowed on both units through a special hunt with the Metro Bowhunters Resource Base during designated times. There is also a hunting blind managed by Capable Partners to increase hunting access for people with physical challenges.

Description of Relevant Environmental Trends and Planned Actions

People are continuously discovering the refuge as an area to recreate outdoors. As refuge visibility increases with outreach efforts, it is expected that refuge visitation will increase even more. Recent improvements to the Old Cedar Avenue trailhead in partnership with the City of Bloomington have increased visitation five times the previous recorded visitation in the spring, summer and fall seasons. Parking is currently the largest barrier for those visiting by their personal vehicle. Public transportation is available which can reduce the parking barrier. Although user satisfaction has not been quantified, anecdotal evidence through conversations between volunteer trail rangers and visitors has shown that users are quite satisfied with the user experience near the Old Cedar Avenue Trailhead, and they appreciate accessibility for visitors with mobility impairments. This increase in visitation has not impacted waterfowl and other water bird populations.

Impacts on Affected Resource

Alternative A

Under this alternative, the existing trail system will be available for users to enjoy wildlife-dependent recreational activities. There are opportunities to hike, bike and observe wildlife. Environmental education activities would continue with school groups using existing trails. In

some areas there are unauthorized user-made trails, stream crossings and boardwalks. Efforts will continue to urge visitors to stay on defined trails.

The existing trail system provides access to refuge fishing opportunities. Some lands in these areas are also open to special hunting opportunities. Current refuge hunting regulations prohibit the discharge of a weapon on, from, across or within 100 feet (30 meters) of any service road, parking area or designated hiking trail. The Metro Bowhunters Resource Base would continue to hunt during designated times and Capable Partners would continue to use established hunting blinds.

The current refuge trails offer views of the Minnesota River, wetlands and floodplain forest. Visitors can observe multiple wildlife species along the trail. Currently, the existing trail is visible from the river in limited areas. Views from the river will not change. This alternative will have no effect on visual resources. Noise is currently present along the corridor as a function of the existing use and surrounding suburban community. Occasional noise impacts may occur during routine maintenance of existing natural surface trails, habitat restoration and right-of-way access for utility maintenance. These disruptions are minimal and temporary.

Alternative B

Under this alternative, the Minnesota Valley State Trail will provide a connection throughout the river valley lengthening the trail system available to users for wildlife-dependent recreational activities. There will be an increased opportunity to hike, bike and observe wildlife as well as to use the trail for bike commuting. With the addition of a paved trail and increase ease of access, the refuge could offer new programs for visitors with mobility impairments as well as increase family-centric programming that could take advantage of the flat, paved surfaces. The refuge could also explore increasing opportunities to provide biking programs within the refuge, either led by refuge staff or through partners.

Since there will be natural surface segments that deviate from the paved trail, conflicts may result. Increased bike speed and the intersections of natural surface trails and the paved trail may result in collisions and negative interactions between user groups. To mitigate these, the Minnesota Department of Natural Resources intends to provide signed intersections between the paved trail and existing natural surface trails where applicable. We expect the paved trail to be the main trail for recreational use and emergency access, however, continued use will be allowed on natural surface segments defined by the refuge.

The state trail may allow additional access for the public to enjoy fishing activities. Lands along the state trail will not be open to public hunting. Some refuge lands in these areas are open to special hunting opportunities, however state and refuge hunting regulations prohibit the discharge of weapons on, from, across or within 100 feet (30 meters) of a trail. In addition, the Capable Partners hunting blind near the existing trail could be impacted by interference with

higher trail usage. There are no other conflicts between trail use and hunting activities anticipated.

The creation of a new trail would temporarily alter the natural scenery of the area, depending on the amount of tree removal. Currently, some users visit the river valley due to its unique wildness. There are few areas like this in existence in the metropolitan area. Some visitors have expressed concerns about how a paved multi-use recreational trail may alter the experience of the current natural area. The developed paved trail will increase access, however, it may take away from the wild feel of the river valley. For some it is important to maintain the natural experience, however others think the new trail will improve safety and visibility in the river bottoms. The new stream crossings will increase the ease of access for visitors and emergency vehicles.

Site clearing for trail construction would result in visible removal of refuge vegetation in areas where the new alignment would deviate from the current trail. During leaf-on conditions, most of the trail corridor is expected to remain under the existing tree canopy therefore impacts to the view of the project area from the river and from the bluff will be limited during construction and operation. The proposed paved trail will be further inland to minimize impacts from flooding and trail users may experience intermittent scenic views of the Minnesota River along the trail corridor. Any views from the river when the trail is operational would be expected to remain similar to those currently experienced due to the existing recreational use of the corridor and floodplain area. The trail may be more visible from the river during leaf-off conditions. No lighting is proposed for the trail corridor or parking lots. No project related vapor plumes or glare from intense lights will occur with the proposed project.

The proposed project will create some temporary noise during construction activities. Recreational users in the area may experience these temporary effects. Noise from construction activities will occur during grade/treadway preparations, fill placement, bridge construction, culvert installation, subgrade preparation along the new corridor, paving operations, and associated trucking of materials and equipment.

Cultural Resources

Affected Environment and Environmental Consequences

Description of Relevant General Features of Affected Environment

Lands administered by the U.S. Fish and Wildlife Service fall under protection of several federal cultural resources laws (and executive orders and regulations), in addition to policies and procedures established by the Department of the Interior and the agency to implement these laws. Thus, cultural resources on federal lands, including Minnesota Valley National Wildlife Refuge, receive protection and consideration that would not normally apply to other lands, including:

- American Indian Religious Freedom Act, as amended, 42 U.S.C. 1996 – 1996a; 43 CFR Part 7
- Antiquities Act of 1906, 16 U.S.C. 431-433; 43 CFR Part 3
- Archaeological Resources Protection Act of 1979, 16 U.S.C. 470aa – 470mm; 18 CFR Part 1312; 32 CFR Part 229; 36 CFR Part 296; 43 CFR Part 7
- National Historic Preservation Act of 1966, as amended, 16 U.S.C. 470-470x-6; 36 CFR Parts 60, 63, 78, 79, 800, 801, and 810
- Paleontological Resources Protection Act, 16 U.S.C. 470aaa – 470aaa-11
- Native American Graves Protection and Repatriation Act, 25 U.S.C. 3001-3013; 43 CFR Part 10
- Executive Order 11593 – Protection and Enhancement of the Cultural Environment, 36 Federal Register 8921 (1971)
- Executive Order 13007 – Indian Sacred Sites, 61 Federal Register 26771 (1996)

According to the refuge's Comprehensive Conservation Plan, several hundred archaeological and cultural sites exist in the Lower Minnesota River Valley and many are located on refuge lands (U.S. Fish and Wildlife Service 2004). These sites include prehistoric burial mounds and village sites; early 19th century trading posts and ferry crossings; and early 20th century bridges and farmsteads. As an important part of the refuge's Comprehensive Conservation Plan process, the agency contracted for a cultural resources study of Minnesota Valley National Wildlife Refuge and associated areas. The product of this study is a report entitled "Cultural Resources Management Plan for Cultural Resources within the Minnesota Valley National Wildlife Refuge" prepared by Anthony Godfrey, Ph.D. of U.S. West Research, Inc. in Salt Lake City, Utah (Godfrey 1999).

In light of the large number of archaeological and cultural sites on or near refuge lands, considerable care will be exercised to avoid any potential impact. As part of the right-of-way permit process, the trail portion on refuge lands is reviewed by the agency's regional historic preservation officer.

Description of Relevant Environmental Trends and Planned Actions

The regional historic preservation officer advises the regional director and refuge manager about procedures, compliance and implementation of cultural resources laws. The regional historic preservation officer reviews potential affected refuge lands as part of the right-of-way process to protect archeological sites and historic properties. The regional historic preservation officer works with refuge staff to complete the Section 106 National Historic Preservation Act compliance as right-of-way permit applications are submitted.

Impacts on Affected Resource

Alternative A

Under this alternative, there would be no impacts to historic archaeological properties.

Alternative B

Under this alternative, there would be no effects to historic properties. In 2016 and 2018 Minnesota Department of Natural Resources Parks and Trails Cultural Resources Program completed project investigations of the Area of Potential Effects for refuge owned lands under terms of an Archaeological Resources Protection Act of 1979 permit 2016-MN/3-4 issued by the Regional Director to aid in the refuge's compliance with the National Historic Preservation Act of 1966.

These investigations included both archaeological and historical/architectural review, property identification and evaluation. The archaeological direct Area of Potential Effects for the proposed development was equivalent to project construction limits, approximately 30 to 50 feet wide. The architectural and historical indirect Area of Potential Effects consisted of a roughly 200-foot buffer from the proposed trail centerline. The survey and results for refuge lands under consideration for this right-of-way process are outlined in the report entitled "Trails and Waterways Unit Project Survey Report: Minnesota Valley State Trail, Bloomington Ferry to USFWS" (Van Vleet et al. 2018).

After extensive visual reconnaissance and shovel testing, investigators found no archaeological or architectural resources within the project's direct Area of Potential Effects on refuge lands. Investigators found one architectural cultural resource adjacent to the indirect Area of Potential Effects. The Williams Chambers House (HE-BLC-053) is an 1856 two-story Greek Revival red brick house located at 11245 Bloomington Ferry Road adjacent to (but not on) the very western end of refuge lands. The report recommends the house as eligible for listing on the National Register of Historic Places under criteria A (Exploration/Settlement), B (William Chambers) and C (Greek Revival) with a period of significance of 1856-1883. However, the investigators found, given the distance, topography and heavy foliage, the trail is not visible from the house, therefore, the project, as proposed, would have no effects to this possible historic property.

Refuge Management and Operations

Land Use on the Refuge

Affected Environment and Environmental Consequences

Description of Relevant General Features of Affected Environment

The U.S. Fish and Wildlife Service completed the "Minnesota Valley National Wildlife Refuge and Wetland Management District Comprehensive Conservation Plan and Environmental Assessment" in September 2004. This plan includes an inventory of wildlife and natural

resources in and around the project area. The plan calls for the completion of the Minnesota Valley State Trail so that recreational users have the opportunity to "develop an enhanced appreciation for the cultural and natural resource values of the refuge as well as the Greater Minnesota River Valley" (U.S. Fish and Wildlife Service 2004).

Minnesota Valley National Wildlife Refuge is typically visited by over 250,000 people each year. There are two visitor centers located on the refuge. The Bloomington Education and Visitor Center and refuge headquarters is located in Bloomington, Minnesota, just 10 miles south of downtown Minneapolis. The Rapids Lake Environmental Education and Visitor Center is located in Carver, Minnesota, approximately 35 miles south of Minneapolis. The refuge manages land in Carver, Dakota, Hennepin, Le Sueur, Ramsey, Scott and Sibley counties.

According to U.S. Fish and Wildlife Service policy 603 FW 2 (2.6 B), refuge uses are allowed if found to be compatible. A compatible use is a proposed or existing wildlife-dependent recreational use or any other use of a national wildlife refuge that, based on sound professional judgment, will not interfere with or detract from the fulfillment of the National Wildlife Refuge System mission or the purposes of the national wildlife refuge. A draft compatibility determination for issuing a right-of-way to the Minnesota Department of Natural Resources for the construction, operation and maintenance of a non-motorized recreational trail on Minnesota Valley National Wildlife Refuge can be found in Appendix C. Activities allowed on the refuge include wildlife observation, photography, hunting, fishing, environmental education, interpretation, hiking and biking. There are currently 38 miles of trails on refuge-managed lands. This includes natural and gravel surface trails in the Long Meadow Lake and Bloomington Ferry units. However, user-made walking and biking trails also exist in these units. Many people come to hike and bike the trails year-round.

Four existing parking lots are utilized by trail users within the Long Meadow Lake and Bloomington Ferry units of the refuge:

- Bloomington Ferry Bridge: 30 parking spaces
- Lyndale Avenue Public Water Access: Approximately 40 parking spaces
- Old Cedar Avenue Bridge: Approximately 40 parking spaces
- Minnesota Valley National Wildlife Refuge Bloomington Education and Visitor Center: Approximately 80 parking spaces

<u>City of Bloomington</u>

The project area is entirely within the area identified as conservation zone and flood hazard zone in the City of Bloomington's comprehensive plan. The project will cross the city's Bluff Protection Overlay District, which lies between the 722-foot elevation and the 800-foot elevation, at two locations (City of Bloomington 2021).

Lower Minnesota River Watershed District

Nearly the entire project area lies in the 100-year floodplain, which is subject to specific Lower Minnesota River Watershed District policies and management goals. Applicable management goals include improving and protecting water quality in the Lower Minnesota River Watershed and minimizing the negative effects of floods and droughts on the Minnesota River and all water bodies in the watershed. Watershed district policy requires that "No filling is allowed within the 100-year floodplain which causes a rise in the 100-year flood elevation without providing compensatory floodplain storage equal to or greater than the volume of fill" (Lower Minnesota River Watershed Rules 2020).

Utilities

Xcel Energy has infrastructure in the project area such as steel towers, kilovolt lines and conductors. This infrastructure is not expected to be impacted by the proposed trail. Xcel Energy recently cleared their right-of-way within the proposed project area to provide access for line relocation. If alternative B is selected, all efforts will be made for the trail to follow this same alignment to minimize further disturbance of habitats.

CenterPoint Energy has underground natural gas lines through the project area with several check valves. Although they will need access to this area, no impacts are expected to the natural gas lines or their access due to the proposed trail.

The Minnesota Department of Natural Resources will engage in pre-construction and pre-development coordination with utility companies as appropriate.

Description of Relevant Environmental Trends and Planned Actions

The timing of the proposed action may overlap with other potential projects adjacent to the proposed project area. The U.S. Fish and Wildlife Service, City of Bloomington and the Lower Minnesota River Watershed District provided insight to the Minnesota Department of Natural Resources on projects expected to occur near the proposed project area within similar timeframes. Projects such as Old Cedar Avenue restoration; components of the CenterPoint Energy Beltline Project; Xcel Energy maintenance of transmission line rights-of-way; and the Interstate 35W bridge reconstruction project were identified in the Minnesota Department of Natural Resources Environmental Assessment Worksheet for the Minnesota Valley State Trail, Bloomington Segment (Minnesota Department of Natural Resources 2018). These projects may have overlapping effects to ecosystems and plant communities; rare species and features; terrestrial erosion and sedimentation; and potential introduction of invasive species. Potential impacts are expected to be limited to the construction phase of each trail segment, the timing of which will be determined by several project planning factors. Since the completion of the Minnesota Department of Natural Resources Environmental Assessment Worksheet for the Minnesota Valley State Trail, Bloomington Segment, many of these adjacent projects have either been completed or are in the final stages of completion.

Old Cedar Avenue Restoration

Trailhead and parking lot improvements by the City of Bloomington and U.S. Fish and Wildlife service have been completed in this area and could provide access to the proposed state trail. Habitat restoration is still ongoing.

Minnesota Department of Transportation – Interstate 35W Bridge Reconstruction

The Minnesota Department of Transportation, in partnership with Dakota and Hennepin counties, and the cities of Bloomington and Burnsville recently replaced the bridge and pavement on Interstate 35W between Cliff Road and 106th Street, raised Interstate 35W out of the floodplain and improved pedestrian access across the river. A trail from the Interstate 35W bridge to the first segment of the Bloomington portion of the Minnesota Valley State Trail has also been completed.

CenterPoint Energy Beltline Project

As part of standard maintenance and upkeep, CenterPoint Energy is working on a multi-year construction project to replace and rehabilitate approximately 80 miles of 20" and 24" steel pipe that supplies natural gas to thousands of homes and businesses in the metro area. A transmission gas line replacement from approximately 107th Street Circle down the bluff and across the river is scheduled to occur in 2023. Another stage of this project will include the abandoning of the Portland Avenue line that extends down the bluff and across the river, but this will not include any impacts to the proposed project area. This will occur after the 107th Street Circle work is complete (2023-2024).

Impacts on Affected Resource

Alternative A

Under this alternative there will be no expansion of the trail and no effect on zoning. Current recreational use will continue to occur on natural surface trails. Existing parking lot use is expected to continue, and it is reasonably expected that traffic and circulation will remain the same. There may be traffic while providing routine maintenance, however it will be minimal. There also could be occasional traffic by utility companies conducting work on their rights-of-way and vehicles used in emergency situations.

Alternative B

No additional parking facilities are planned to be developed as part of this project. The Minnesota Department of Natural Resources does not expect an increase in traffic to result on the project large enough to require additional parking lots. Various bus routes serve major thoroughfares in the vicinity of the project area. The Blue Line light rail stops approximately ½ mile from the refuge visitor center.

The proposed project is consistent with the applicable land uses, zoning and management plans related to the defined project area. The trail was designed to minimize fill and excavation in part to reduce impacts to floodplain hydrology. Floodplain modeling by the Minnesota Department of Natural Resources suggests that, although fill in the floodplain will be required to complete the project, it will not cause a rise in the 100-year flood elevation. If that condition changes for any reason, the Minnesota Department of Natural Resources will work with Lower Minnesota River Watershed District on a compensatory mitigation plan.

The trail is proposed to be constructed in the Minnesota River floodplain thereby minimizing impacts to bluffs protected by the City of Bloomington ordinance. The project will cross the city's Bluff Protection Overlay District, which lies between the 722-foot elevation and the 800-foot elevation, once as it enters the valley near the Bloomington Ferry bridge and again as it approaches the refuge visitor center and exits the valley (City of Bloomington 2021). At this location, the trail is proposed to follow the Interstate 494 road grade rather than being built over the bluff itself.

The Minnesota Department of Natural Resources will continue to coordinate, communicate and consult with the refuge throughout the trail's design, development and operation. The Minnesota Department of Natural Resources is committed to being a partner with the refuge to ensure that sustainable and safe recreational opportunities are provided.

Administration

Affected Environment and Environmental Consequences

Description of Relevant General Features of Affected Environment

The refuge currently has approximately 25 permanent employees, including administrative, biological, fire, maintenance, management, visitor services and wildlife officers. Additional seasonal staff, interns and Minnesota Valley Trust employees work at the refuge at times throughout the year.

In the project area, the main bulk of maintenance effort goes to the Long Meadow Lake trail from the refuge visitor center to Old Cedar Avenue. Currently the refuge maintains access for emergency vehicles on this trail by plowing in the winter. Trails are also repaired after flooding and erosion events. Any trees that fall over trails are removed by maintenance or fire staff. Other expenses include staff time for mowing; invasive species treatment and removal; boundary posting; and visitor services activities. The refuge spends about $2500 annually to maintain the Long Meadow Lake Trail.

Wildlife officers currently conduct patrols on refuge trails. The primary issues that occur in these areas are illegal camping, off-trail mountain biking, unauthorized trail construction, dogs off leash, unauthorized motorized vehicles and illegal hunting. In addition, wildlife officers assist

in posting trail closures during flooding or construction and coordinate special deer hunts. They also coordinate with other local law enforcement authorities during appropriate times.

The refuge currently hosts "expert" led programs with several partners in the Long Meadow Lake and Bloomington Ferry units. These include hikes and bird watching programs. Current operations include limited roving time on the trails by staff and volunteers, in the form of litter pick up, light trail maintenance and volunteer time spent conducting informal surveys of the trail. The refuge currently has trail use counters at one trailhead but cannot expand because the counters are not able to withstand flooding events.

Description of Relevant Environmental Trends and Planned Actions

There is currently no planned action by other entities that could have an impact on staff time or refuge resources in the project area.

Impacts on Affected Resource

Alternative A

There will be no additional costs for the refuge under this alternative. Trails will continue to be managed using existing budget and resources. The refuge will maintain the existing natural surface trail for visitor use and environmental education. The amount of trail patrols by refuge wildlife officers would remain as current since trail usage is expected to remain the same.

Alternative B

There will be minimal additional cost to the refuge with this alternative. Additional costs will be due to staff time for law enforcement and visitor services. With this alternative, the Minnesota Department of Natural Resources will be responsible for the operation and maintenance of the state trail facility through a formal agreement with the refuge.

Funding for operations and maintenance of state trails is allocated as part of the annual budgets for Minnesota Department of Natural Resources Parks and Trails geographic regions. The state legislature sets overall funding levels every two years and Minnesota Department of Natural Resources apportions those dollars based upon the needs of facilities in each region. Routine maintenance activities on state trails includes bituminous patching, mowing trail shoulders, clearing trail surfaces of down trees and debris, picking up litter and combatting invasive plant species and will be carried out by Minnesota Department of Natural Resources employees.

On state trails, routine maintenance is carried out by Minnesota Department of Natural Resources employees. In the event of more serious damage to trail facilities, the Minnesota Department of Natural Resources may hire a contractor to complete repairs. In the Twin Cities Metropolitan Area, Minnesota Department of Natural Resources maintenance staff typically inspect the entire length of state trails weekly, if not multiple times per week, during the period

from April-October. Most non-motorized state trail facilities are not maintained through the winter months. If there is high demand for winter use of the Minnesota Valley State Trail, the Minnesota Department of Natural Resources would make every effort to accommodate user demand. Though the presence of maintenance crews during the period from November-March is intermittent, there would always someone available to take care of routine maintenance needs reported by partner agencies or users.

The Minnesota Department of Natural Resources strives to keep state trail facilities open to public use during the defined season or seasons. In the event of damage to state trail infrastructure caused by most flood events, it is anticipated that the majority of needed repairs could be addressed immediately by drawing on annually appropriated or allocated trail rehabilitation funds. More severe damage could take more time to repair. Extended trail closures may increase the number of user-made trails by users seeking alternative ways to get around the closed portion of the trail.

Although the engineering and design of the Minnesota Valley State Trail should limit negative impacts to the trail infrastructure, in the case of an extreme flood event creating damage that requires resources beyond the capacity of existing funding, the Minnesota Department of Natural Resources has historically relied upon federal and state disaster assistance and special appropriations from the Minnesota State Legislature.

Refuge wildlife officers would expect to see an increase in use with the completed construction of the trail. Coordination of enforcement activities will occur between refuge wildlife officers, Minnesota Department of Natural Resources conservation officers and local authorities. This includes patrolling or addressing other law enforcement needs. A paved trail would improve access for emergency vehicles from either the visitor center, Old Cedar Avenue, or Lyndale Avenue; and the Bloomington Ferry unit would be capable of emergency vehicles if bridges are built to support vehicles. The refuge would lack the staffing needed to account for the increase in usage and patrols in these areas.

Post construction, refuge visitor services staff may need to increase trail roving to account for increased visitor use, including increased litter control and general interactions with the public. The completion of the paved trail would prompt improvement to refuge trail maps, interpretive signs and kiosks. This would incur staff time and cost to produce and print trail maps, signs and update kiosk structures.

Socioeconomics

Local and Regional Economies

Affected Environment and Environmental Consequences

Description of Relevant General Features of Affected Environment

"Banking on Nature 2017: The Economic Contributions of National Wildlife Refuge Recreational Visitation to Local Communities" identified average daily expenditures for different recreational visits to refuges nationwide. Expenditures included food, drinks, lodging, transportation, equipment and other expenses. Based on the findings of this report, 7.5 million recreational visits to refuges in the Midwest Region generated almost 457 million dollars to regional economies (Caudill and Carver 2019).

Minnesota Valley National Wildlife Refuge is an important area for wildlife dependent recreational opportunities. The refuge had 274,644 recreational visits in 2017, with pedestrians and bicycles accounting for 203,000 of those visits. Total visitor recreational expenditures were about $2.6 million, with residents accounting for $2.2 million, or 86 percent, of all expenditures. Local community recreational spending was associated with 31 jobs and $1.4 million in employment income (U.S. Fish and Wildlife Service 2019).

The proposed project area falls within the Long Meadow Lake and Bloomington Ferry units, both within the City of Bloomington. According to the Minnesota Compass profile for the City of Bloomington (2015-2019), the city population is 85,332, and the median household income is $75,130 (Wilder Research 2021). The total number of workers employed in Bloomington is 66,126, including residents as well as those who commute from other areas.

Description of Relevant Environmental Trends and Planned Actions

Part of the proposed section of the state trail falls near Bloomington's South Loop District. The vision for South Loop is to transform from suburban to an urban mixed-use district. Light rail stops and the addition of multi-unit housing will attract more people into the area, adding to the local economy. Additionally, the state trail may add to the economy by attracting visitors accessing the trail for recreation and bicycle commuting.

Close-to-home recreation is widely recognized as being a key element of supporting healthy, prosperous and connected communities. Minnesota Valley National Wildlife Refuge has become a close-to-home recreation destination for many residents of the surrounding area. The proposed state trail will provide enhanced accessibility to the full spectrum of potential users who would benefit from access to this section of the valley. Broadening the user base will increase opportunities for more people with diverse interests and abilities to explore, exercise, play and enjoy healthy outdoor recreation in the valley. Beneficiaries include pedestrians and bicyclists living or visiting in the area, particularly those closest in proximity to the Minneapolis-St. Paul metropolitan area, including Bloomington, Eden Prairie, Richfield, Savage, Burnsville,

Eagan and others. Visitors to the Minnesota Valley State Recreation Area and Minnesota Valley National Wildlife Refuge will also have improved and extended access to recreational experiences.

Impacts on Affected Resource

Alternative A and B

The refuge anticipates slightly greater visitation and expenditures under both alternatives. Development of the City of Bloomington's South Loop District is already increasing the number of people in the area. It is anticipated that Alternative B will have a slightly greater impact on visitation and expenditure with increased numbers of recreational visitors as well as bicycle commuters using the trail.

Environmental Justice

Affected Environment and Environmental Consequences

Description of Relevant General Features of Affected Environment

Executive Order 12898 - Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately high or adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities.

Depending on demographics and life situations, people may value and use public lands in different ways. Certain people may also experience different barriers and opportunities in accessing public lands as well as the effects of natural resource management decisions. Understanding the diverse values, beliefs and attitudes of populations of people of color living in an area is important to public land managers working to meet the needs of the public, or when evaluating potentially adverse impacts on a population. Furthermore, research has demonstrated that populations of people of color have a higher likelihood of being exposed to health and environmental risks.

The proposed project area falls within the Long Meadow Lake and Bloomington Ferry units, both within the City of Bloomington. According to the Minnesota Compass profile for the City of Bloomington (2015-2019), the majority of Bloomington residents identify their race as white (75.3%; 64,283). Approximately 24.7% (21,049) of residents identify as a person of color. Other race and ethnicities people living in the city identified include Black or African American (9.4%; 8,038), American Indian and Alaskan Native (0.4%; 322), Asian or Pacific Islander (5.3%; 4,531), other race (0.4%; 366), two or more races (3.4%; 2,922) and people who identify as Hispanic or Latino (8.9%; 7,619). With approximately 24.7% of the city's population identifying as a person of color, the city has a slightly higher population of people of color than the average Minnesota population (79%) (Wilder Research 2021).

An important consideration of proposed policies and management actions is whether low-income populations could experience disproportionately adverse effects as a result. Analyzing income differences within and adjacent to locations helps to highlight areas in which the population may be experiencing economic hardship.

According to the Minnesota Compass profile for the City of Bloomington (2015-2019), the average household income for the City of Bloomington is $75,130, with a majority (35.3%) of households falling into the $100,000 or more income range. About 18.6% of households earn less than $35,000 per year, with 7.4% of city residents with income below poverty. The state's poverty rate is 9%, the lowest it has been since before the Great Recession. In terms of education level, 92.3% of city residents are high school graduates or higher. Additionally, 41.9% of residents have a bachelor's degree or higher and 13.4% have a graduate or professional degree (Wilder Research 2021).

Description of Relevant Environmental Trends and Planned Actions

The refuge has not identified any environmental trends or planned actions that may adversely affect low-income or communities of color.

Impacts on Affected Resource

Alternative A and B

The refuge has not identified any potential adverse impacts from either alternative on any communities within the project area. With this in mind, and the consideration that the portion of the project covered by this environmental assessment is within the existing public lands of the refuge, it can be reasonably determined that low-income and communities of color will not be disproportionately affected by impacts from either action. It is possible that the proposed trail may be seen as more welcoming to non-traditional user groups.

Monitoring

If Alternative B is selected, the refuge will be in close communication with the Minnesota Department of Natural Resources throughout the project. Prior to any construction, the project area will be surveyed for the presence of bald eagle nests. Biological monitoring of other wildlife and habitats for adverse effects will be done as deemed appropriate. Trail edges will be monitored for invasive species.

Summary of Analysis

ALTERNATIVE A – RECOMMEND CONTINUATION OF CURRENT MANAGEMENT – NO ACTION ALTERNATIVE

As described above, the existing natural surface trails and service roads will remain as they are. Needed maintenance by refuge staff will continue. Effects on wildlife and habitat would be negligible, though there may be increased use by visitors seeking natural areas to recreate on the Bloomington Ferry and Long Meadow Lake units. Where appropriate, current visitor activities will continue including wildlife observation, photography, hunting, fishing, environmental education, interpretation, hiking and biking.

ALTERNATIVE B – RECOMMEND ISSUING RIGHT-OF-WAY PERMITS TO ALLOW FOR CONSTRUCTION OF THE MINNESOTA VALLEY STATE TRAIL – PROPOSED ACTION ALTERNATIVE

As described above, this alternative will allow the state trail to provide a connection throughout the river valley lengthening the trail system available to users for wildlife-dependent recreational activities. There will be an increased opportunity to hike, bike and observe wildlife as well as to use the trail for bike commuting. There will also be increased ease of access for visitors with mobility impairments as well as families that could take advantage of the flat, paved surfaces. With an increase in the number of visitors, impacts to the socioeconomics of the area are expected to be positive.

There are no anticipated adverse effects on endangered or threatened species and effects on wildlife and habitat would be minimal. Any potential impacts to resources identified above can be avoided, minimized or mitigated through existing regulatory controls. Impacts to refuge lands are expected to be minimal as the refuge will continue to preserve and enhance the valuable natural environment that exists. The refuge and associated properties will continue to provide high quality critical habitat for wildlife in the Minnesota River valley.

This alternative helps meet the purpose and need of the refuge as described above because it would provide additional access to wildlife-dependent recreation opportunities. Providing refuge access through trails can be an important way to experience the refuge. This alternative also helps fulfill refuge enabling legislation directing staff to consider the state trail in unit planning. The existence of state legislation, and the continuing planning, construction, and implementation of the Minnesota Valley State Trail influences refuge management activities. Interagency coordination between Minnesota Department of Natural Resources, the refuge and other relevant agencies and municipalities has been ongoing since the early planning stages of the trail.

List of Sources, Agencies and Persons Consulted

Minnesota Department of Natural Resources: Diane Anderson, Anton Benson, Brandon Helm, Kent Skaar, Yancey Stam

U.S. Fish and Wildlife Service Personnel: Faye Healy, Jeanne Holler, James Myster, Scott Pariseau, Kristin Rasmussen, Cortney Solum, Kara Zwickey

List of Preparers

Cooper Crose, Biological Technician

Sarah Inouye-Leas, Volunteer Coordinator

Eric Mruz, Deputy Refuge Manager

Vicki Sherry, Wildlife Biologist

Gerry Shimek, Wildlife Refuge Specialist (retired)

State Coordination

The Minnesota Department of Natural Resources has applied for a right-of-way permit for the state trail and previously prepared a Minnesota Department of Natural Resources Environmental Assessment Worksheet for the Minnesota Valley State Trail, Bloomington Segment. Some of the information included in the worksheet has been referenced in this document. Throughout the revision of this document, the Minnesota Department of Natural Resources has been consulted and participated in the public scoping meeting in 2019, referenced below.

Tribal Consultation

Prior to the public comment period, tribes identified using the Tribal Directory Assessment Tool will be contacted and sent a draft copy of this environmental assessment and will be invited to provide comments. Any concerns will be addressed prior to finalizing the environmental assessment.

Public Outreach

On November 20, 2019, the U.S. Fish and Wildlife Service announced a public scoping meeting and public comment period on the potential benefits and adverse effects of the Minnesota Department of Natural Resources' request to place 7 miles of paved trail through the Minnesota Valley National Wildlife Refuge as part of the Minnesota Valley State Trail. Comments were collected for 30 days from December 5, 2019 through January 3, 2020.

Comments were accepted by email, post mail or through attending an open house on December 5, 2019.

This draft environmental assessment and compatibility determination will be made available for public comment and review prior to finalization.

Determination

This section will be filled out upon completion of the public comment period and at the time of finalization of the environmental assessment.

- ☐ The Service's action will not result in a significant impact on the quality of the human environment. See the attached **"Finding of No Significant Impact".**

- ☐ The Service's action **may significantly affect** the quality of the human environment and the Service will prepare an Environmental Impact Statement.

Signatures

Submitted By:

Project Leader Signature:

Date:

Concurrence:

Refuge Supervisor Signature:

Date:

Approved:

Regional Chief, National Wildlife Refuge System Signature:

Date:

References

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Appendix A – Relevant Statutes, Regulations, and Executive Orders

Americans with Disabilities Act, 42 U.S.C. 12101 et seq

Compatibility, 603 FW 2

Council on Environmental Quality, 40 CFR 1500-1509

Documenting and Implementing Decisions, 550 FW 3

Farmland Protection Policy Act, P.L. 97-98, Sec. 1539-1549; 7 U.S.C. 4201, et seq

Interior Implementation of the National Environmental Policy Act of 1969, 43 CFR 46; 516 DM 8

Minnesota Statutes 2021, section 85.015, subdivision 6, online. Accessed 01/06/2022

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National Wildlife Refuge System Administration Act, 16 U.S.C. 668dd(a)(4) (1966)

National Wildlife Refuge System Improvement Act, 16 U.S.C. 668dd et seq. (1997)

Refuge Recreation Act of 1962, 16 U.S.C. 460k-460k-4

Rights-of-Way and Road Closings, 340 FW 3

Rights-of-Way General Regulations, 50 CFR 29.21

CULTURAL RESOURCES

American Indian Religious Freedom Act, as amended, 42 U.S.C. 1996 - 1996a; 43 CFR Part 7

Antiquities Act of 1906, 16 U.S.C. 431-433; 43 CFR Part 3

Archaeological Resources Protection Act of 1979, 16 U.S.C. 470aa-470mm; 18 CFR Part 1312; 32 CFR Part 229; 36 CFR Part 296; 43 CFR Part 7

National Historic Preservation Act of 1966, as amended, 16 U.S.C. 470-470x-6; 36 CFR Parts 60, 63, 78, 79, 800, 801, and 810

Paleontological Resources Protection Act, 16 U.S.C. 470aaa-470aaa-11

Native American Graves Protection and Repatriation Act, 25 U.S.C. 3001-3013; 43 CFR Part 10

Executive Order 11593 – Protection and Enhancement of the Cultural Environment, 36 Federal Register 8921 (1971)

Executive Order 13007 – Indian Sacred Sites, 61 Federal Register 26771 (1996)

FISH AND WILDLIFE

Bald and Golden Eagle Protection Act, as amended, 16 U.S.C. 668-668c, 50 CFR 22

Endangered Species Act of 1973, as amended, 16 U.S.C. 1531-1544; 36 CFR Part 13; 50 CFR Parts 10, 17, 23, 81, 217, 222, 225, 402, 450

Migratory Bird Treaty Act, as amended, 16 U.S.C. 703-712; 50 CFR Parts 10, 12, 20, and 21

Executive Order 13186 – Responsibilities of Federal Agencies to Protect Migratory Birds, 66 Federal Register 3853 (2001)

NATURAL RESOURCES

Clean Air Act, as amended, 42 U.S.C. 7401-7671q; 40 CFR Parts 23, 50, 51, 52, 58, 60, 61, 82, and 93; 48 CFR Part 23

Wetland Conservation Act Minnesota Rules 2017, part 8420

Wilderness Act, 16 U.S.C. 1131 et seq.

Wild and Scenic Rivers Act, 16 U.S.C. 1271 et seq.

Executive Order 13112 – Invasive Species, 64 Federal Register 6183 (1999)

Appendix B - Figures

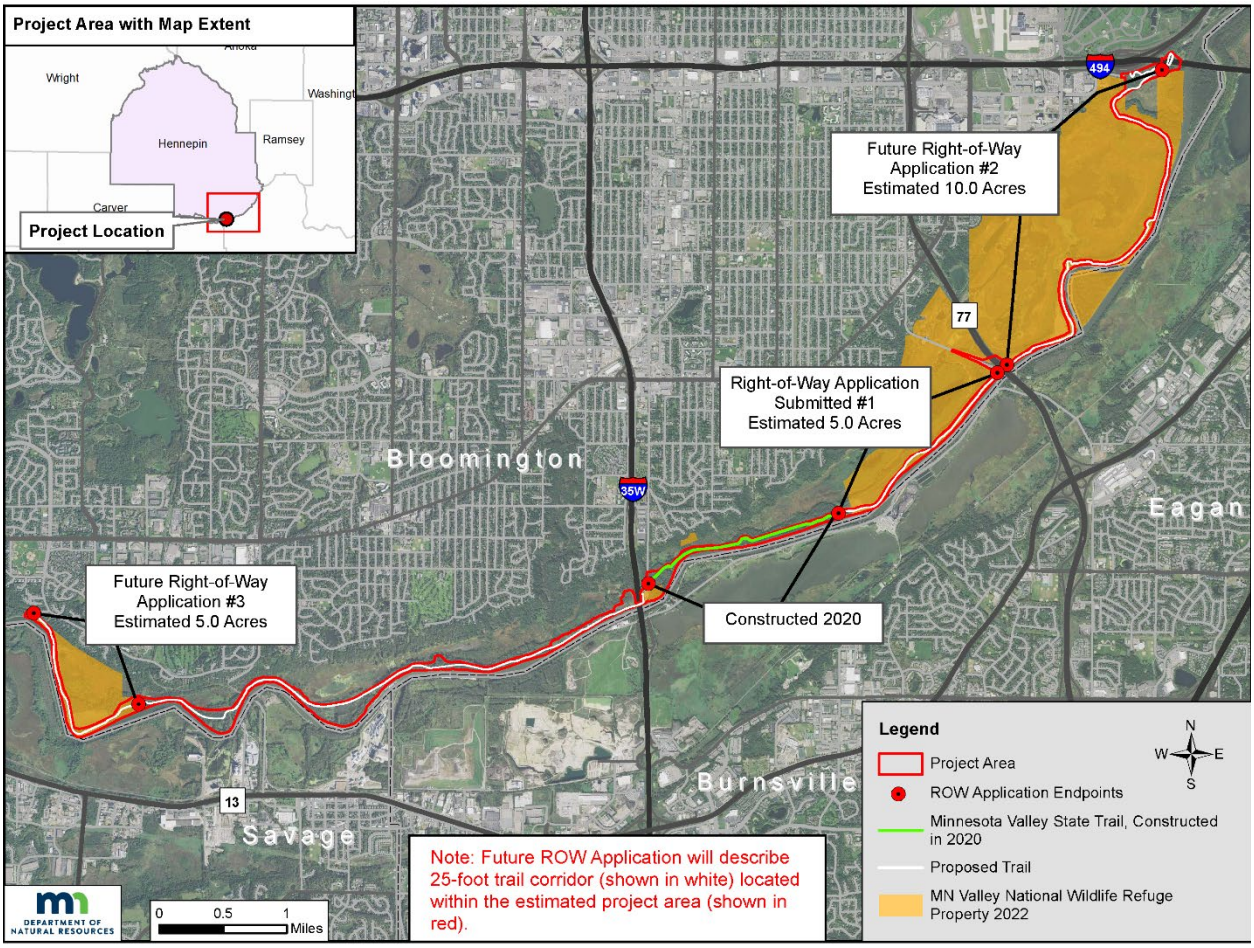

Figure 1: Proposed Minnesota Valley State Trail on Refuge Property Submitted and Future Right-of-Way Applications

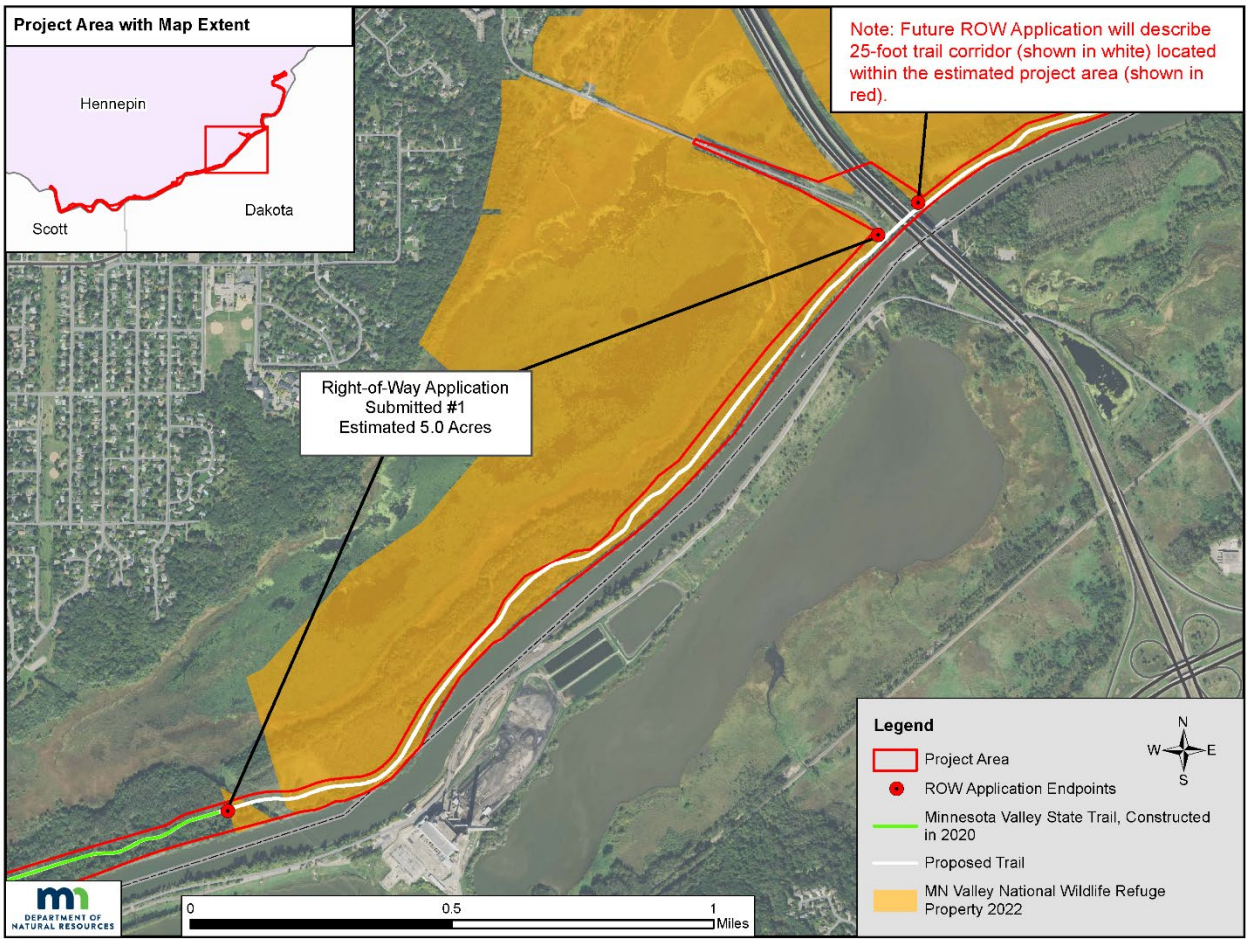

Figure 2: Minnesota Valley State Trail, Bloomington Segment: Estimated Project Area with Submitted Right-of-Way Application #1 on U.S. Fish and Wildlife Service Land, Based Upon Preliminary Design

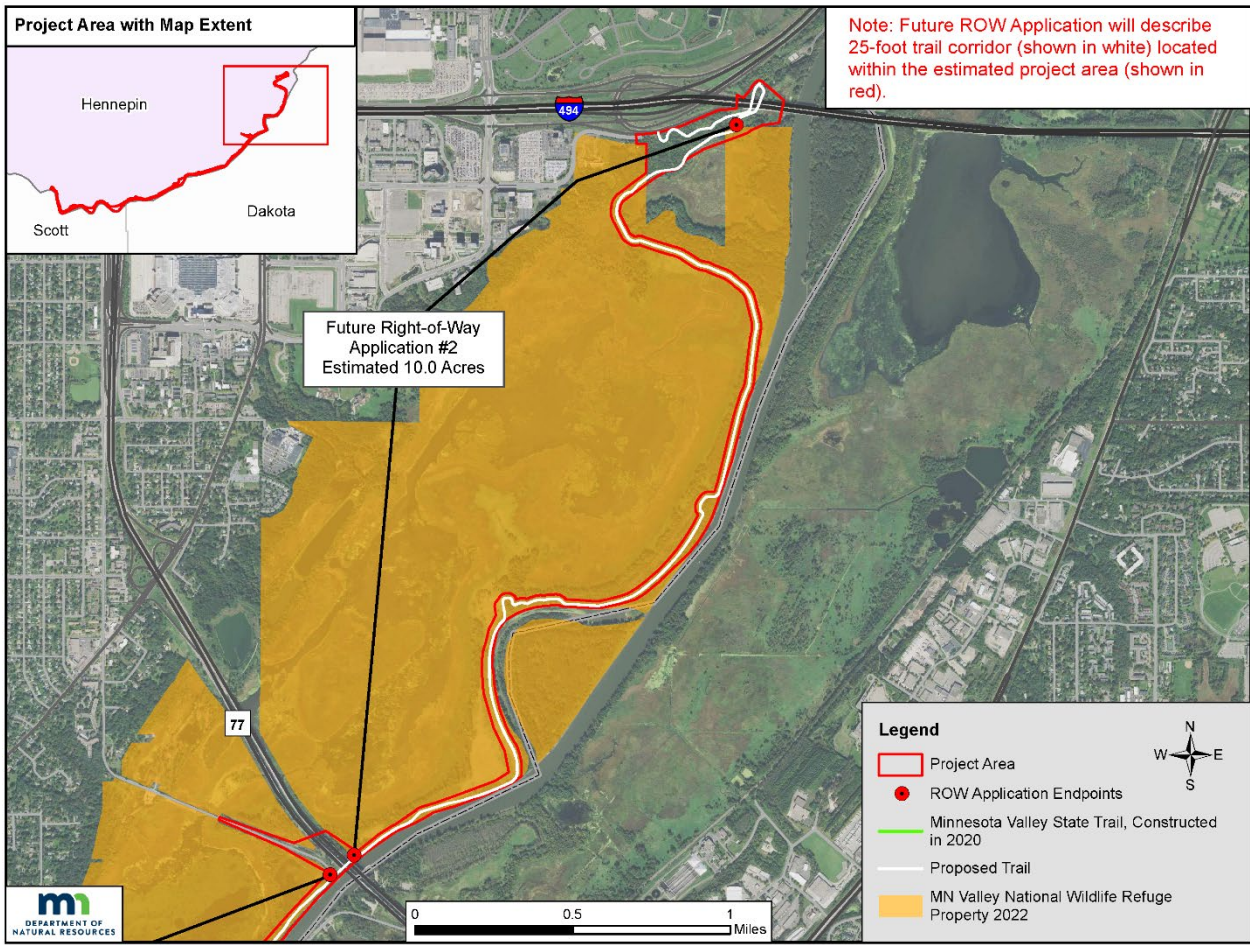

Figure 3: Minnesota Valley State Trail, Bloomington Segment: Estimated Project Area with Future Right-of-Way Application #2 on U.S. Fish and Wildlife Service Land, Based Upon Preliminary Design

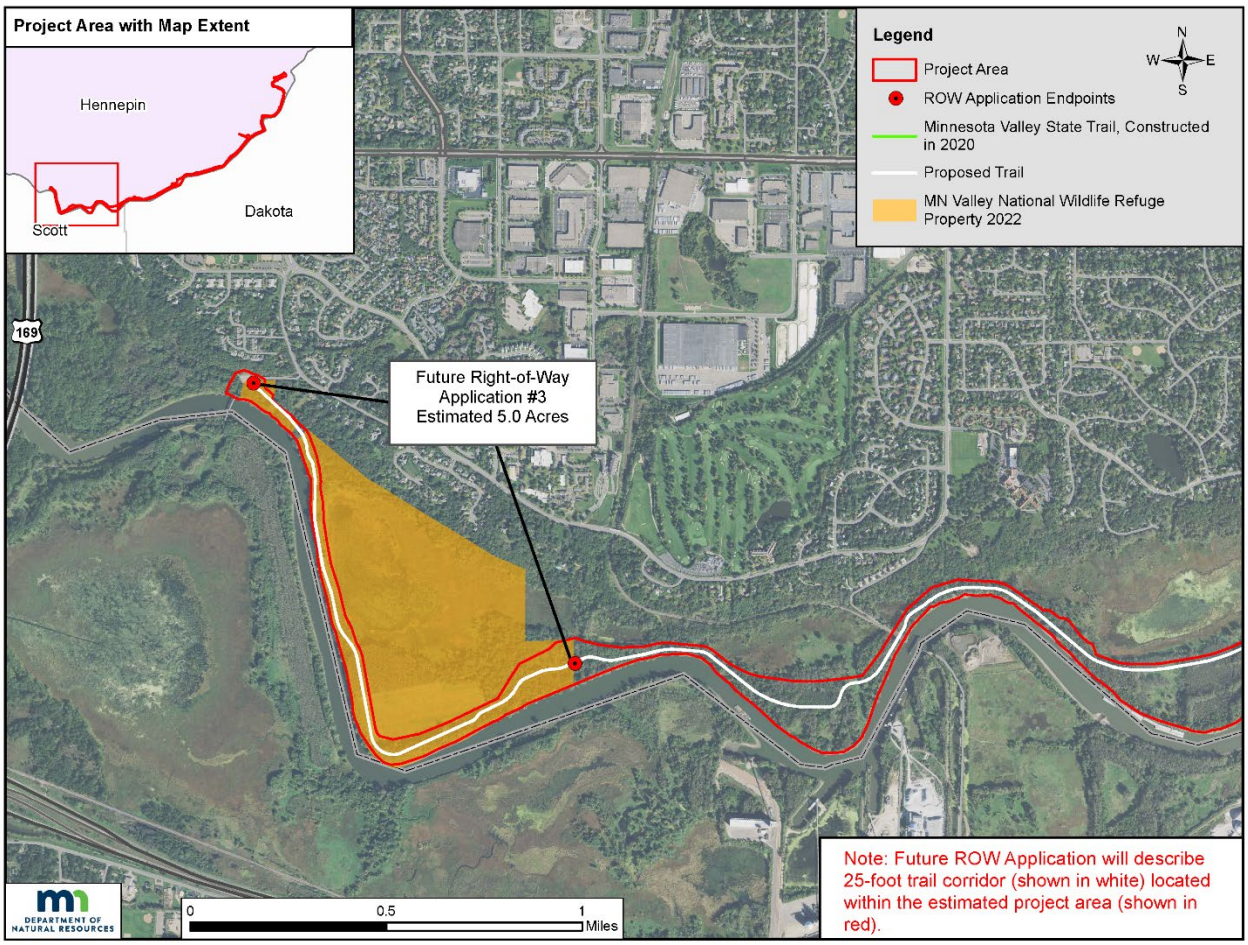

Figure 4: Minnesota Valley State Trail, Bloomington Segment: Estimated Project Area with Future Right-of-Way Application #3 on U.S. Fish and Wildlife Service Land, Based Upon Preliminary Design

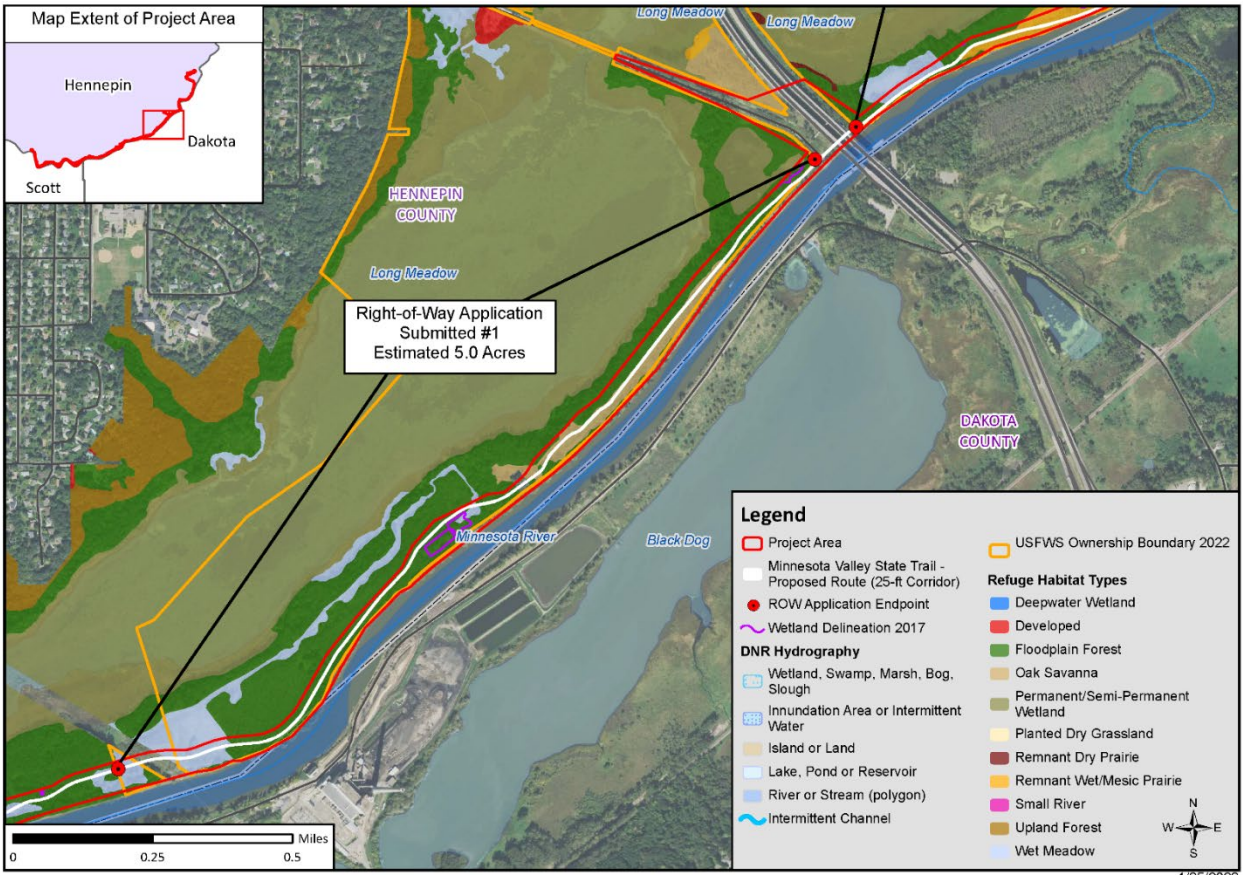

Figure 5: Minnesota Valley State Trail, Bloomington Segment Submitted Right-of-Way Application #1: Estimated Habitats and Wetlands on U.S. Fish and Wildlife Service Lands Within Project Area

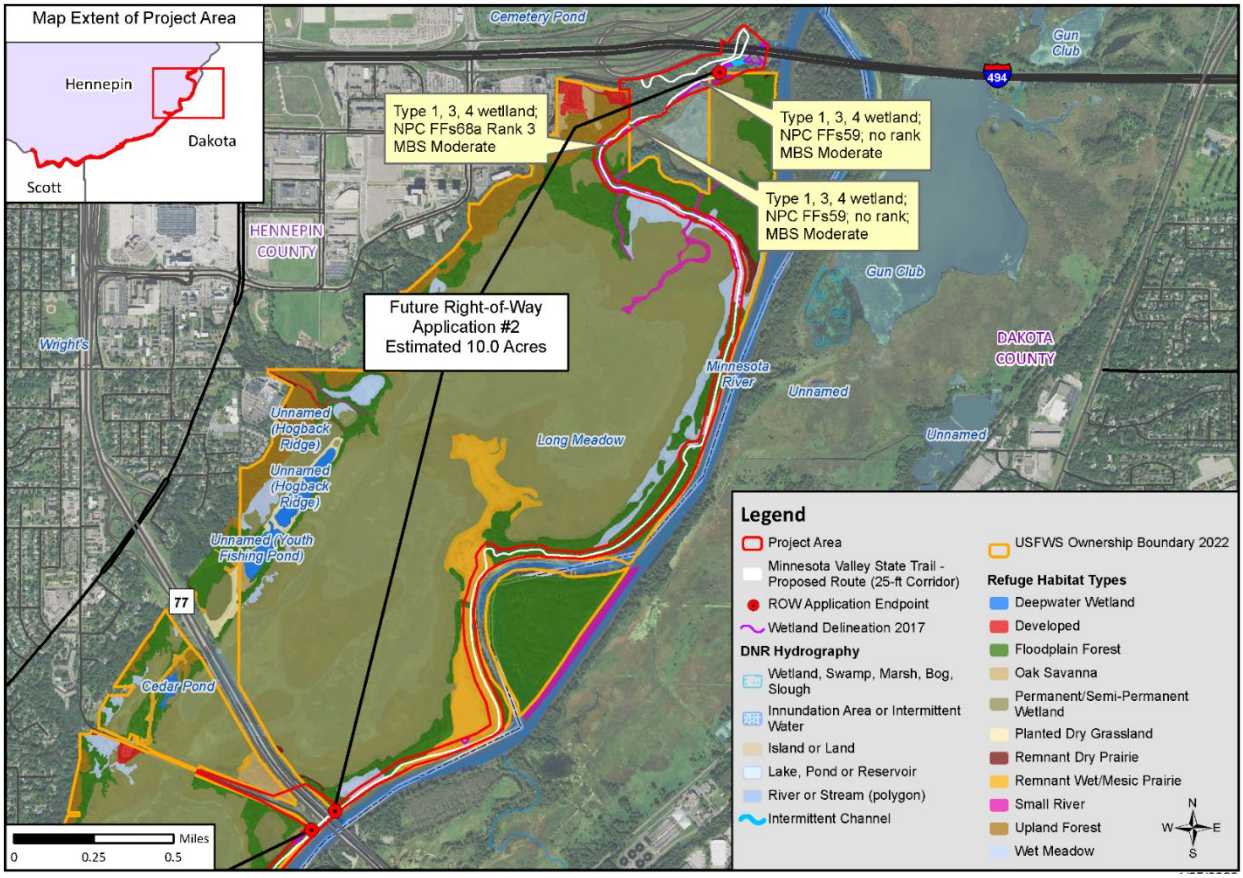

Figure 6: Minnesota Valley State Trail, Bloomington Segment Future Right-of-Way Application #2: Estimated Habitats and Wetlands on U.S. Fish and Wildlife Service Lands Within Project Area

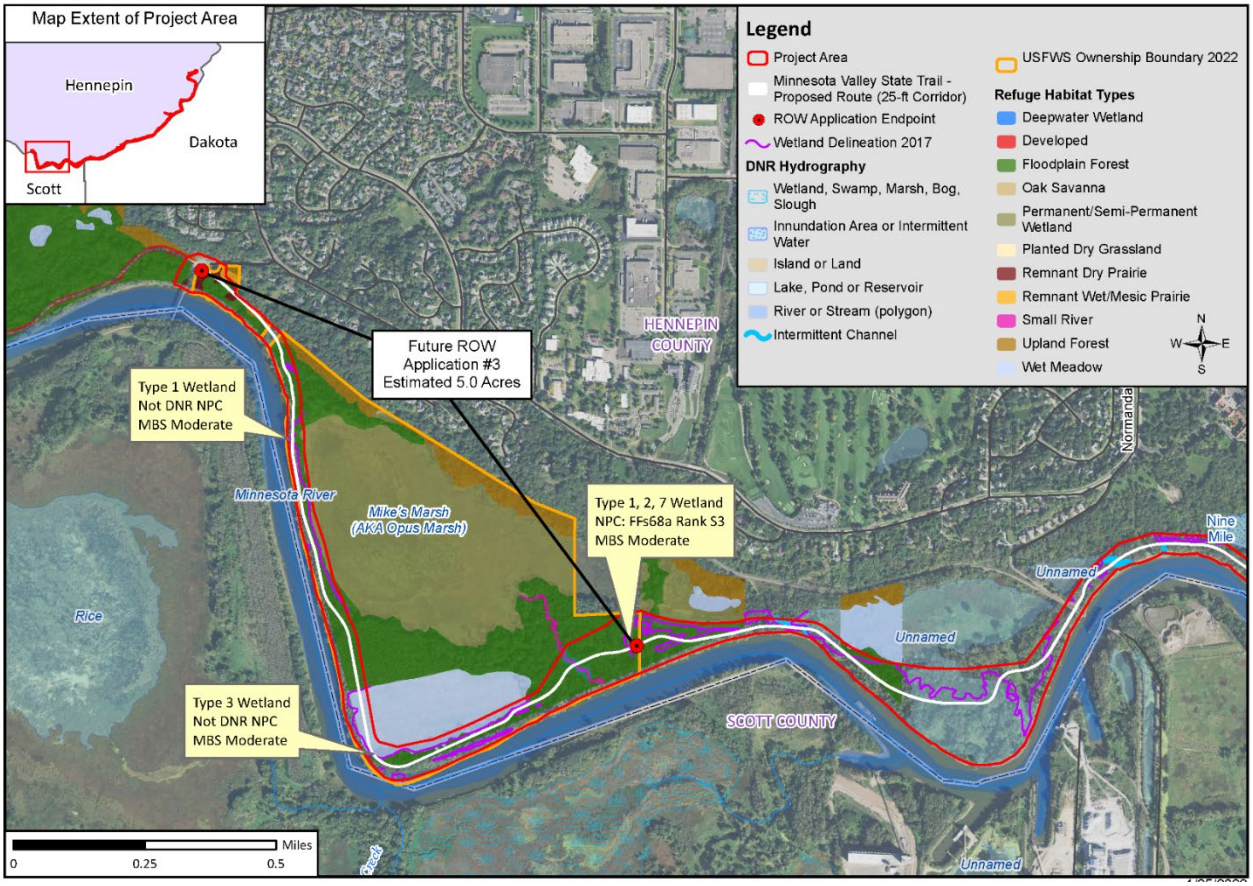

Figure 7: Minnesota Valley State Trail, Bloomington Segment Future Right-of-Way Application #3: Estimated Habitats and Wetlands on U.S. Fish and Wildlife Service Lands Within Project Area

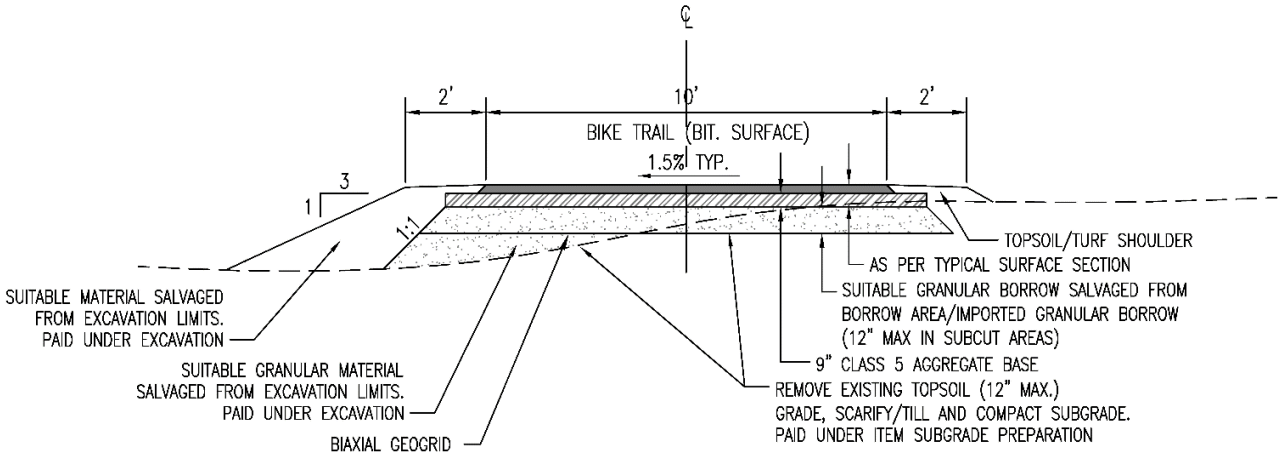

Figure 8: Minnesota Valley State Trail - Bloomington Segment; Typical Trail Section

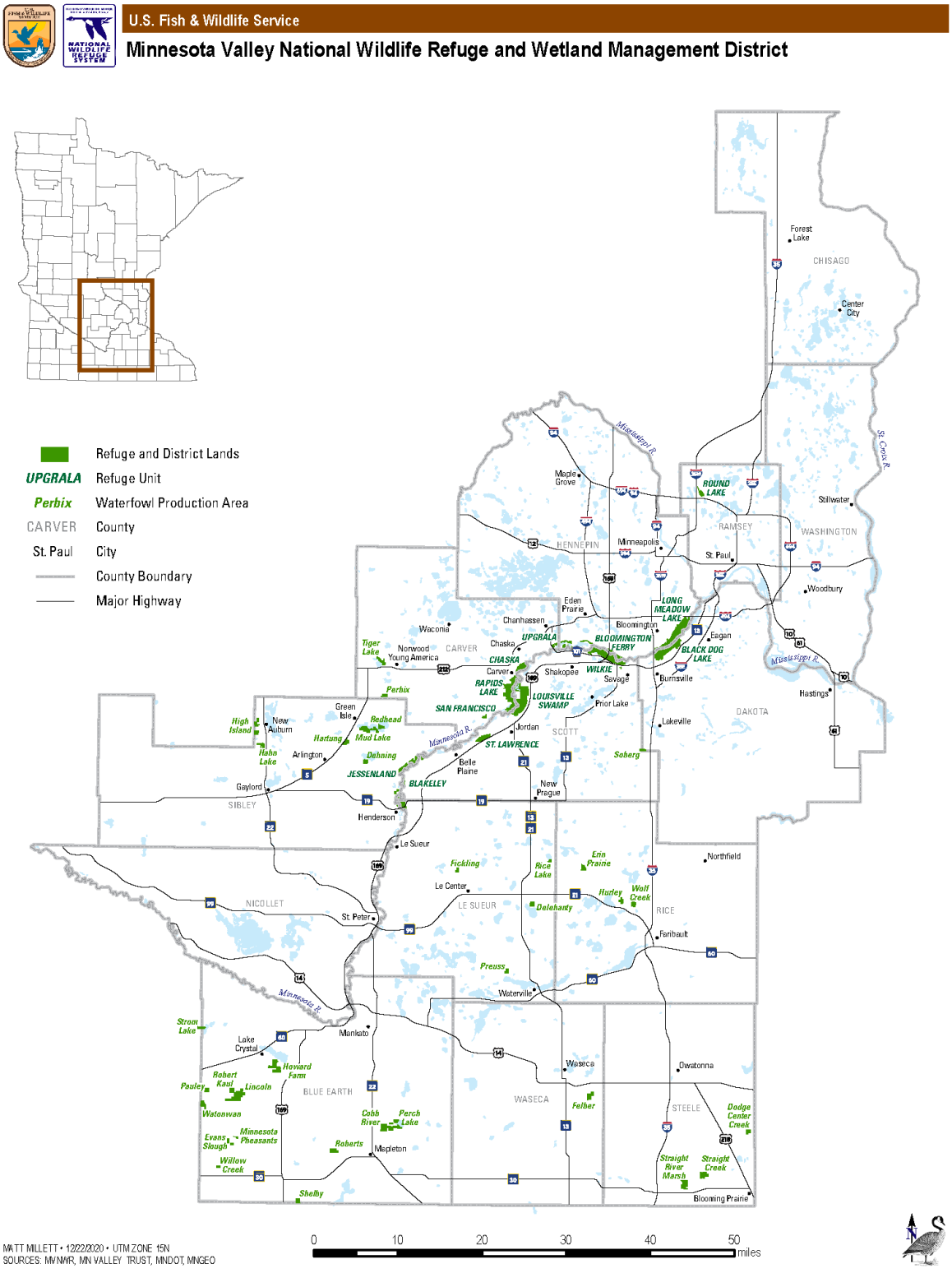

Figure 9: Minnesota Valley National Wildlife Refuge and Wetland Management District Map

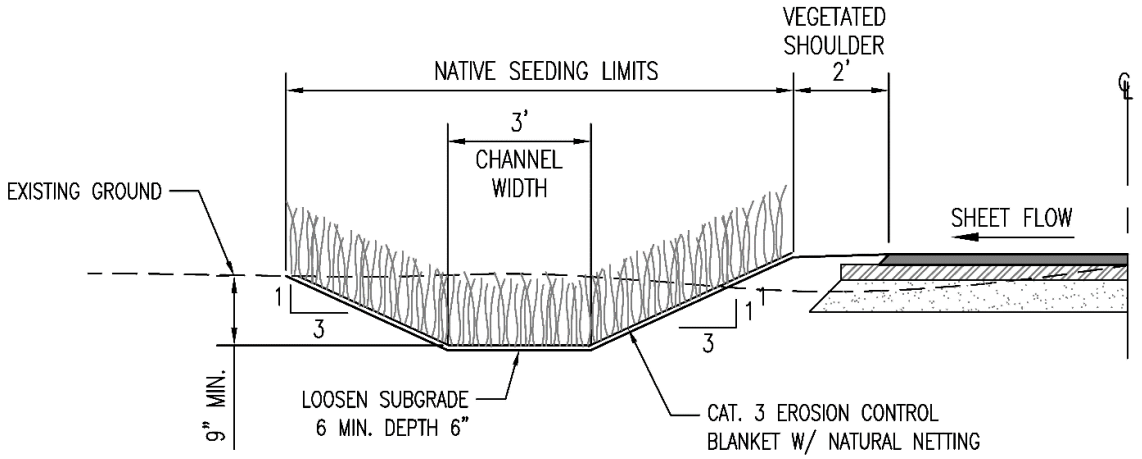

Figure 10: Minnesota Valley State Trail - Bloomington Segment; Typical Infiltration

Appendix C – Draft Compatibility Determination

See separate attached document

Appendix D – Avoidance and Mitigation Measures

Mitigation measures are designed to avoid or substantially reduce adverse effects of the proposed action. These mitigation measures apply to both the submitted, and future, right-of-way requests due to occurring in similar habitats.

MIGRATORY BIRDS AND OTHER WILDLIFE RESOURCES

- The Minnesota Department of Natural Resources will avoid known critical wildlife areas and minimize impacts to time periods sensitive to wildlife.
- The Minnesota Department of Natural Resources will utilize conscientious trail alignment planning and use the same footprint as existing trails when feasibly possible.

THREATENED AND ENDANGERED SPECIES AND OTHER SPECIAL STATUS SPECIES

In order to avoid impact to federally listed species, construction activities will be completed with appropriate timeframes and techniques consistent with permits, approvals, and applicable avoidance plans in coordination with Minnesota Department of Natural Resources nongame wildlife and U.S. Fish and Wildlife Service. An updated intra-service section 7 will be completed as right-of-way permit applications are submitted.

Federally listed and candidate species

Northern Long-Eared Bat (*Myotis septentrionalis*)

The project area contains roosting and foraging habitat suitable for the northern long-eared bat.

- All tree clearing work will be conducted in a manner as to avoid potential impacts to this species during the pup rearing period (June 1 – August 15). The Minnesota Department of Natural Resources will coordinate with U.S. Fish and Wildlife Service regarding this species.
- The interim 4(d) rule allows certain activities including forest and prairie management, minimal tree removal projects, and invasive species management because they are considered a conservation benefit to northern long-eared bats as long as these activities:
    - Occur more than 0.25 miles from known, northern long-eared bay occupied hibernacula.
    - Avoid cutting or destroying known, northern long-eared bat occupied maternity roost trees during the pup rearing season (June 1 – August 15).
    - Avoid clear-cuts within 0.25 miles of known, northern long-eared bat occupied maternity roost trees during the pup rearing season (June 1 – August 15). These conservation measures will be followed to protect bats when they are

most vulnerable, including when they occupy hibernacula and during the pup-rearing season.

Rusty Patched Bumble Bee (*Emydoidea blandingii*)

Suitable habitat and occurrences for the rusty patched bumble bee are known to exist in the project area. The Minnesota Department of Natural Resources must consult with the U.S. Fish and Wildlife Service regarding this federally endangered species prior to the construction of each segment. Depending on the outcomes of the consultation, additional avoidance or minimization measures will be implemented.

- Any native prairie habitat disturbed during construction must be reseeded with native species.

Higgin's eye (pearlymussel) (*Lampsilis higginsii*)

The Higgins eye (pearlymussel) could be present in the Minnesota River adjacent to the project area, however, there have been no live specimens detected in over 30 years. The closest documented record is approximately 1.9 river miles upstream of the construction area, and this specimen was a dead half shell in 1989. We do not expect there to be any Higgins eye (pearlymussel) in or adjacent to the project area. No work is anticipated in the Minnesota River, however there may be a small amount of increased sedimentation and erosion as a result of the additional impervious surface. Erosion control measures will be taken in sensitive areas to prevent excessive sedimentation of the Minnesota River.

Monarch butterfly (*Danaus plexippus*)

The monarch butterfly may potentially be negatively impacted by the project through habitat loss. There is little suitable habitat for monarchs within the project area. Where it does exist, measures will be made to avoid impacts to monarch butterflies.

Other protected species

Bald Eagle (*Haliaeetus leucocephalus*)

Potential exists for eagles to nest in proximity of the trail. Measures to avoid disturbance at specific nest sites will be identified and implemented by the Minnesota Department of Natural Resources. Measures will include the following:

- The permittee will conduct a nest survey prior to beginning any work.
- From January 15 thru August 15, the permittee shall not conduct any construction activities within 660 feet of any active nest.
- From August 15 thru January 15 the permittee shall not conduct any construction activities within 330 feet of an identified bald eagle nest without prior approval from the service.

- If a new nest (or suspected new eagle nest) is discovered within 660 feet of an active worksite, work should be halted within the 660-foot buffer area immediately. Coordination with the U.S. Fish and Wildlife Service should occur before work can continue within this buffer area. During nonbreeding months (August 15 - January 15) this buffer can be reduced to 330 feet. This applies to fully built and partially built nests.
- For the purposes of this contract, construction activities include, but are not limited to, surveying, excavation, construction of project features, and the handling, loading, and unloading and transport of construction or excavated materials.

HABITAT AND VEGETATION

Measures incorporated into the project to minimize effects to wildlife and habitat include restoring disturbed native habitats, leaving most of the tree canopy intact, aligning the trail to minimize loss of mature trees, minimizing impacts to ecologically significant areas to the extent practicable, and controlling the potential introduction and spread of invasive plant species.

The following guidelines will be adhered to where possible to minimize disturbance:

- Less than one acre of wetlands on refuge lands would be impacted by the state trail project. The project will follow guidelines listed under Executive Order 11990 – Protection of Wetlands, 42 Federal Register 26961 (1977). Efforts to reduce the impacts to wetlands include avoiding as many delineated wetlands as possible, thereby reducing impacts to these important areas. Mitigation for any impacts would be accomplished through applicable state and federal permitting processes, as well as through guidance from the refuge included in the right-of-way permits. Federal, state, and local surface and groundwater management regulations require mitigation be provided in conjunction with proposed development. To assure the construction and maintenance of the state trail will not cause adverse effects the following measures will be employed: wildlife-friendly erosion prevention and sediment control measures will be utilized; trail shoulders will be revegetated with an appropriate native erosion control seed mix.
- The project will follow guidelines listed under Executive Order 13112 – Invasive Species, 64 Federal Register 6183 (1999). To minimize the potential of spreading invasive species, all equipment will be cleaned prior to entering the refuge and again before leaving the construction site, the newly constructed trail segments would be monitored for invasive species during the first year after construction, and periodically thereafter, consistent with the management of other trail segments. Soil disturbance would be minimized and disturbed areas would be revegetated as quickly as possible to avoid the establishment of invasive species. The Minnesota Department of Natural Resources commits that all fill materials brought to the site would be clear of invasive species. Other construction best management practices available to limit the introduction of invasive plant species include locating and using staging areas that are free of invasive

plant species, and monitoring revegetation once construction is complete. Suitable mechanical or chemical control measures would be employed when invasive plants are encountered. Minnesota Department of Natural Resources guidelines will be followed to prevent the spread of invasive species. Trail maintenance best management practices include cleaning equipment prior to arriving and leaving the site and cleaning equipment periodically along the trail to prevent spread within the trail corridor.

- Trail development would emphasize the avoidance of ecologically significant habitat. Vegetation clearing and the constructed trail itself would cause some limited habitat fragmentation. The trail would be constructed along existing disturbed corridors as much as possible and tree removal and canopy opening would be limited to minimize habitat fragmentation of mature stands of floodplain forest. The Minnesota Department of Natural Resources intends to limit the tree clearing footprint to the narrowest corridor needed for construction of the trail and stream crossings. Disturbed soil will be revegetated with appropriate native species as soon as possible after construction. Vehicular disturbance will be minimized, to the extent possible, by limiting vehicular activity to the disturbed trail corridor.

WATER QUALITY

- In instances where wetland hydrology will be bisected by the placement of fill, culverts will be placed to accommodate flow and maintain hydrologic connectivity. Mitigation for these impacts would be accomplished through applicable state and federal permitting processes, as well as through guidance from the refuge included in the right-of-way permit.
- During construction, silt fences will be placed and maintained to limit erosion and runoff from the newly graded surfaces that drain directly to the Minnesota River and its tributaries. Wildlife-friendly erosion control and sediment control will be installed as necessary to minimize erosion from disturbed surfaces and capture sediment on site.
- Stabilization of all exposed soil areas will be initiated immediately to limit soil erosion. An undisturbed buffer zone will be maintained during construction. Erosion and silt control measures will remain in place until vegetation has been established along the shoulders and all disturbed areas. Wildlife-friendly bio-logs will also be used for additional perimeter control and will be removed after the site is stabilized as required by permitting agencies.
- Infiltration areas will be constructed to treat storm water runoff in areas that do not require the removal of existing mature trees and the disturbance of well-established vegetated wildlife areas. All necessary erosion control measures to stabilize the site will be fully installed within 7 days after the construction activity in that portion of the site has temporarily or permanently ceased. Best management practices, including vegetation management, maintenance of infiltration areas, and addressing erosion, will

be used post-construction as feasible to maximize the amount of water that can be treated prior to discharge to surface waters.

FLOODPLAINS

In the event of river flooding during construction, all equipment and materials will be removed from the site. Disturbed soils and extra construction materials, such as uninstalled culverts and aggregate material, will be secured.

VISITOR USE AND EXPERIENCE

Trail construction activities will occur during normal daylight hours. Operation of diesel tractors and medium sized trucks would be the main source of construction noise. Noise would be controlled by ensuring standard noise arrestors (mufflers) are properly installed on construction vehicles. Operation of construction equipment will be limited to several weeks at any given location and will occur only during daylight hours. Operation of construction equipment and machinery will adhere to the City of Bloomington's noise ordinance (City of Bloomington Code Sections 10.29 and 10.30). Any noise due to construction and subsequent maintenance of the trail will be temporary in nature.

CULTURAL RESOURCES

Consultations with appropriate cultural resource entities must occur prior to construction. If any unanticipated archaeological resources are encountered during the survey or construction, appropriate measures will be implemented to suspend construction, identify, evaluate the identified materials and, if determined culturally significant, will be subject to preservation or avoidance.

The Regional Historic Preservation Officer will complete a Section 106 National Historic Preservation Act Evaluation Form as right-of-way permit applications are submitted.

REFUGE MANAGEMENT AND OPERATIONS

Land use on the refuge

- The Minnesota Department of Natural Resources will engage in pre-construction and pre-development coordination with utility companies as appropriate.
- Floodplain modeling by the Minnesota Department of Natural Resources suggests that, although fill in the floodplain will be required to complete the project, it will not cause a rise in the 100-year flood elevation. If that condition changes for any reason, the Minnesota Department of Natural Resources will work with Lower Minnesota River Watershed District on a compensatory mitigation plan.

- No land use conflicts are expected. Should any conflicts arise, the Minnesota Department of Natural Resources will coordinate with the refuge regarding mitigation requirements. The proposed action alternative will have no effect on zoning.

Administrative

- Routine maintenance of the state trail will be carried out by the Department of Natural Resources.
- Coordination of enforcement activities will occur between refuge wildlife officers, Minnesota Department of Natural Resources conservation officers, and local authorities.

Appendix E – Intra-Service Section 7 Biological Evaluation

See separate attached document

Appendix F - Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-eared Bat and Activities Excepted from Take Prohibitions Letter

See separate attached document