

Heartland State Trail Extension Park Rapids to Itasca State Park Master Plan



Minnesota Department of Natural Resources
Division of Parks and Trails

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The Minnesota Department of Natural Resources (DNR), Division of Parks and Trails would like to thank all who participated in this master planning process. Many individuals and groups in trail communities have been working for many years to help establish this trail. Local officials and citizens in Park Rapids and Hubbard County played a leading role in the planning process and are active in generating stakeholder support. Planning assistance from the Heartland Spur to Itasca Task Force is greatly appreciated. Many DNR staff, city and county officials, trail association members and local citizens contributed their time and energy to the planning process as well.

This master plan was prepared by:

- Colin Kelly, Principal Planner, DNR Division of Parks and Trails
- Darin Newman, Planning Specialist, Conservation Corps – Minnesota

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Executive Summary

The Heartland State Trail is one of Minnesota's oldest rail trails, extending 49 miles from Park Rapids to Cass Lake. In 2006 the Heartland State Trail Extension from Park Rapids to Moorhead was authorized and a master plan was completed in 2011. This trail, referred to in this plan as the "Heartland Extension," is currently under development. This master plan addresses the Heartland State Trail Extension from Park Rapids to Itasca State Park, identified in this plan as the "Heartland Spur."

Trail Alignment and Development

The Heartland Spur will begin at the Heartland State Trail in Park Rapids and end in Itasca State Park. This trail will be approximately 20-25 miles long when complete. The trail will be located primarily in county and state-owned lands, showcasing the abundant natural and cultural resources of the region. Some preferred trail alternatives follow highway rights-of-way, particularly on the southern half of the trail. Potential trail alignments are discussed in further detail in two segments: Park Rapids to Emmaville and Emmaville to Itasca State Park.

There are opportunities to build on current recreational facilities in the area. The Paul Bunyan and Heartland state trails offer excellent opportunities for a variety of trail users in the area, and are at the core of a regional trail system. Connections from Itasca State Park to La Salle Lake State Recreation Area, Bemidji, and Lake Bemidji State Park should be explored.

Recommended Trail Uses

The Heartland Spur is a multi-use trail and will allow uses currently accommodated on the Heartland State Trail. The trail will have a paved surface to facilitate bicycling, in-line skating, hiking, walking, and other similar uses. Snowmobiling will be allowed where appropriate, though metal traction devices are prohibited. Hunting will be allowed along the trail except where prohibited by local ordinance.

Trail Management

The plan contains recommendations for maintenance, enforcement, and interpretation of natural and cultural resources. Trail maintenance is critical to provide and sustain the quality experience trail users expect and appreciate. The plan recommends that an adequate level of enforcement be provided via a multifaceted approach, to help maintain a safe and secure trail environment. It

is also a goal to encourage trail users to understand and obey trail rules, respect other trail users and respect adjoining properties.

Natural and Cultural Resources

The ecological value of the trail corridor will be enhanced wherever possible through best resource management practices. The vegetation within the trail right-of-way will be managed to provide a healthy diversity of native woodland, wetland, and prairie communities for wildlife habitat and for the enjoyment of trail users and adjoining landowners. Non-native, invasive plant species will be removed, where possible, and native species that are consistent with the Pine Moraines and Outwash Plains Subsection will be planted and managed. Areas disturbed during construction will be seeded with locally-sourced native plants.

Natural and cultural resources will be preserved and managed for ecological and interpretive purposes. Historical sites such as the headwaters of the Mississippi River, Douglas Lodge and Hubbard County Historical Museum will be highlighted through development of this trail. Trail users will have opportunities to experience the history of the Park Rapids Lakes Area through existing and proposed interpretive sites.

Planning Process, Vision and Goals

The Heartland State Trail Extension – Park Rapids to Itasca State Park (Heartland Spur) Master Plan was prepared by the Minnesota Department of Natural Resources (DNR), with assistance from the Heartland Spur to Itasca Task Force. The planning process places an emphasis on public input and makes every effort to incorporate the most reliable, up-to-date resource information. [Figure 1](#) on page 5 illustrates a typical planning process. However, each process has its own combination of partners, advocates, stakeholders and interested parties.

The Minnesota DNR mission and Division of Parks and Trails vision (see sidebar) provide important context to the planning effort.

Planning History, Partnerships, and Public Involvement

The Heartland State Trail was authorized in 1974 as rail trails were gaining momentum. The trail was developed in two stages; the segment from Park Rapids to Walker was constructed in 1976 and the segment from Walker to Cass Lake was developed in 2002. Planning was completed in 2011 for the Heartland Extension from Park Rapids to Moorhead with acquisition and development of some trail segments currently underway.

Hubbard County officials, including the county recreation department, began exploring trail development options between Park Rapids and Itasca State Park in 2011. Support was generated for this idea among local user groups, citizens and trail users. The trail was originally conceived as a regional trail but became a state trail upon support from legislative representatives.

After the Heartland Spur was legislatively authorized in 2012, a group of local constituents began meeting. This group included representatives from Hubbard County, Park Rapids Lakes Area Chamber of Commerce, DNR and trail user groups. Several interested trail users and citizens are also a part of this group, referred to as the Heartland Spur to Itasca Task Force. The task force has focused on analyzing potential trail alignments.

Throughout the planning process, DNR staff collaborated with the task force. DNR staff reached out to the Task Force to gain feedback on trail planning as well as assist in their efforts to analyze potential trail alignments.

One open house meeting was held to provide information on the trail corridor and planning process, solicit input for the master plan and to answer questions. The meeting was held at the Northwoods Bank Community Room in Park Rapids on October 2, 2013. *Include number of attendees and overall summary of comments/concerns.*

Department of Natural Resources Mission

The mission of the Minnesota Department of Natural Resources (DNR) is to work with citizens to conserve and manage the state's natural resources, to provide outdoor recreation opportunities, and to provide for commercial uses of natural resources in a way that creates a sustainable quality of life.

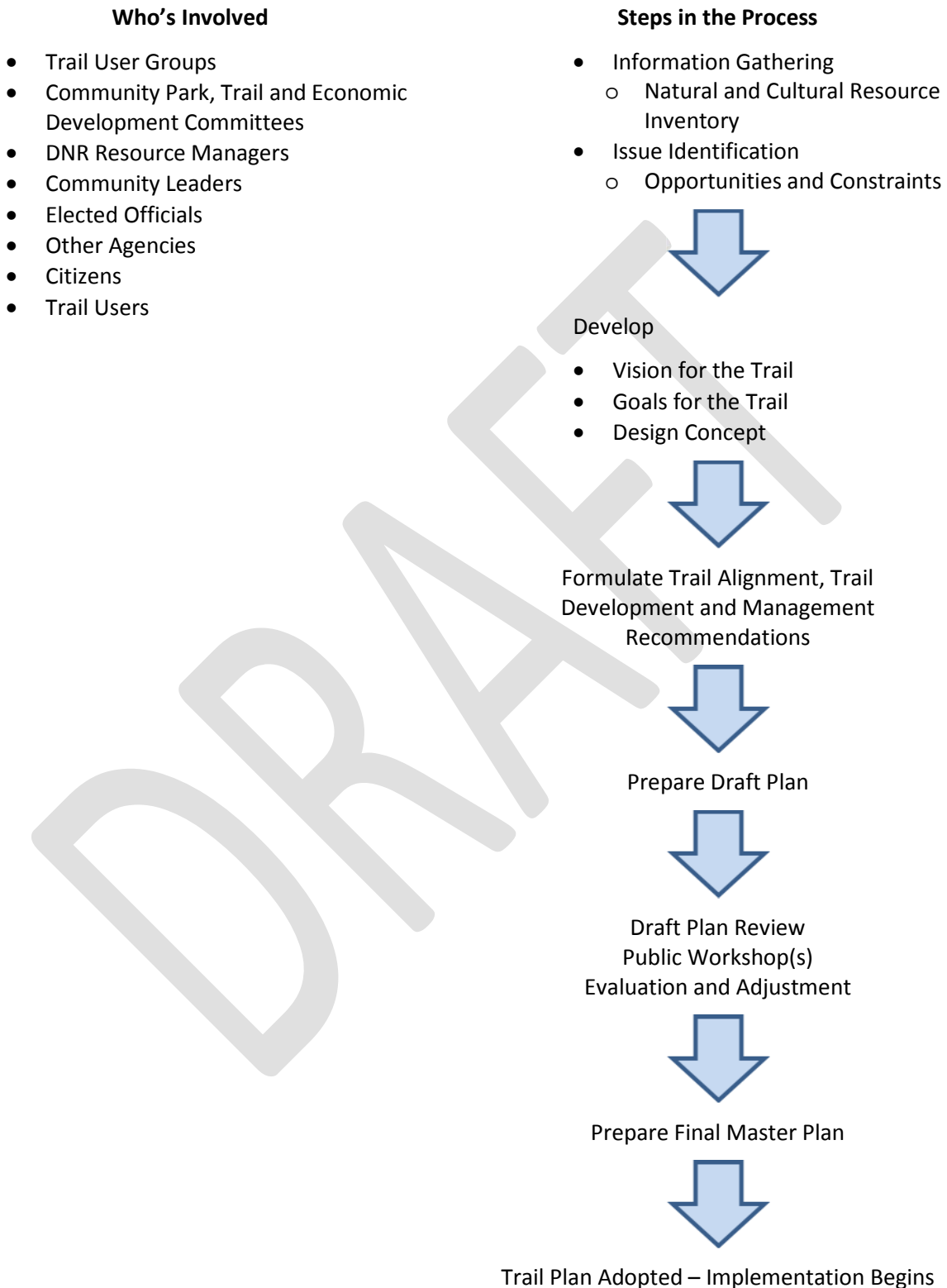
Division of Parks and Trails Vision

Our vision is to create unforgettable park, trail, and water recreation experiences that inspire people to pass along the love for the outdoors to current and future generations.

This open house coincided with release of the draft master plan for public review. The draft plan was available on the DNR website for a 30-day review period beginning on September 25, 2013.

More detailed meeting summaries, including comments received, are provided in Appendix A.

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Figure 1: Trail Planning Process Chart

Legislative Authorization

The Heartland State Trail was authorized by the Minnesota Legislature in 1974, and amended in 2006 and 2012 (Minnesota Statutes, Chapter 85.015). The Legislation is as follows:

Subd. 12. Heartland Trail, Clay, Becker, Hubbard, and Cass Counties.

*(a) The trail shall originate at Moorhead in Clay County and extend in an easterly direction through Detroit Lakes in Becker County to mile post 90.92 at Park Rapids in Hubbard County; thence in an easterly direction along the Burlington Northern Railroad right-of-way through Walker in Cass County; thence in a northerly direction along the Burlington Northern Railroad right-of-way to Cass Lake in Cass County, and there terminate. **A segment shall be established that connects the trail to Itasca State Park.***

(b) The trail shall be developed primarily for riding and hiking.

Outdoor Recreation Act

State trails are one unit of Minnesota's outdoor recreation system established by the Legislature. The Heartland State Trail is one of many legislatively authorized state trails in the Minnesota State Trail System ([see Figure 2](#)). In 1975, the Legislature enacted the Outdoor Recreation Act, ORA (Minnesota Statutes, Chapter 86A.05, Subdivision 4, and Chapter 85.015). This act established an outdoor recreation system classifying all state-managed recreation lands into eleven components or "units". The ORA requires that the managing agency prepare a master plan for the establishment and development of each unit. This master plan fulfills that mandate.

The Heartland Spur satisfies all of the criteria for state trail designation set forth by the Legislature in Minnesota Statutes, Chapter 86A.05, Subdivision 4. These Criteria include:

- a. *A state trail shall be established to provide a recreational travel route which connects units of the outdoor recreation system or the national trail system, provides access to or passage through other areas which have significant scenic, historic, scientific, or recreational qualities or reestablishes or permits travel along an historically prominent travel route or which provides commuter transportation.*
- b. *No unit shall be authorized as a state trail unless its proposed location substantially satisfies the following criteria:*

Figure 2: Authorized and Developed State Trails



1. *permits travel in an appropriate manner along a route which provides at least one of the following recreational opportunities:*

- (i). *travel along a route which connects areas or points of natural, scientific, cultural, and historic interest;*

There is a rich diversity of natural, scientific, cultural, and historical resources along the Heartland Spur trail corridor. The sampling below highlights the variety of resources in the trail corridor.

- Itasca State Park, Minnesota's first state park, including old growth pine forests, headwaters of the Mississippi River, Historic Douglas Lodge, and the 10-mile Wilderness Drive
- Hubbard County Historical Museum located at the historic Hubbard County Courthouse in Park Rapids
- Itasca Wilderness Sanctuary Scientific and Natural Area containing virgin stands of red and white pine and rare bird species, the bald eagle and northern goshawk
- City of Park Rapids including: Nemeth Art Center, All Veterans Memorial, Red Bridge, and Heartland Park
- Hubbard County forest land featuring an extensive trail network
- Many area lakes that contain excellent fisheries

- (ii). *travel through an area which possesses outstanding scenic beauty;*

When completed, the Heartland State Trail will stretch across four ecological subsections: Chippewa Plains, Pine Moraines and Outwash Plains, Hardwood Hills, and the Red River Prairie. This segment, passing through the Pine Moraines and Outwash Plains subsection, will link to Itasca State Park. Itasca State Park, including Itasca Wilderness Sanctuary Scientific and Natural Area, holds rare stands of virgin white and red pine giving trail-users a glimpse of what the Northwoods looked like prior to European-American settlement. The route will pass over forested rolling hills dominated by mixed pine, aspen, and birch. A multitude of lakes and wetlands provide visual breaks from the forested landscape and add opportunities for wildlife viewing.

- (iii). *travel over a route designed to enhance and utilize the unique qualities of a particular manner of travel in harmony with the natural environment;*

This trail segment offers spectacular scenic quality along its relatively short route. The trail will be designed to take advantage of small-scale and localized vistas common around lakes, wetlands, and other openings.

The scale of the trail will match that of the topography, natural features, and developed areas in the trail corridor.

Recommended trail uses will more closely match the pace of historical means of travel than fast-pace highway travel common today.

(iv). travel along a route which is historically significant as a route of migration, commerce, or communication;

The Great Northern Railroad was completed to Park Rapids in 1891, the same year Itasca was designated as Minnesota's first state park. In addition to supporting industry, the rail line brought tourists and fishermen to the area in the summer. Resort owners with teams and buckboards met them at the depot to take them into lake country, including Itasca State Park (Hubbard County Historical Society (HCHS) 1980). The Great Northern Railroad was extended northeast to Cass Lake in 1898 (Prosser 2007). This railroad grade provides the footing for the current Heartland State Trail.

In 1894 a route was cleared from Park Rapids to Bemidji referred to as the "green trail." Although this road was in poor condition it was used extensively until the railroad was extended to Bemidji (HCHS 1980).

In the early 1900's the Red River Logging Company built a private railroad network to deliver lumber to their mill in Akeley. This rail system extended northwest from the Great Northern Railroad towards Itasca State Park and included approximately 50 miles of rail.

(v). travel between units of the state outdoor recreation system or the national trail system; and

This spur of the Heartland State Trail will increase connectivity between a plethora of state and national recreational features. The existing Heartland State Trail runs from Park Rapids to Cass Lake and links to the Paul Bunyan State Trail and the Mi-Gi-Zi Trail. A planned extension to the Heartland State Trail will connect Park Rapids to Moorhead. The Heartland Spur will, at some point, cross the North Country National Scenic Trail as

well as the Lake Country Scenic Byway. After entrance to Itasca State Park, a bike path takes visitors to the headwaters of the Mississippi River, a State Water Trail.

The potential for a connection to La Salle Lake State Recreation Area, Bemidji and Lake Bemidji State Park, while not currently legislatively authorized, should be explored.

2. *utilizes, to the greatest extent possible consistent with the purposes of this subdivision, public lands, rights-of-way, and the like; and*

Public land will be used when trail development is compatible with management objectives of the administering agency. State, county, and township rights-of-way may also be used.

3. *provides maximum potential for the appreciation, conservation, and enjoyment of significant scenic, historical, natural, or cultural qualities of the areas through which the trail may pass; and*

A significant amount of interpretive facilities and resources are already present at Itasca State Park and along the Heartland State Trail. This spur will provide access to those resources and additional facilities will be developed to increase users' understanding of the natural and cultural resources in the area. Native plant community restoration, wildlife habitat improvement, and development of environmental education information are all projects that would benefit trail users.

4. *takes into consideration predicted public demand and future use.*

This plan evaluates and uses current research on existing trail use, demand for trail opportunities, demographic data and recreational trends. Information gathered at public meetings and through other public participation techniques is also considered and incorporated into the plan.

- c. *State trails shall be administered by the commissioners of transportation or natural resources as specified by law in a manner which is consistent with the purposes of this subdivision. State trails established by the commissioner of natural resources shall be managed to provide a travel route through an area with a minimum disturbance of the natural environment and recognizing other multiple land use activities. Trail markers shall be limited to those providing safety information and interpretation.*
- d. *Facilities for the rest and comfort of trail users shall be provided primarily within units of the outdoor recreation system through which the trail passes. When additional facilities are required to insure the rest and comfort of the*

traveler, the managing agency may develop such facilities along the trail and shall designate the facilities as trail waysides. In addition to the foregoing purpose, trail waysides shall be developed for the preservation and interpretation of the trail's natural, historic, or scenic values, and may include facilities for primitive camping, picnicking, sanitation, and parking for access to the trail.

Guiding Principles for Sustainable Trails

Guiding principles for ecologically sustainable trails, developed by DNR, provide the underlying rationale for actions related to protecting, restoring, and managing natural environments associated with trail development. There are seven core principles:

1. Avoid sensitive ecological areas and critical habitats.
2. Develop trails in areas already influenced by human activity.
3. Provide buffers to protect sensitive ecological and hydrologic systems.
4. Use natural infiltration and best practices for stormwater management.
5. Provide ongoing stewardship of the trails and adjoining natural systems.
6. Ensure that trails remain sustainable.
7. Formally decommission and restore unsustainable trail corridors (DNR 2007).

Applications of these principles will minimize the impact of trails on natural resources and sensitive ecological systems. Importantly, the application of these guiding principles has to be balanced with the need to locate trails where they will be of high recreational value to the targeted users, who often want to be close to nature, enjoy beautiful scenes, and observe wildlife. This is an important consideration and underscores the need for resource managers, trail designers, and other interested individuals to work together to determine which values are the most important for any given trail alignment.

Vision and Goals for the Heartland Spur

Vision

The Heartland Spur will be a distinctive addition to the state trail network in the Park Rapids Lakes Area, connecting the Heartland and Paul Bunyan state trails to Minnesota's first state park and the Mississippi River Trail. The trail will enhance opportunities for the appreciation and enjoyment of high-quality landscapes including aspen-birch forests, rare virgin pine forests, and the headwaters of the Mississippi River. This segment will add a recreational amenity to the area, increase tourism, and accentuate the already popular Itasca State Park and Heartland State Trail. Local residents will experience positive health and economic benefits from the trail.

Goals

This vision will be achieved through the following goals for the trail:

- Provide a safe recreational trail linkage between Minnesota's first state park and the city of Park Rapids.
- Design, construct, and maintain the trail in a way that enhances the natural environment and minimizes trail users' impact.
- Connect to Itasca State Park in a way that the trail facilitates travel to and from the park, and serves as a convenient recreational amenity to park visitors.
- Link to the Heartland State Trail in a way that encourages visitors to explore Itasca State Park, Park Rapids, Nevis, Akeley and other Heartland trail towns.
- Attract visitors, promote tourism, and showcase the scenic, historic, and natural assets and amenities of the area.
- Implement an interpretive services plan that facilitates the interpretation of area natural, cultural, and historical resources by the public, local schools, and other user groups.
- Improve the quality of life for local residents of all ages.
- Link to and improve the experience of existing multi-use trail networks in the area.
- Construct the trail according to current Americans with Disabilities Act (ADA) standards so that people of all abilities may access the trail.
- Develop and maintain the trail so that impacts on adjacent landowners are positive.
- Prioritize utilizing public lands for trail development, given advantages in cost, watershed protection, and time required to complete the trail.

Heartland Spur Vision

The Heartland Spur will be a distinctive addition to the state trail network in the Park Rapids Lakes Area, connecting the Heartland and Paul Bunyan state trails to Minnesota's first state park and the Mississippi River Trail. The trail will enhance opportunities for the appreciation and enjoyment of high-quality landscapes including aspen-birch forests, rare virgin pine forests, and the headwaters of the Mississippi River. This segment will add a recreational amenity to the area, increase tourism, and accentuate the already popular Itasca State Park and Heartland State Trail. Local residents will experience positive health and economic benefits from the trail.

Recommended Trail Uses

The Heartland Spur will be a multi-use, multi-seasonal trail. In selected areas where the width of the right-of-way is limited, not all uses will be able to be accommodated. The trail is intended for pedestrian and non-motorized vehicle use only, except for snowmobiles in winter. The trail and its supporting facilities will be universally accessible to the greatest extent possible, as required by the Americans with Disabilities Act. The trail surface will be paved, which is consistent with the Heartland State Trail.

Bicycling

The length of the trail, the quality of landscapes, and the connections to tourist attractions make this trail appropriate for recreational and touring cyclists of all ages and abilities. The trail will add approximately 20 to 25 miles to the state inventory of 560 miles of paved state trails. Bicycling is recommended as a use along the entire length of the trail.

Hiking and Walking

Hiking or walking is second only to bicycling as popular low-impact cardiovascular fitness activities on state trails. Grades are likely to be moderate throughout the majority of the trail route, making it suitable for most people to walk and hike. Hiking and walking are recommended as uses on the entire length of the trail. (The use of electric wheelchairs, electric mobility scooters and similar devices is considered walking.)

Running/Jogging

Many people use the state trails for running and jogging. In addition to individuals who regularly use the trails for exercise, local school track and cross-country teams will be able to use this scenic trail for training purposes. Running and jogging are recommended uses along the entire length of the trail.

Dog Walking

Dog walking will be allowed along the entire length of the trail so long as dogs are leashed and owners properly dispose of pet wastes. State trail rules require all pets to be attended and restrained by a leash of not more than six feet in length.

In-Line Skating/Skate Skiing

While participation rates for in-line skating on state trails have declined, it remains a popular sport. In-line skating requires a paved trail with a smooth, wide surface such as asphalt. In-line skating is recommended as a use along the entire length of the trail.



Snowmobiling

Minnesota has over 21,000 miles of public snowmobile trails, serving over 219,000 registered snowmobiles (2012 figures). Besides the extensive grant-in-aid trail system, snowmobiles can legally ride in the right-of-way of roads unless prohibited by local ordinance and on frozen public waters. Itasca State Park has 31 miles of snowmobile trails that connect to the grant-in-aid system.

Snowmobilers are interested in trail connections, quality of trail grooming, safety, and funding stability for their programs. As urban and suburban development expands, existing grant-in-aid routes may be lost. Snowmobiling is recommended as a use along the entire length of the trail except where restricted by local ordinance or park regulations.

Hunting

State trails allow hunting within the trail right-of-way during the legal hunting season, except where restricted by local ordinance. The current rule states: "No firearm or bow and arrow shall be discharged within the trail at any time, except for the purpose of lawful hunting during the period from September 15 to March 30 only. No rifle, shotgun with slug, or bow and arrow shall be discharged upon, over, or across the trail treadway at any time." Communities may restrict firearms or bow and arrow discharge, or trapping, by ordinance. These ordinances take precedence over state trail rules.

Environmental Education/Interpretation

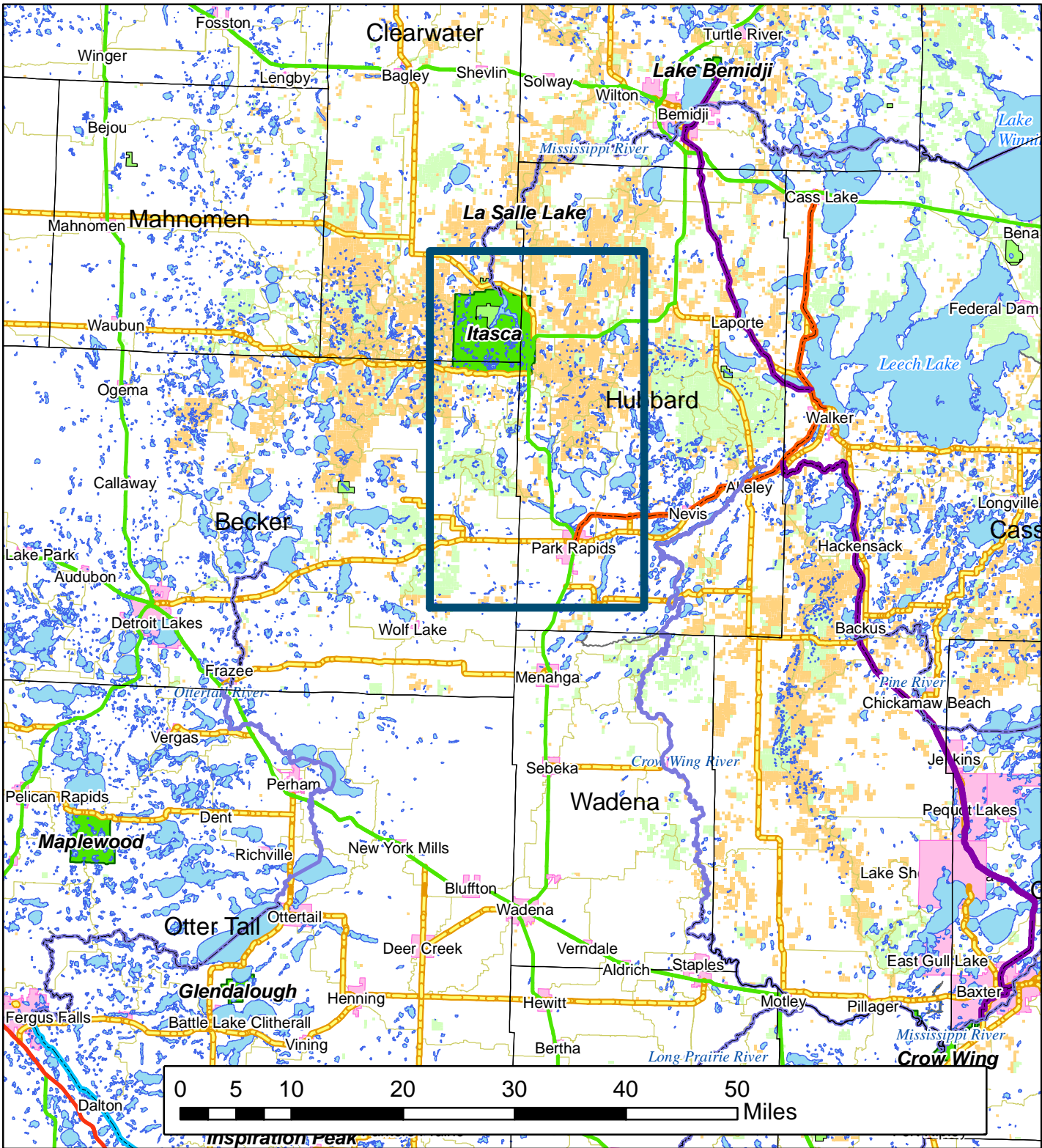
Use of the state trail for environmental education, both for individual trail users and formal groups, is encouraged. Schools or organizations that wish to use a trail can work with DNR staff on specific projects. Interpretive displays on the environment and history of the trail can enhance the trail users' experience.

Accessibility

The trail will be accessible to people with disabilities wherever possible. Grades in excess of 5% may be unavoidable in some locations where the trail must match a parallel transportation corridor or where one of the exceptions in the Federal accessibility guidelines is met.

Fishing Access

Lakes in the Park Rapids Area provide many excellent fishing options for those looking to catch muskie, walleye, northern pike, lake trout and pan fish. Regardless of which trail alignment is developed, the trail will serve as an access point for several of these lakes.



Heartland State Trail Extension

Park Rapids to Itasca State Park

Regional Context

Legend

- Project Area
- Central Lakes State Trail
- Heartland State Trail
- Paul Bunyan State Trail
- Minnesota Water Trails
- Minnesota Snowmobile Trails
- Interstate Trunk Highway
- U.S. Trunk Highway
- MN Trunk Highway
- Lake, Pond or Reservoir
- River or Stream
- State Park
- State Forest
- County Forest
- County Boundaries
- City Boundaries

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Trail Segments and Connections

Trail Alignment Overview

The Heartland Spur will be about 20-25 miles depending which specific alignment is developed. For purposes of planning the spur trail has been divided into two segments. Each of these segments has unique opportunities and constraints to consider when selecting an alignment.

1. Park Rapids to Emmaville
2. Emmaville to Itasca State Park

Information describing each segment includes the following:

- Criteria to be considered when selecting an alignment
- A description of preferred alignments
- A description of the key connections, significant resources, communities and recreational opportunities
- Maps of communities and recreational areas that will be connected to the trail

The trail corridors depicted in maps represent a “search corridor” for potential trail alignments. The routes described in text are potential alignments determined through the planning process. However, any route within the search corridor could be a potential trail alignment.

Some of the preferred routes follow road corridors, particularly in segment 1. The preference is not to have the trail located entirely within these road rights-of-way; rather to find alignments that take trail users off road rights-of-way, providing access to scenic routes that showcase the landscape. To meet this objective, it would be necessary to acquire land from willing sellers, or place a recreation or trail easement over a portion of their property. If landowners are unwilling to consider these options, other alignments – including those in road rights-of-way will be considered.

Segment 1: Park Rapids to Emmaville

Segment 1 will provide a connection from the existing, paved Heartland State Trail to Emmaville. The land surrounding this planned trail segment is more developed and has a higher portion of private lands and agricultural land uses than segment 2. There is a higher concentration of lakes, especially large lakes, in the southern portion of the Heartland Spur. Many lakes in this segment – including Fishhook, Potato and Big Sand – are surrounded by homes, cabins, resorts and campgrounds. People living in or visiting these locations are potential trail users.

Trail Alignment Criteria

- Connect to existing, paved Heartland State Trail, and trail head at Heartland Park
- Find an alignment that minimizes conflicts with vehicular traffic
- Route the alignment away from road and highway rights-of-way and other disturbed landscapes, where feasible
- Minimize impacts to wetlands and lakes
- Route the trail through Emmaville or provide a convenient connection for trail users

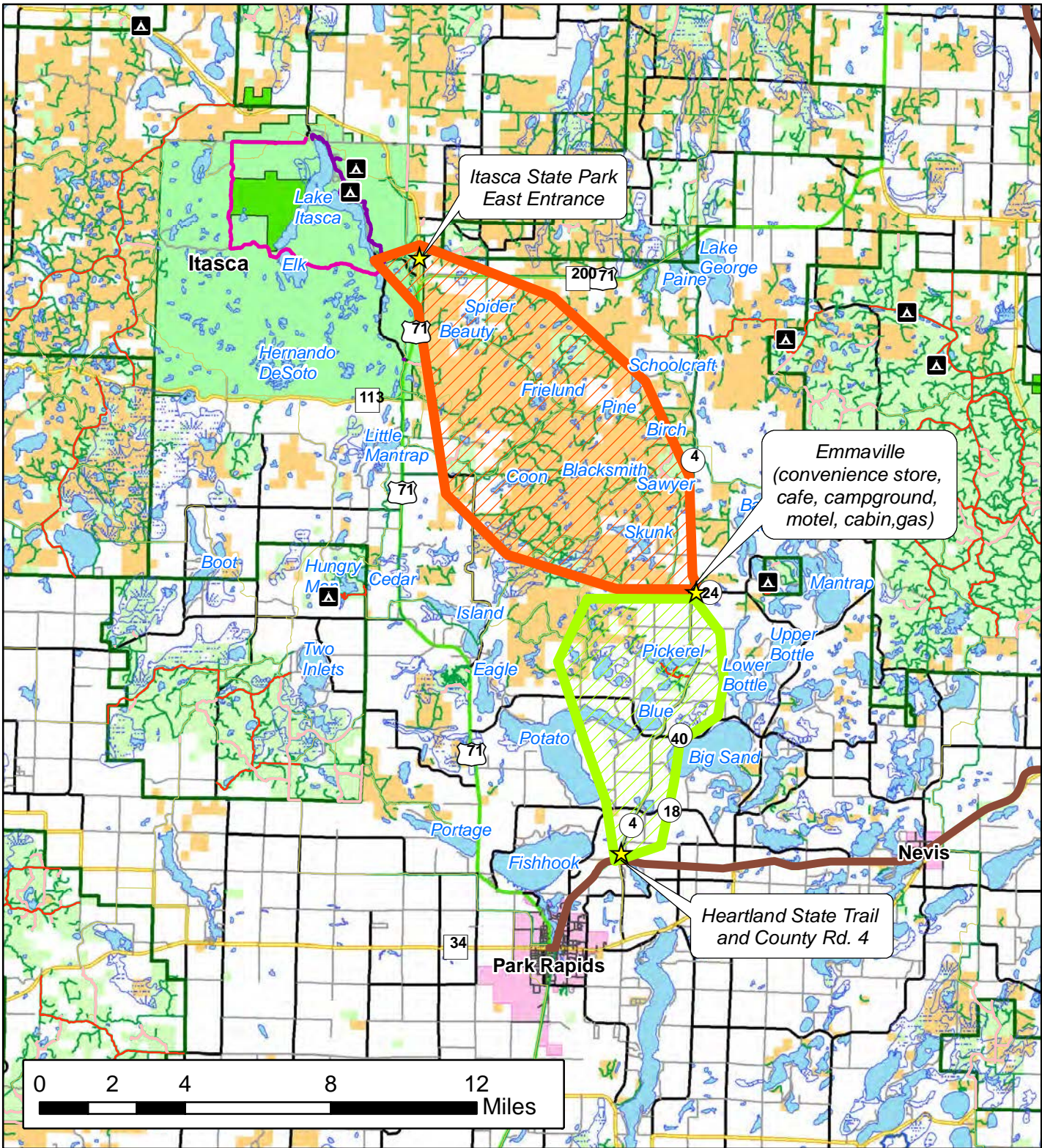
Preferred Trail Alignments

The Heartland Spur will exit Park Rapids to the northeast, following the Heartland State Trail. At some point the Heartland Spur will depart the existing trail and head north toward Emmaville. The most likely location for this is at the intersection with County Highway 4.

A trail following the Highway 4 right-of-way all the way to Emmaville is the first preferred alignment. Highway 4 has a 100' right-of-way south of County Highway 40, and a 75' right-of-way north of 40. This alignment would display an open landscape with more private development and agricultural land.

The second preferred alignment follows Highway 4 north, and turns west along Highway 40. The trail passes in between Potato and Blue lakes. The alignment follows Highway 40 northwest then parallels Holly Road and Horizon Drive north. At this point, the trail will enter Hubbard County Tax Forfeit Land. The trail continues north through county land for several miles. A connection east to Emmaville would be made. This connection could be made by a separate trail corridor off of the Heartland Spur.

A third alternative also follows Highway 4 north, but past Blue Lake. The trail then diverges northwest and enters state forest land between Blue and Pickerel lakes. The route enters county forest land and continues on the route described in alternative two.



Heartland State Trail Extension

Park Rapids to Itasca State Park
Preferred Trail Search Areas

Legend

- Segment 1, Park Rapids to Emmaville
- Segment 2, Emmaville to Itasca SP
- Heartland State Trail (existing)
- Itasca SP - Off-Road, Paved Bike Trail
- Itasca SP - Designated Bike Route (On-Road)
- Minnesota Snowmobile Trails
- Forest Access Routes - Statewide
- U.S. Trunk Highway
- MN Trunk Highway
- County Highway
- Municipal Road
- Township or Other Road
- State Park
- DNR Forestry Administered Land
- Lake, Pond or Reservoir
- River or Stream
- Wetland, Marsh, Swamp, Bog, Slough
- Hubbard County Land
- City Boundaries
- State Park, Forest, or County Campground

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Segment 1 Trail Communities and Connections

Park Rapids

History

Park Rapids is located at the intersection of prairie, forests, lakes, and the Fishhook River. This rich and diverse natural resource base sustained Native American residents for centuries. Beginning in the 1700s, the settlement attracted a succession of fur traders, farmers, loggers, railroad developers, retailers, the tourism industry and other entrepreneurs. The rich soil of the prairie fueled agriculture, while the pine forests attracted the logging industry. The need to get crops and timber to market attracted the railroad, which opened up the area to the expansion of agriculture and settlement. The lakes, fish and wildlife attracted the tourism industry in the early 1900s and it remains a mainstay of the economy today.

Park Rapids, which later became the county seat, was named by Frank Rice on July 4, 1881, for the park-like groves and the rapids in the Fishhook River (HCHS 1980). The first train to Park Rapids arrived in 1891, making a connection to Eagle Bend. The railroad was a vital asset to the early resort owners.

The Community Today

Park Rapids is the Hubbard County seat. The city's population was 3,709 according to the 2010 census. The impressive brick Classical Revival style county courthouse was built in 1900 and is located on the western edge of downtown. Visitors can learn about the county's past at the Hubbard County Historical Museum, located in the courthouse.

Numerous restaurants and lodging facilities are located within town and at nearby resorts. Park Rapids' interesting main street has restaurants, unique shopping, and a hospitable small town ambiance. Recreational opportunities abound and festivals and events are scheduled throughout the year. There are several city parks scattered throughout the city. Heartland Park, the trail head for the existing Heartland State Trail, is maintained by Hubbard County and contains the following amenities: picnic shelters, playground equipment, horseshoe court, basketball court, ballfield, public water access, fishing pier, public swimming beach, parking and restrooms.

The arts are also important in the community. The Nemeth Art Center houses a variety of collections. Performances at the Jaspers Jubilee Theater, Northern Lights Opera and Long Lake Theater are scheduled from June through September.

Park Rapids serves as a gateway to many outdoor recreation experiences, including the existing 49-mile Heartland State Trail; Itasca State Park, located 21

miles north; 400 lakes within 25 miles; water trails for paddling on the Crow Wing, Otter Tail, and Mississippi rivers; the Smoky Hills, Two Inlets, Badoura, Paul Bunyan and Huntersville state forests; the North Country National Scenic Trail; and the Tamarac National Wildlife Refuge.

Park Rapids Trail Alignment

The Heartland Spur will join the Heartland State Trail near Highway 4 on the northeast side of Park Rapids. From there, the Heartland State Trail travels southwest towards downtown Park Rapids. The trail passes through Heartland Park, which currently serves as a trail head, and crosses the Fish Hook River.

Replacement of the Red Bridge and development of trail head facilities in Red Bridge Park is expected to be completed in the spring of 2014 (Erickson 2013). After completion, the trail will be routed across the new bridge, through Red Bridge Park, and west along Beach Road. The existing railroad trestle bridge will be removed due to its weight limitations and dilapidated conditions. Portions of the bridge could be used for interpretive purposes and the abutments could serve as scenic overlooks or fishing platforms.

Emmaville

Emmaville is a small unincorporated village between Park Rapids and Lake George on County Highway 4. It features a gas station, convenience store, motel and café. The area receives significant snowmobile travel in the winter because of the amount of trails in the area. This area could serve as a midpoint between Park Rapids and Itasca and offer summer trail users the same services it provides snowmobilers. Emmaville is located approximately 8 miles from the Heartland State Trail and 12 miles from Itasca State Park.

Mantrap Lake Campground

This public campground is located in the Paul Bunyan State Forest on the southwestern shore of Mantrap Lake. This area has 38 campsites, a picnic area near the lake, and public water access. Mantrap Lake is located 2.5 miles east of Emmaville along County Highway 24. Trail users could use this low volume road to reach the trail in Emmaville from the campground.

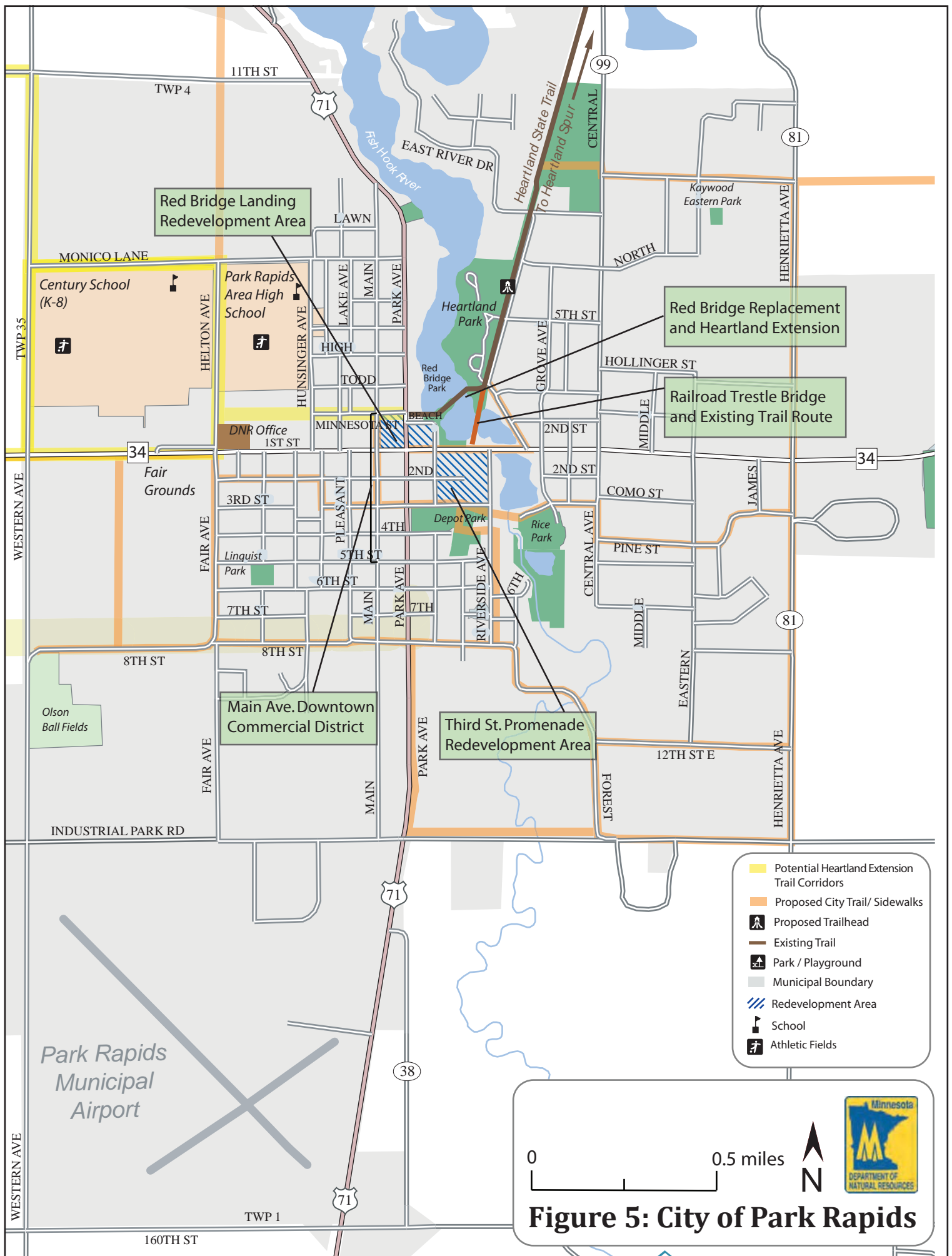


Figure 5: City of Park Rapids

Segment 2: Emmaville to Itasca State Park

This segment is comprised almost entirely of public lands. The majority these public lands are administered by the Hubbard County Natural Resource Management Department while several parcels are part of the Paul Bunyan State Forest. This allows for flexibility when selecting the most appropriate trail alignment. Forest land is managed for timber production, wildlife, and recreation.

The character of segment 2 is different than segment 1 primarily because there are fewer openings in the landscape. The land is almost entirely forested and there are few developments, agricultural areas, and other clearings. The only visual breaks in the forest are created by hydrological features, forest roads, and timber harvest plots. There are few dwellings or other structures in this segment.

A portion of the Forest Riders ATV Trail is located in this segment. The trail utilizes public road rights-of-way as well as state and county forest roads. The trail provides connections to county forest land, Paul Bunyan and Two Inlets State Forest, as well as local communities.

Trail Alignment Criteria

- Utilize public lands to the greatest extent possible
- Minimize impacts to high-quality natural areas, wetlands, and lakes
- Utilize forest roads and other disturbed areas for trail development where possible
- Ensure that the trail does not displace or negatively impact other recreational activities occurring on county forest lands
- Provide a safe crossing of U.S. Highway 71
- Enter Itasca State Park near the east entrance road

Preferred Trail Alignments

The preferred path between Emmaville and Itasca State Park is essentially a straight line, though the trail will be required to meander some to avoid impacting lakes, ponds, wetlands, and high-quality landscapes. Development of segments of this trail could follow portions of the existing forest road network or former railroad grades that were used to haul timber. This grade crosses Highway 4 several miles north of Emmaville and extends northwest towards Itasca State Park. Utilizing these alignments would minimize disturbances of high-quality habitat and landscapes.

Crossings of the North Country National Scenic Trail, Forest Riders ATV Trail, and a pipeline will be located in the northern half of this segment. The preferred

trail alignment will minimize the amount of crossings and interactions with these routes.

The most feasible entrance to Itasca State Park is along the park's eastern boundary between State Highway 200 and the south entrance road. This location is west of Spider and Beauty lakes.

Segment 2 Trail Communities and Connections

Itasca State Park

History

Some 8,000 years ago, Native American hunters pursued wild animals for food in the Itasca State Park region. The Bison Kill Site along Wilderness Drive in the park gives visitors more history about this period, when early people ambushed bison, deer, and moose.

A few thousand years later, a group of people of the Woodland Tradition inhabited this area. They lived in larger, more permanent settlements and made a variety of stone, wood, and bone tools. Burial mounds from this era can be seen today at the Itasca Indian Cemetery.

In 1832, Anishinabe guide Ozawindib, led explorer Henry Rowe Schoolcraft to the source of the Mississippi River at Lake Itasca. It was on this journey that Schoolcraft, with the help of an educated missionary companion, created the name Itasca from the Latin words for "truth" and "head" by linking adjoining syllables: verITAS CAPut, meaning "true head."

In the late 1800s, Jacob V. Brower came to the park region to settle the dispute of the actual location of the Mississippi Headwaters. Brower saw this region being quickly transformed by logging, and was determined to protect some of the pine forests for future generations. It was Brower's tireless efforts to save the remaining pine forest surrounding Lake Itasca that led the state legislature to establish Itasca as a Minnesota State Park on April 20, 1891, by a margin of only one vote (DNR 2013b).

Resources

The landscape region in which the park is located was formed at the leading edge of repeating glacial advances. This northern pine moraine forms ranges of hills containing coarse, gravelly materials and boulders pock-marked with countless kettle lakes, ponds, and bogs. The mighty Mississippi River begins its 2,552-mile journey to the Gulf of Mexico at one of these kettle lakes, Lake Itasca.



View of Clarke Lake and surrounding landscape from the top of the Aiton Heights Fire Tower, southwest of the Jacob V. Brower Visitor Center.

The diversity of vegetation in the park supports many wildlife species. Birding is excellent and visitors are encouraged to help spot and record bird life they observe in the park. Some birds you can expect to see include loons, grebes, cormorants, herons, ducks, owls, hummingbirds, woodpeckers, chickadees, nuthatches, kinglets, vireos, tanagers, finches, and warblers. Trails in the park are shared with deer, chipmunks, and squirrels. Beaver, porcupine, black bears, and wolves also reside in the park (DNR 2013b).

Attractions

Established in 1891 to preserve remnant stands of virgin pine and to protect the basin around the Mississippi's source, this park has become a famous natural and cultural landmark in North America. The unique and diverse resources make this park a destination to over 500,000 visitors each year.

A range of lodging opportunities exists in the park. Traditional camping sites are available along with backpacking sites and group camps. High-amenity alternatives can be found at the Itasca Suites, Douglas Lodge, and a variety of cabins.

Many activities await visitors in addition to outdoor recreation. Gift shops in the visitor center, headwaters center, and Forest Inn carry souvenirs, books, and clothing. Interpretive programming is scheduled throughout the year in addition to permanent displays located throughout the park. Dining is available in the Douglas Lodge and at the Mary Gibbs Mississippi Headwaters Center.

Potential Trail Alignments

The most feasible location for the Heartland Spur to enter Itasca State Park is west of Beauty and Spider lakes, near the junction of U.S. Highway 71 and State

Highway 200. There are many wetlands and old growth forests west of Highway 71. If the trail crossed 71 near the south entrance road, trail development would cause significant impacts to these high-quality resources. Also, improvements to the snowmobile trail that parallels 71 would require substantial cut and fill and wetland modification to meet grade requirements.

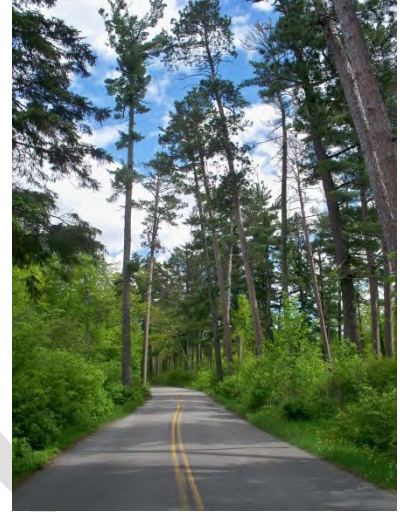
The trail will go north, and cross U.S. Highway 71 near the junction with State Highway 200. Due to the high speed and high volume of traffic on Highway 71, traffic calming devices or other safe crossing infrastructure should be installed. A grade separated crossing of the highway would provide the safest experience for trail users.

At this point the trail will meet an existing snowmobile trail. This trail goes north, across the east entrance road, and curves west towards the visitor center. The trail could be paved to accommodate all trail uses. Trail distance within the park boundary will be about 2 miles.

At the visitor center, the Heartland Spur will connect to existing trail infrastructure within the park. A paved bike trail runs from the visitor center, past the Pine Ridge Campground, to the headwaters. Although bicycling is allowed on park roads, bicyclists will be encouraged to stay on the trails due to high vehicular traffic and safety concerns. Park infrastructure allows bicyclists to reach many significant locations including the Mississippi Headwaters, Douglas Lodge, Preachers Grove, and the Bison Kill Site.

Itasca Wilderness Sanctuary Scientific and Natural Area

Through a 1938 agreement between the Minnesota Academy of Science and the Conservation Commission (precursor to the Department of Natural Resources), the Itasca Wilderness Sanctuary became the first site in Minnesota set aside for research and interpretation of its natural attributes. The Sanctuary, located within Itasca State Park on the west side of Lake Itasca, contains a large virgin stand of white and red pine, mostly 100 to 300 years old. It provides habitat for two of the state's rarer plant species, bog adder's mouth and matricary grape-fern, and two rare bird species, the bald eagle and northern goshawk. The Bohall Wilderness Trail leads to an overlook of Bohall Lake. The best time to visit is when woodland wildflowers are blooming, though a walk through the majestic, towering pines is rewarding any time of the year. Recreational opportunities include: hiking, hunting, photography, snowshoeing, and wildlife viewing.

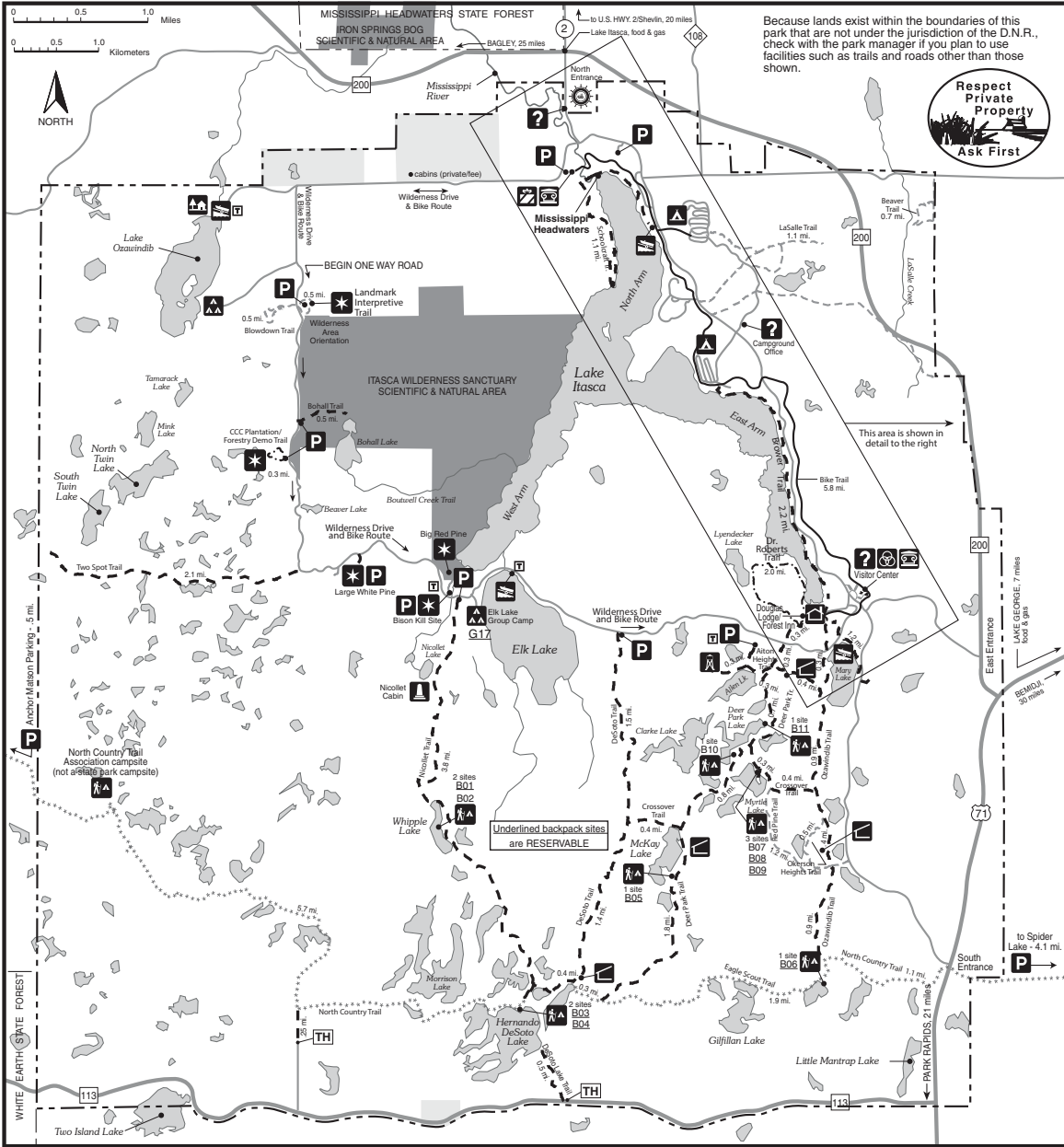


Red and white pines tower over the East Entrance Road to Itasca State Park.

ITASCA
STATE PARK

TRAIL DISTANCES

| | |
|-----------------------|-----------------|
| Aiton Heights | 1.0 mi./1.6 k. |
| Beaver | 0.7 mi./1.1 k. |
| Big Red Pine | 800 feet |
| Big White Pine | 200 feet |
| Bike Trail | 5.8 mi./9.3 k. |
| Bohall | 0.5 mi./0.8 k. |
| Blowdown | 0.5 mi./0.8 k. |
| Brower | 2.2 mi./3.5 k. |
| CCC/Forestry Demo | 0.3 mi./0.5 k. |
| Deer Park | 3.9 mi./6.2 k. |
| DeSoto | 2.9 mi./4.6 k. |
| Dr. Roberts | 2.0 mi./3.2 k. |
| Eagle Scout | 2.6 mi./4.2 k. |
| Headwaters | 600 feet |
| LaSalle | 1.1 mi./1.8 k. |
| Landmark | 0.5 mi./0.8 k. |
| Maadaadizi | 0.5 mi./0.8 k. |
| Mary Lake | 1.2 mi./2.0 k. |
| McKay Lake Crossover | 0.4 mi./0.7 k. |
| Myrtle Lake Crossover | 0.7 mi./1.1 k. |
| Nicollet | 3.8 mi./6.1 k. |
| North Country Trail | 9.4 mi./15.0 k. |
| Ozawindib | 2.8 mi./4.5 k. |
| Okerson Heights | 0.5 mi./0.8 k. |
| Red Pine | 1.2 mi./1.9 k. |
| Sawmill | 0.5 mi./0.8 k. |
| Schoolcraft | 1.1 mi./1.8 k. |
| Two Spot | 2.1 mi./3.4 k. |

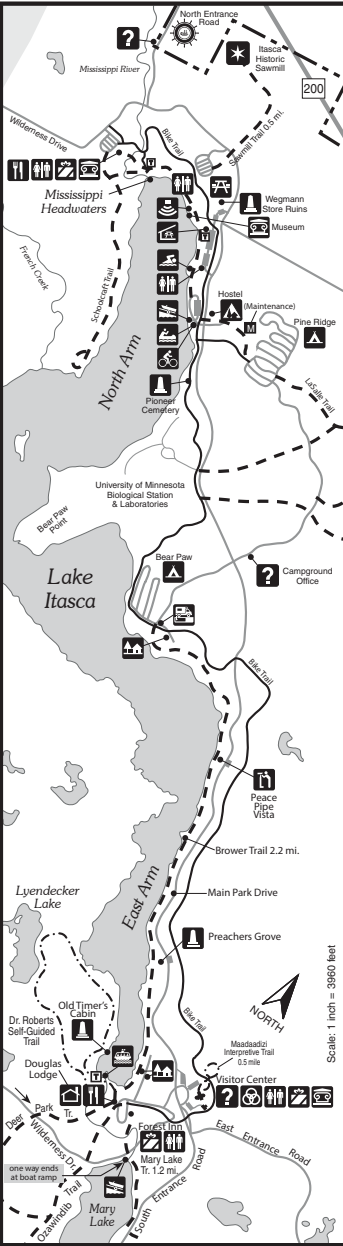


SUMMER TRAILS

- Hiking (maintained)
- Primitive Hiking (occasional tall grass and fallen branches)
- Biking/Hiking
- Interpretive
- North Country Natl. Scenic Tr.
- ☀ Great Riv. Rd. Natl. Route
- TH Trailhead

FACILITIES

- ? Information/Office
- ★ Point of Interest
- ☰ Picnic Area
- ☒ Visitor Center
- 🏊 Swimming
- 🚤 Boat Ramp
- 🚣 Canoe/Boat Rental
- 🚲 Bicycle Rental
- 🏠 Historic Site
- 🏠 Shelter
- 🏠 Overlook
- 🏠 Observation Tower
- 🏠 Lodge
- 🏠 Cabins, Suites
- 🏠 Hostel
- 🎪 Amphitheater
- 🏠 Campground
- 🏠 Group Camp
- 🏠 Backpack Camping
- 🚽 Trailer Sanitation Station
- 🏠 Picnic Shelter
- P Parking
- 🎁 Exhibits
- 🎁 Gift Shop
- 🚤 Tour Boat
- 🚽 Restrooms
- 🚽 Toilet
- Private Property
- Public Use Prohibited



Other Alignments Considered

Throughout the planning process a number of trail alignments were considered by DNR staff and the Heartland Spur to Itasca Task Force including many alternatives not discussed above. While each of the following alternatives have their own merits, and remain possibilities, they are not recommended in this plan.

A potential trail route following U.S. Highway 71, a signed DOT bike route, northwest from downtown Park Rapids was considered, but was dismissed because the high volume of vehicular traffic would make trail use undesirable and potentially unsafe. Additionally, extensive wetland systems several miles northwest of Park Rapids would pose a significant construction constraint. While the signed bike route on Highway 71 provides an opportunity for some cyclists, an off-road trail is necessary to safely accommodate all state trail users.

Another potential trail route was considered that would travel northwest and utilize public lands in Two Inlets State Forest for development. Hungry Man campground presents a possible location for a trail head and rest area. This route is not preferred, however, due to the lower density of public lands west of Highway 71, extensive wetlands northwest of Park Rapids, and the need for the trail to cross Highway 71 twice, creating the potential for unsafe trail user/vehicle interactions. Also, agricultural land uses in this area should not be displaced by trail development.

The possibility of developing a direct route, with no rest stops, to Itasca was also considered. This option would allow flexibility in selecting the most suitable trail alignment and allow for the maximum utilization of public lands. However, a 20-mile trail may be too long for some trail users. A location in the middle of this trail with restrooms, a shelter, and water, or other refreshments is preferred. With a direct route, such a facility would have to be developed and operated publicly. A trail through, or connecting to, Emmaville was determined to be the best option because Emmaville already provides these amenities.

Regional Trail Connections

Trail Planning History

Ever since the Heartland State Trail was first authorized, the trail was planned to fit into a regional recreational system. While the Heartland State Trail was being planned and developed, the North Country Trail was gaining support and was officially designated by Congress in 1980. Additional plans for components of the state recreation system recognize the regional context for this trail.

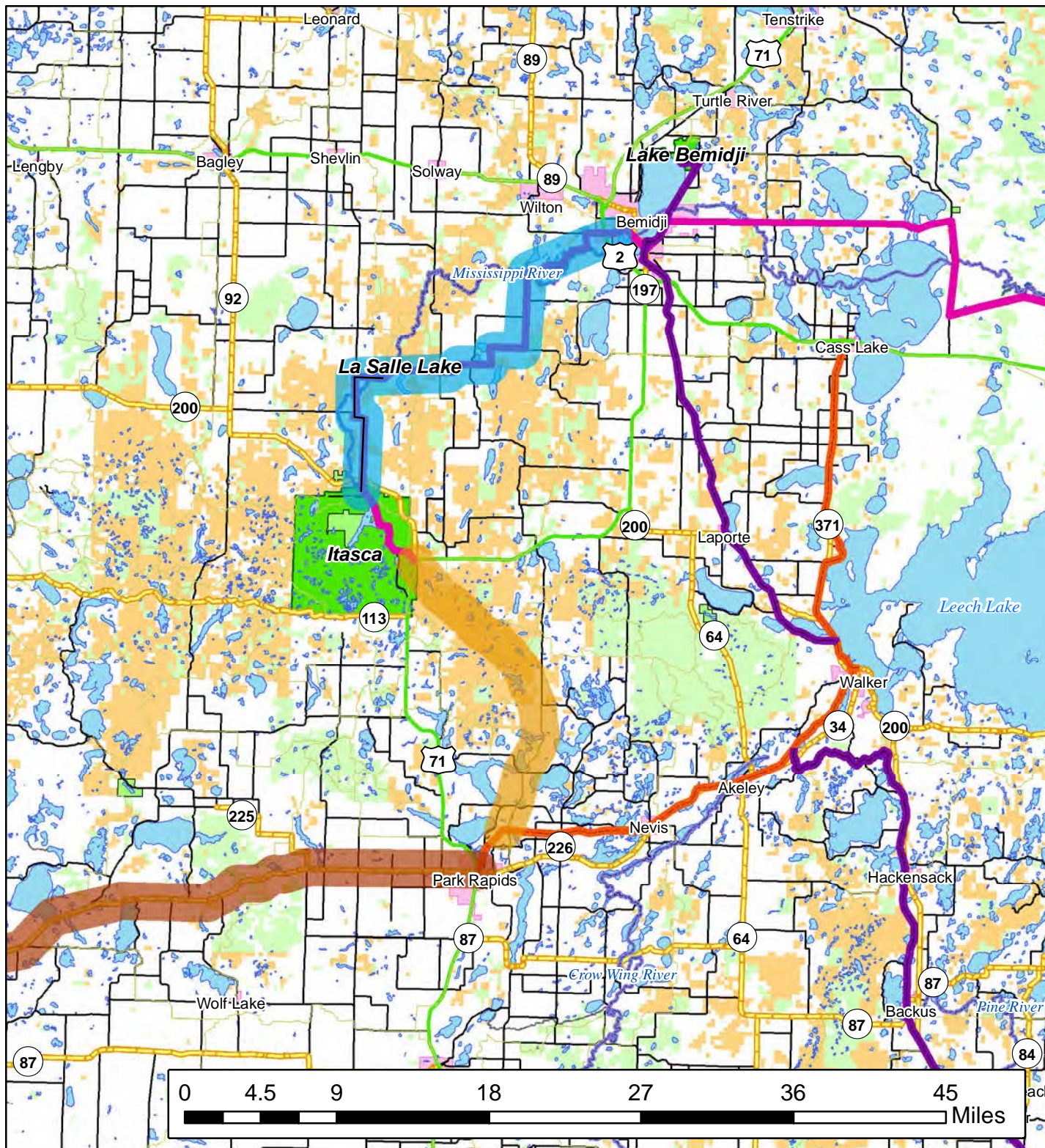
- In 1979, the Minnesota Department of Natural Resources prepared the ***Master Plan for the Heartland Trail***. In addition to addressing resources, development and management for the trail corridor, the plan summarizes the planning of the North Country Trail and a bike trail around Pike Bay in Cass Lake (now known as the Mi-Gi-Zi Trail). The plan also identifies the potential for a 120 mile bicycle loop, including the Heartland Trail and Mi-Gi-Zi Trail, with connections to Itasca State Park and Bemidji.
- The ***Paul Bunyan State Trail Master Plan*** was prepared by the DNR in 1994. The executive summary lays out several major objectives of the master plan including: “To recommend the future connection of other recreational trails or routes to the Paul Bunyan State Trail in order to create a regional bikeway system.” and “To recommend the extension of the trail to connect the trail to two important units of the Outdoor Recreation System – Bemidji State Park to the north and Crow Wing State Park to the south.” Specific connections or routes discussed in the plan include: Highway 71 between Park Rapids and Itasca State Park, the federally and state designated Great River Road, and a bikeway around Lake Bemidji. A map was also included depicting developed, planned and proposed bicycle infrastructure in the region.
- The 1998 ***Itasca State Park Management Plan*** acknowledges future trail connections from the park to the north, as well as south and east along U.S. Highway 71. The plan recommends that these connections be accommodated with existing infrastructure or improvements that have the least impact on natural resources and visitor experience. Recreational resource management goals for the park include: “Provide a range of recreational opportunities for visitors to enjoy the natural environment;” and “Provide visitors with opportunities to attain the experiences and benefits associated with developed areas of the park.”
- The ***Heartland State Trail Extension Park Rapids to Moorhead Master Plan***, from 2011, also recommends a trail connection from Park Rapids to Itasca State Park. Public comments received during the open houses suggested development of a trail connection to Itasca with a connection to Bemidji.
- The close relationship between La Salle Lake and Itasca is identified in the 2013 ***Draft La Salle Lake State Recreation Area Management Plan***. The two units will be operated and maintained by the same staff. Alternatives for an on-road bike loop were presented in the plan. These loops would also serve as a connection between the state recreation area and state park.

- The **Mississippi River Trail** (MRT) was established from St. Louis to the Gulf of Mexico in 1996 and extended to the headwaters in 2003. Mississippi River Trail, Inc. partners with federal and state agencies, and a host of private companies and non-profit organizations. The portion of the route within Minnesota is designated by the Minnesota Department of Transportation and primarily follows low-traffic roads. An alternative path of the MRT follows the Paul Bunyan Trail from Bemidji to Brainerd.

Regional Trail Connection Recommendations

Recommendation 1: Provide connections to La Salle Lake State Recreation Area (SRA), Bemidji, and Lake Bemidji State Park utilizing existing infrastructure including on-road routes and the designated Mississippi River Trail.

Recommendation 2: Explore the feasibility and local support of an off-road trail connection to La Salle Lake SRA, Lake Bemidji State Park and the Paul Bunyan State Trail in Bemidji.



Heartland State Trail Extension

Park Rapids to Itasca State Park

Planned, Proposed Trails

Legend

- Heartland Spur, Planned
- Heartland Extension, Planned
- State or Regional Trail, Proposed
- Heartland State Trail
- Paul Bunyan State Trail (and MRT alt)
- Mississippi River Trail (Bike Route)
- Minnesota Water Trails
- Minnesota Snowmobile Trails
- U.S. Trunk Highway
- MN Trunk Highway
- DOT Roads - County Highways
- State Park
- State Forest
- County Forest
- Lake, Pond or Reservoir
- River or Stream
- City Boundaries

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Trail Management

Projected Trail Use

It is anticipated that the number of trail users on the Heartland Spur will be similar to that of other trails in the region. The segment of the Heartland State Trail from Park Rapids to Cass Lake experienced 74,419 user hours of summer use as surveyed in 2007-2008. Similarly, the Paul Bunyan State Trail, from Baxter to the Heartland Trail junction, had 81,711 user hours (Kelly 2010). A user hour is defined as a trail user spending one hour on the trail.

The total user hours of this trail segment may be lower due to the fact that this segment will be about 25 miles long, compared to 47 and 64 mile long segments for the Heartland and Paul Bunyan trails. However, the intensity of trail use will most likely be higher. This is due to the attractiveness of route and destination, as well as the ability to give over 500,000 annual state park visitors direct access to a state trail.

Kelly (2010) proves that state park visitors also use state trails. On the segment of the Paul Bunyan Trail near Lake Bemidji State Park, 65% of tourist trail users were also visitors to the state park (a tourist user travels over 50 miles to use the trail and/or has lodging away from their permanent home). Explore Minnesota Tourism found that in 2010 Itasca State Park had the highest attendance of attractions in northwest Minnesota (2012).

While development of this state trail will attract more outdoor recreationists to the area, it may also divert users from existing trails in the area. Additional trail connections will make this area a more desirable destination for cyclists and other trail users.

Projected Trail Use

The Heartland Spur will be used more intensely than other trails in the region. This is due to the attractiveness of route and destination, as well as the ability to give over 500,000 annual state park visitors direct access to a state trail.

Kelly (2010) proves that state park visitors also use state trails. On the segment of the Paul Bunyan Trail near Lake Bemidji State Park, 65% of tourist trail users were also visitors to the state park.

Trail Maintenance

Maintenance of the Heartland Spur is critical to provide and sustain the experience trail users appreciate. Maintenance activities are numerous and diverse, as the following list illustrates:

- Monitoring trail conditions, which includes scheduling and documentation of inspections; monitoring the condition of railings, bridges, trail surfaces, and signage; hazard tree inspection; and removal of debris such as downed trees
- Mowing of vegetation: shoulders, rest areas, and parking lots
- Winter grooming and/or plowing, where implemented
- Tree and shrub pruning
- Trash removal

- Trail repair (e.g. fixing washouts and controlling erosion)
- Maintaining bridge surface and railings
- Trail drainage control
- Trail surface maintenance
- Repair of animal damage to trail or facilities
- Checking and repairing fence lines and gates
- Keeping farm crossings clear of brush
- Cleaning out ditches and culverts, replacing failing culverts
- Controlling invasive species
- Graffiti control and vandalism repair, especially to signs
- Maintaining boundary signs, and working to resolve encroachment issues
- Coordination of volunteer efforts
- Sweeping asphalt surfaces

In areas with sensitive natural resources, such as Itasca State Park, Hubbard County Forests, and at any water accesses along the corridor, the Division of Parks and Trails would follow the guidelines established under Operational Order #113, "Invasive Species," in consultation with the Division of Ecological and Water Resources. The guidelines prescribe methods for avoiding the introduction or spread of invasive species, and managing and treating infestations of such species.

Maintenance Recommendations

Recommendation 1: Pursue additional maintenance funds necessary for maintaining the trail after it is developed.

Recommendations 2: Seal coat areas of the trail that are paved approximately six years after initial development. Research shows that this will prolong the life of the trail.

Information and Education

Trail User Orientation

Prospective trail users need good information about the trail system so they can make choices about destinations appropriate for their time frame, skill level, need for services such as food and lodging, links to regional or local trails, and the type of scenery and other recreational opportunities available along the route. This type of information should be displayed on kiosks at parking areas, in communities and at trail junctions. It should be available on maps and on the DNR website. It should include distances between areas of interest, options for other trail connections and locations of services. If any significant deviation from

the typical trail design occurs – e.g., when a trail enters a community – it should be noted on signs or informational kiosks to assist trail users in understanding what the trail experience will be.

Identification of Services

Trail users benefit from knowing where they can obtain services (e.g. medical assistance, telephones, gasoline, food, lodging, restrooms, campgrounds, repair facilities, or other retail) and local businesses benefit from an increase in customers. A listing of the services available in Park Rapids and Emmaville, maintained and updated by each community, could be displayed on information boards at trail access points. A similar display could be used to orient and inform people about services provided at Itasca State Park.

Trail Courtesy and Safety Information

Trail courtesy and safety information aimed at educating trail users about appropriate behavior, promoting safe trail use, and protecting the quality of the trail environment should be developed and posted at trail heads and other key locations.

Interpretation of Natural and Cultural Resources

There are many natural, historical, and cultural resources of significance and interest along the trail. These include varied topography, native vegetation, wildlife habitat, wetlands, rivers, and lakes. In addition, there are many places that tell the history of the region, past and present. Providing information about these resources can add enjoyment to the trail experience.

Interpretive themes for the trail can be based on the interpretive programming currently offered at Itasca State Park. Additional interpretive displays may be identified and added when the trail is constructed or after the trail has been completed.

Information and Education Recommendations

Recommendation 1: Develop an interpretive plan for the trail so that users better understand the trail's unique natural, historical, and cultural features.

Recommendation 2: Develop a kiosk and trail logo design that reflects the interpretive theme(s) for the trail that can be used in Park Rapids, Emmaville, Itasca State Park, and at rest areas along the trail.

Recommendation 3: Provide community services information, trail orientation, trail rules and trail courtesy information on a kiosk at the same time the trail is developed.

Recommendation 4: Coordinate with local school districts to use the trail for environmental education purposes.

Recommendation 5: *Engage local historians after a trail alignment is determined to help identify appropriate sites for education and interpretation.*

Enforcement

Minnesota State Trails are very safe and generate very few complaints. However, adequate enforcement is a vital aspect of maintaining a safe and secure trail environment. User conflicts, unauthorized use of the trail, and trail users leaving the treadway designated for their use are often among the concerns identified during the planning process, and are all likely areas for enforcement.

Enforcement of state trails rules and regulations, information and education, trail design, trail maintenance, and the mix of trail uses are all factors that contribute to the maintenance of a safe, secure trail environment. The DNR has the primary responsibility for law enforcement on DNR-owned and operated recreation areas. Enforcement assistance is also sought from local police departments and county sheriffs, as necessary.

The DNR's goal is to deal with issues as they arise and provide an adequate level of enforcement to maintain a safe and secure trail environment, to encourage trail users to understand and obey trail rules, and respect other trail users and adjoining properties.

Enforcement Recommendations

Recommendation 1: *Provide an adequate level of enforcement via a multifaceted approach to help maintain a safe and secure trail environment, and to encourage trail users to understand and obey trail rules, and respect other trail users and adjoining properties.*

Recommendation 2: *Develop on-site information that targets important trail courtesies and rules necessary for a safe and enjoyable experience, specific to uses of a particular segment and problems and conflicts occurring there.*

Recommendation 3: *Note enforcement-related costs when providing information about trail costs to legislators and local government officials.*

Trail Corridor Resources

Ecological Classification System

The Ecological Classification System is part of a nationwide system for ecological mapping and landscape classification. The ECS classifies regions based on climate, geology, topography, soils, hydrology, and vegetation information.

There are six tiers to the ECS: provinces, sections, subsections, land type associations, land types, and communities. The ECS allows for natural resource managers to better understand the landscape and manage resources in a more sustainable manner.

Minnesota has four ecological provinces: Eastern Broadleaf Forest, Laurentian Mixed Forest, Prairie Parkland and Tallgrass Aspen Parklands. The trail corridor lies entirely within the Laurentian Mixed Forest Province. This province transitions into Eastern Broadleaf Forest midway through Becker County, and then to Prairie Parklands further west.

The area between Park Rapids and Itasca is located in the Minnesota Drift and Lake Plains Section and the Pine Moraines and Outwash Plains Subsection. The northern portions of Itasca State Park and Hubbard County lie in the Chippewa Plains Subsection at the boundary of the Itasca Moraine. To the west, the eastern edge of the Alexandria Moraine is the dividing line. Rainy Lobe ground moraine and end moraines form the eastern boundary of the subsection (DNR 2013a).

Pine Moraines and Outwash Plains Subsection

This subsection is a mix of end moraines, outwash plains, till plains, and drumlin fields. White and red pine dominated the majority of forest communities on end moraines and till plains. Jack pine barrens and jack pine woodlands were found on well-drained sites on outwash plains. Black spruce, tamarack, white cedar, and black ash were prominent tree species in poorly to very poorly drained soils. Lakes are very common on the end moraines and some of the Outwash plains. Current land uses include tourism, forestry, and some agriculture.

The landforms of this subsection consist primarily of large outwash plains, narrow outwash channels, and end moraines. The moraines are relatively large and were formed from portions of several glacial lobes. Most of the glacial drift was sandy, but there is loamy drift to the north.

Thick glacial drift covers bedrock over most of the subsection. Thicknesses range from 200 to over 600 feet with the greatest depths in the southwestern portion. A diversity of Precambrian rock underlies the glacial drift. There are also iron formations at the southeastern edge of the subsection, along with argillite,

siltstone, quartzite, and graywacke. Cretaceous marine shale, sandstone, and variegated shale are localized in the southwest.

The morainic soils are predominantly coarse to moderately coarse in texture (sands and sandy loams), although calcareous loamy soils are present on the Itasca Moraine and the Fosston Till Plain. On outwash plains, excessively drained sands are prevalent, but they are interspersed with numerous wetlands. Over 10% of the soils are organic. The soils are classified as Psamments and Aquents on outwash plains while Boralfs are common on moraines.

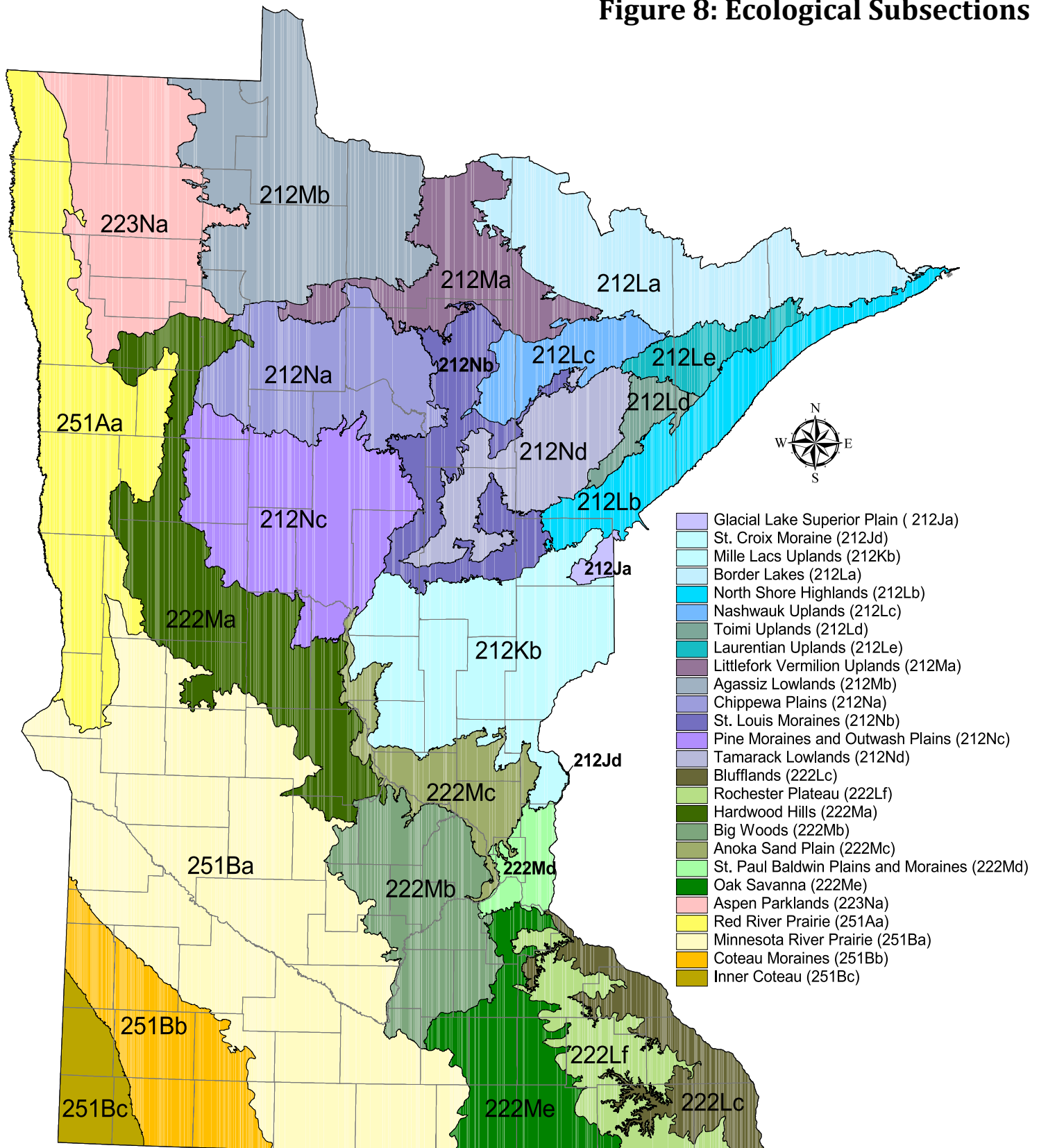
Kettle lakes are common on pitted outwash plains and within stagnation moraines. There are hundreds of lakes within the subsection that have a surface area greater than 160 acres. The headwaters of the Mississippi River (Itasca Lake in Itasca State Park) is in this subsection. Other large rivers flowing through the outwash plains of the subsection include the Pine and Crow Wing rivers (DNR 2013a).

Climate

Northern Minnesota exhibits a continental climate that is influenced by Arctic outbreaks during the winter and warm air from the Gulf of Mexico in the summer. In all seasons Pacific Ocean air masses from the west bring comparatively mild and dry weather. Occasional severe thunderstorms occur in the summer months while the frequency of tornadoes and drought is not as common as areas of Minnesota to the south and west.

The trail corridor receives between 26 and 27 inches of precipitation annually, on average, with almost half of that falling in the summer months. Winter snowfall totals are between 52 and 56 inches on average. The growing season length varies from 111 to 131 days in the area.

Figure 8: Ecological Subsections



Water Resources and Fisheries

The variety of water resources along the Heartland Spur, including the headwaters of the Mississippi, will be highlights of this trail. Many lakes, wetlands, rivers and trout streams are located along the trail corridor, as evident in [Figure 9: Water Resources](#). These water resources are scenic amenities, educational resources, historical resources, and recreational opportunities for trail users seeking fishing, canoeing, kayaking, boating, and swimming opportunities.

While these water features create opportunities for the trail, they also present constraints to trail development. Crossing bodies of water should be avoided due to high construction costs of bridges or other structures. When locating the trail alignment, wetlands must first be avoided, then the impact minimized and mitigated. In addition to increasing the costs of development, disruption of water resources can also lengthen the implementation process.

Mississippi River Watershed

This watershed lies north of the Itasca moraine with lakes and streams mostly bordered by forested swamps and other wetland types such as shrub swamps and sedge covered marshes. The topography is mostly gently rolling to rolling. Extreme slopes can be found around the LaSalle lakes and isolated areas around Beauty Lake. Approximately 40% of the land area is privately owned. There are about 10,000 acres of open water in this watershed.

Higher residential growth is occurring here as a bedroom community to the city of Bemidji. Only 5%-6% of the land area is cultivated. Locations within in this watershed include: Bemidji, Becida, Farris, Lake George, La Salle Lake SRA, and most of Itasca State Park.

From the headwaters, the Mississippi meanders through wetlands, coniferous swamp forests, and aspen birch stands. Due to the extent of wetlands in the upper reaches of the river, the shoreline is lightly developed for the first 50 river miles. As the river nears Bemidji the banks become more defined, and more development is apparent. The Mississippi drops an average of four feet per mile on the upper segment from the headwaters to Cass Lake. The entire length of the Mississippi River in Minnesota is designated as a state water trail.

Leech Lake Watershed

This watershed contains some of the steepest slopes along the trail corridor. These slopes are most evident in the western portion of the watershed known as the Gulch Lakes. These slopes consist mostly of till soils and are on the south slope of the Itasca moraine. The remainder of the watershed has gently rolling slopes with some bluffs and wetlands adjacent to lakes and streams.

This area has some development also, but not to the current extent of the other two watersheds. Land use is primarily forestry, under public or private ownership. There is a significant amount of lakeshore development and only 5%-6% of the land area is under cultivation. Communities within this watershed are: Guthrie, Kabekona, Laporte, and part of Akeley.

Crow Wing Watershed

This watershed encompasses the southern third of Hubbard County and contains the highest concentration of lakes and the largest population. Lakes are generally surrounded by extremely sandy soils. There is one large bog area in the southeast portion known as the Badoura area. Areas of interest within this watershed are: Dorset, Emmaville, Hubbard, Nevis, Park Rapids, Osage, part of Akeley, and the southern edge of Itasca State Park.

About 20% of the land in this watershed is cultivated and center pivot irrigation comprises most of that acreage. Crops grown under irrigation are predominantly potatoes, corn, dry edible beans, and small areas of alfalfa. The area consists of the flatter outwash sands on the south side of the Itasca moraine.

The Crow Wing River begins as it flows through the Crow Wing chain of lakes. This chain includes 11 lakes stretching from Akeley over 15 miles southwest, just before its confluence with the Shell River. Many other lakes in the Park Rapids area, including Long, Fish Hook, Potato, Island, and Mantrap, drain into the Crow Wing River. The river drops an average of about half a foot per mile from its beginning to its entrance to the Mississippi at Crow Wing State Park. The Crow Wing River is also a state water trail.

Lakes

Lakes are abundant in this area due to the glacial activities. Kettle lakes are common on pitted outwash plains and end moraines. There are hundreds of lakes in the area that are over 160 acres and a multitude of smaller lakes. These lakes offer excellent fishing options and are great places for summer recreation. The lakes are a primary reason why this area is such a popular summer destination.

Fish Hook Lake is located just north of Park Rapids with a surface area of 1,642 acres and a maximum depth of 76 feet. There are county-owned public accesses located on the southwest shore of the lake and on the Fish Hook River south of the lake in Heartland Park. Fish Hook is a popular lake and receives a fair amount of fishing and recreational activity year around. Fish Hook is an excellent fishing lake and is known as one of the best "multi-species" lakes in the area, providing good fishing opportunities for walleye, northern pike, largemouth bass, and panfish. Fish Hook has good water quality, bottom

substrate, and aquatic vegetation that provides excellent habitat for a variety of gamefish species.

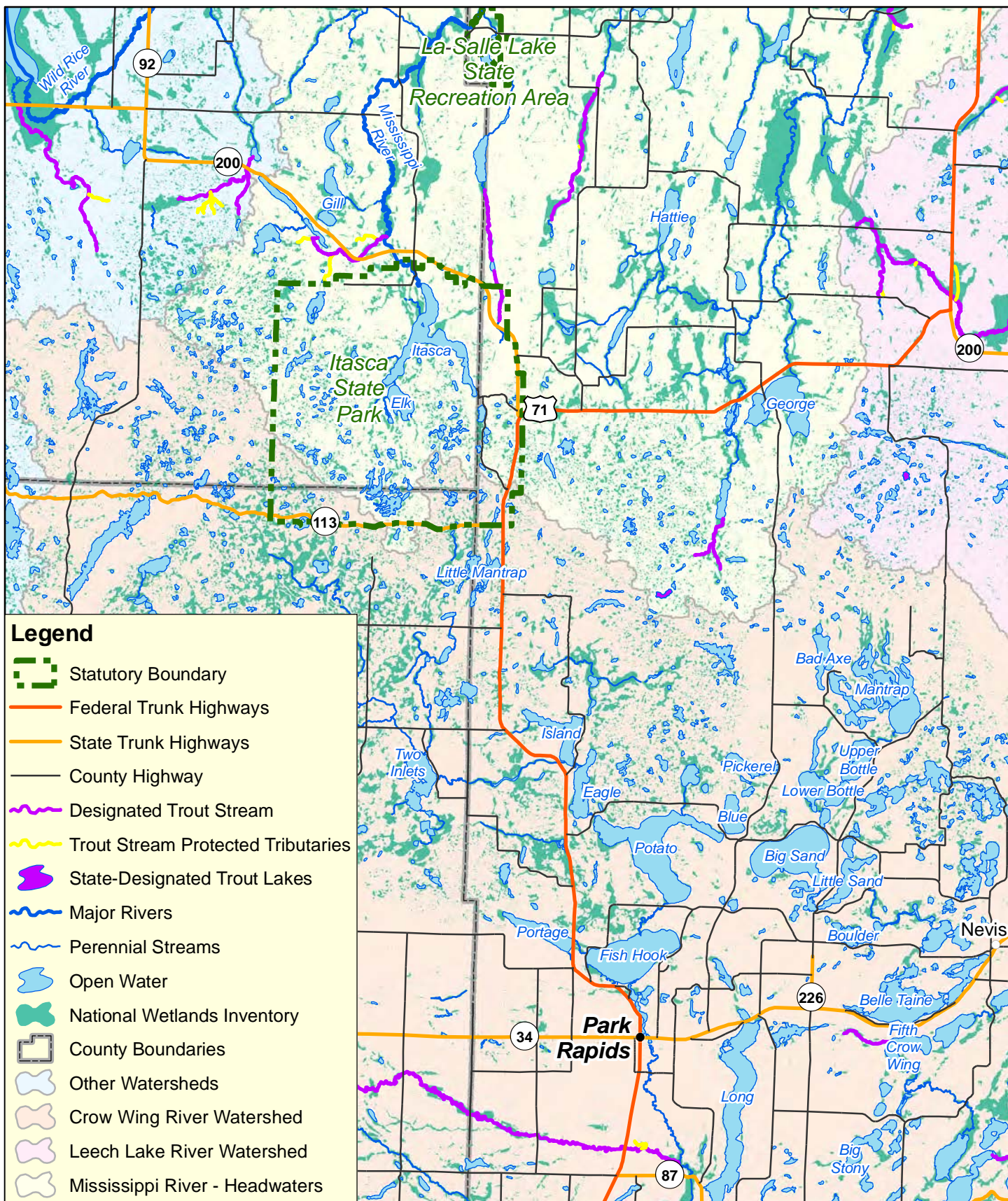
Potato Lake is located seven miles north of Park Rapids with a surface area of 2,100 acres and a maximum depth of 95 feet. A state-owned public access is located on the north shore and a county-owned access is located on the west arm of the lake. Boating access with small craft is also available from the river connecting to Eagle Lake. There is a fixed crest dam at the outlet that prevents boat travel downstream. The fixed crest dam was installed in 2004 and the design allows for fish passage. Potato Lake is a very popular fishing lake in the Park Rapids area. Potato Lake is well known for its walleye population, but also provides angling opportunities for northern pike, smallmouth bass, and panfish.

Big Sand Lake is located 2.5 miles north of Dorset in Hubbard County. Big Sand has a surface area of 1,635 acres and a maximum depth of 135 feet. Big Sand is noted for its outstanding walleye fishery. Big Sand has exceptional water clarity and lots of structure to challenge anglers. Public boat access is located on the southeast shore of the lake at the outlet. Access with small boats is also available from the inlet connecting to Lake Emma and from the outlet connecting to Lake Ida.

Seven miles northeast of Park Rapids, Blue Lake has a surface area of 324 acres. There is a state-owned public access with a concrete ramp located on the northwest shore of the lake. Blue Lake is known for its exceptional water clarity and sandy shorelines. Blue Lake has a good walleye population and gives anglers a chance at a trophy fish. A bonus rainbow trout population is also present in Blue Lake.

Pickereel Lake is a relatively shallow lake with a surface area of 310 acres and a maximum depth of 26.0 feet. It is located two miles south of Emmaville. There is a state-owned public access located on the south shore of the east basin. Pickereel provides angling opportunities for northern pike, panfish, largemouth bass, and walleye.

Skunk Lake is located in central Hubbard County northwest of Emmaville. It is bounded primarily by private property but has a small amount of publically owned shoreline. The lake has a surface area of 198 acres and a depth of 55 feet. There is no developed public access on the lake. Northern pike, panfish, and largemouth bass are present in the lake.



Heartland State Trail Extension Park Rapids to Itasca State Park

DRAFT

Figure 9: Water Resources

0 2 4 8 Miles



Lake Itasca is a scenic 1,077-acre lake located entirely within Itasca State Park in southern Clearwater County. There is a public access located on the northeast shore of the lake with a concrete boat ramp, parking for trucks and trailers, a bait shop, and boat rental. Itasca is a popular fishing lake that provides consistent fishing for panfish, walleye, northern pike, and largemouth bass.

In addition to these large lakes, many small lakes exist along the trail corridor. Some of these lakes have public water access while others are bounded entirely by private land. Regardless of which trail alignment is developed, the trail will pass by many of these small lakes and several large lakes. In these instances, the trail may serve as an access point for shorefishing. Currently, many of these small lakes are only accessible by a cross-country hike; development of the trail may increase accessibility to some of these lakes.

Wetlands

The same glacial activity that left an abundance of lakes in this area is responsible for the number of wetlands. There are a variety of types of wetlands in this area including: aquatic bed, emergent vegetation, forested, and scrub forest according to the National Wetlands Inventory, Cowardin Classification. While some of these wetlands exist individually, most are part of extensive hydrological systems including lakes, streams, and other wetlands. The extent of wetlands will pose a significant challenge to finding a trail alignment.



Bohall Lake is nestled within pine forests and surrounded by wetlands in Itasca Wilderness Sanctuary Scientific and Natural Area.

It is important to note that the available wetlands inventories are not necessarily complete or up-to-date. All wetlands must be delineated in the field

prior to any development. Generally speaking, development should avoid wetlands if possible, and if this cannot be achieved, mitigation measures must be performed.

Water Resource Recommendations

Recommendation 1: *Seek development of a trail alignment that avoids disturbing hydrological features.*

Recommendation 2: *Minimize trail development and maintenance impacts to adjacent water features through the use of mulching, geo-textiles, silt screens, and other Best Management Practices.*

Recommendation 3: *Increase access to lakes along the trail, where appropriate, for the purposes of fishing, wildlife viewing, and scenic interest.*

Vegetation

Presettlement Vegetation

Presettlement vegetation in the vicinity of the trail corridor is based on the Public Land Survey records from 1861-1879, as interpreted by Francis J. Marschner. He characterized the majority of the area as either Jack Pine Barrens and Openings or Aspen-Birch (Trending to Conifers). Also present in the region were sections of Mixed White Pine and Red Pine and Conifer Bogs and Swamps.

Jack pine, in a mix with northern pin oak, was the most common species on excessively drained portions of broad outwash plains. Large areas of other landforms were dominated by aspen-birch and pine forests. Fire occurred on a 10 to 40 year rotation within much of the subsection, accounting for the dominance by upland conifers and quaking aspen-birch forests (Frissel 1973). Mixed red and white pine forests occupied the rolling to irregularly sloped end moraines. Mixed hardwoods and pine forests, dominated by a diverse mix of northern hardwoods and white pine, were found in the most fire-protected areas found in the northern and eastern edges of the Pine Moraines and Outwash Plains Subsection. Fire protection was offered by irregular topography, broad wetlands and relatively large lakes.

In addition, Marschner denoted several small areas near Emmaville as Brush Prairies and two sections of Wet Prairie northwest of Park Rapids.

Present Day Vegetation

Trail users will see a landscape that is vastly different from what surveyors found when completing the original public land survey. While pockets of high-quality vegetation remain, logging, transportation systems, agriculture, and development have altered a majority of the landscape. The area is much more open as forests have been cut and converted to serve other purposes. Even

remaining forests have had their composition changed through extensive logging activities.

Commercial forestry and tourism are the most abundant land uses in the area. Agriculture is common south and west of Park Rapids, where center pivot irrigation of corn and potatoes is common. Tourism is common where there are concentrations of lakes. The summer population of the area is significantly higher due to the number of seasonal residents and tourists.



Viewshed across a small pond and surrounding wetlands, located at the intersection of Coon Lake and Spider Lake forest roads, with a beaver den located on the far shoreline. This type of opening with surrounding vegetation is typical throughout Hubbard County forest land.

Approximately 60% of Hubbard County is forested, with a significant portion of that under public ownership. The Department of Natural Resource Management in Hubbard County manages about 137,500 acres of tax-forfeited land with approximately 128,000 acres of that as commercial forestland. A large area of this land is located in the west-central portion of the county, bounded by State Highway 71 to the west and north, County Highway 4 to the east and County 40 to the south. This large area of land meets Itasca State Park along the park's south-eastern boundary.

The majority of this forest land is dominated by aspen with areas of birch, jack pine, and red pine mixed in. About 50 percent of TFL forest land is currently in the thinning or transition phase, with average tree ages between 40 and 80 years old. Jack pine is the second most abundant species after aspen. Red and white pine are substantially absent as compared to pre-settlement conditions.

Areas that were historically pine forests are currently being displaced by aspen (Klaers et al. 2002).

Vegetation Management Recommendations

Recommendation 1: *Consult management goals from Hubbard County Department of Natural Resource Management, Itasca State Park, and Paul Bunyan State Forest to determine management strategies along trail corridor.*

Recommendation 2: *Minimize impacts to native plant communities and natural features.*

Recommendation 3: *Restore and manage native plant communities that are landscape and site appropriate, according to ecological principles.*

Recommendation 4: *Control the spread of invasive species; trail corridors are especially vulnerable through maintenance operations such as mowing and the island effect from adjoining parcels of land.*

Wildlife

Wildlife near the search corridor is typical of the Laurentian Mixed Forest Province. White-tailed deer, beaver, black bear, timber wolf, and many small mammals are common. Excellent birding can be found here as approximately 250 species can be spotted throughout the year.

Featured wildlife include: bald eagles, red-shouldered hawks, gray wolves, sharp-tailed grouse, sandhill cranes, upland sandpipers, common terns, yellow rails, red-necked grebes, trumpeter swans, common loons, least darters, and eastern hognose snakes.

Species in Greatest Conservation Need

Species in Greatest Conservation Need (SGCN) have been identified for each ecological subsection in Minnesota. These species meet one or more of the following criteria:

- Species whose populations are identified as being rare, declining or vulnerable in Minnesota
- Species at risk because they depend on rare, declining or vulnerable habitats
- Species subject to other specific threats that make them vulnerable, such as: over-exploitation, invasive species, or disease
- Species with certain characteristics that make them vulnerable, such as species that: require multiple habitats, depend on large patch sizes, or depend on an ecological process that no longer operates
- Species whose Minnesota populations are stable, but are declining in a substantial part of their range elsewhere

Eighty-nine species in Greatest Conservation Need are known or predicted to occur within the Pine Moraines and Outwash Plains ecological subsection. Included are 29 species that are federal or state endangered, threatened or of special concern. Sixty-one of these species are birds, representing 63% of the bird species in the state considered as SGCN (DNR 2006).

This area is an important transition zone valuable for wildlife because of the interspersed lakes and wetlands. This is one of the most important areas in the state for red-shouldered hawks. Areas near the trail corridor that are important for SGCN are Itasca State Park, Two Inlets State Forest, and several WMAs.

The most significant concerns for SGCN in this subsection are habitat loss and degradation. These are common concerns for over 80% of species. Four key habitats in the area include: forest-upland coniferous (red-white pine), shrub/woodland-upland (jack pine woodland), wetland-nonforest, and river-headwater to large. This heightens the significance of protecting and restoring high-quality habitat along the trail corridor.

Threatened, Endangered or Special Concern Species

The Minnesota Natural Heritage Information database was used to identify animal and plant species that are threatened, endangered, or of special concern within the vicinity of the proposed trail corridor. These species are listed in [Appendix B](#). These species are protected by state law, and protecting their habitat must be considered during trail planning, development, and maintenance. Terrestrial plant communities and animal assemblages of concern, which should be considered but have no legal status, are also listed in Appendix B.

Wildlife Management Recommendations

Recommendation 1: *Avoid threatened, endangered, and special concern species. Data from the Natural Heritage database was used to assess the location of threatened, endangered, and special concern species. Parks and Trails Division staff will keep current with this data and perform on-the-ground surveys when an exact alignment is proposed.*

Recommendation 2: *Minimize disturbances to habitats that support Species of Greatest Conservation Need. Restore key habitats for SGCN along trail corridor. Restoration of these habitats is consistent with the management goals of Hubbard County Natural Resources Department, Paul Bunyan State Forest, and nearby WMAs.*

Historical and Cultural Resources

Native American History

The first humans arrived in this area at least 8000 years ago. Early people in the region were composed of small migrant groups that covered a large range. They were forced to migrate to follow seasonal bison herds whereas their counterparts to the south and east had a reliable population of white-tailed deer and other animals year-round (Thoma 1969). At this time savannas and prairies were more widespread and prairie systems were found at the present day location of Itasca State Park (Shay 1971).

The woodland tradition began to emerge here around 1000 BC, as evidenced by earthen mounds in Itasca State Park. Mounds were often burial locations, included pottery and other tools, and were low and round in shape. Effigy mounds common in the lower Mississippi River valley have not been found here. Woodland populations lived in larger more permanent settlements. They developed types of stone, wood, and bone tools; and made various pottery for cooking and storage. Around this time, the bow and arrow was introduced to the area reducing reliance on the seasonal bison population (Thoma 1969).

Nearly all of Minnesota was inhabited by the Dakota at the time European explorers first arrived in this area (Blegen 1975). However, as white men began settling farther west, there was pressure on Native Americans to move west also. The Ojibwe forced the Dakota off this territory to the prairies south and west in a series of wars in the eighteenth century. The Ojibwe had a great advantage over the Dakota because they had already acquired firearms through the fur trade (Shay 1971).

The Ojibwe, in the nineteenth century, lived off hunting, fishing and plant collecting. Principal plants of the Ojibwe included wild rice, maples for sap, bulrush, prairie turnip, serviceberry, hawthorn, and many other berries and forbs. Populations of bison were depleted by the nineteenth century leaving white-tailed deer as the primary game animal, although the majority of native mammals were exploited. Hunting groups of 15-20 would frequently go on hunting expeditions in the fall and winter (Shay 1971).

Although the disagreements and wars among Native Americans and settlers are well known, friendly relations often existed. The following story details the experience of an early settler when he borrowed a canoe from Native Americans to go fishing on Fishhook Lake. "When crossing the lake a sudden squall capsized the canoe. The Indians met the emergency by putting out in canoes and a squaw towed him ashore with a shawl as he rode astride the overturned canoe. Once ashore, the Indians built a fire in a tepee to dry his

Bison Kill Site: Evidence of Early Human Habitation in Itasca State Park

"At a campsite in Itasca State Park dated to about 6000 BC, archeologists found stone tools and the bones of bison that had been scarred in butchering. This species of bison, now extinct, was much larger than the modern bison or buffalo. It is likely that the hunters drove the animal into a swamp and then speared it as it struggled in the muck. Archaeologists also found at this site the skeleton of a domestic dog, the first evidence in Minnesota." (Risjord 2005)

clothes and Frank gave them what silver he had in his pocket for which they seemed deeply grateful” (HCHS 1980).

European Settlement

Fur traders were the first white men to reach this region in the late 1600’s or early 1700’s (Risjord 2005). The traders camped and bought furs from the Indians while struggling to compete with others trying to gain a monopoly on the trade in the area. The traders knew this area by the French name, Lac la Biche, which means Elks Lake. At the time it was unknown to them that this was the source of the Mississippi river.

Trading posts were established at Leech Lake and White Earth and a government road was cleared between the two. This route went south of Elbow, Fishhook, and Portage Lakes and extended northwest to White Earth. This was the only road passable by wagon until a road to Verndale was created by early settlers.

Development around Park Rapids was slow prior to the arrival of the railroad. Settlers who need to replenish supplies had to make a 50 mile trek by foot or team and wagon to the nearest railroad depot in Verndale. The Great Northern Railroad was extended to Park Rapids in 1891. The arrival of the railroad was a boon to industry allowing quick transport of wheat, lumber, supplies, and settlers. In addition, the railroad brought tourists and fishermen to lakes in the area.

The logging industry also drove development in the Park Rapids area. T.B. Walker, a major landowner from Minneapolis, started the Red River Logging Company in northwest Minnesota. He partnered with fellow lumbermen Akeley and Pillsbury to start a mill in Akeley, where the Great Northern Railway would soon be constructed. The company employed up to 800 men year round and the population of Akeley grew to 2,700 by 1912 (King 2003).

The Red River Logging Company cleared forests throughout Hubbard County and the area around Itasca State Park. The company built a private railroad network to transport logs to the mill in Akeley. This included a spur from a point on the GNR three miles west of Solway, south to Mallard Lake. A network of lines totaling over 50 miles extended northwest from Akeley to a point within miles of Itasca State Park (Prosser 2007).

Early settlers to Park Rapids considered wheat the only crop worthy of planting and they often did not even keep gardens. Wheat and other grains that were produced were taken to a mill on the Fishhook River in Park Rapids. Most of the flour that was produced was shipped to reservations in the northern part of the state. The mill in Park Rapids was the only one in the county. Many of these early farmers also worked on logging operations in the winter (HCHS 1980).

Farmers later began diversifying their crops due to prodding by the editor of the Park Rapids Enterprise and instructions from the University Extension Office. Livestock herds were being kept by some along with more production of feed crops. Potatoes became an important crop in the area in the 1930's and beans began to be produced the same time as irrigation systems were being installed (HCHS 1980).

Socioeconomic Resources

The table below illustrates population change in area counties between 1990 and 2010. All three counties' populations have increased consistently since 1990, with an average growth of 8.5% between the 2000 and 2010 census. Hubbard County, through which the majority of the trail will be located, experienced the highest growth rate of the three. It is important to note that even where population remains relatively stable, numbers of households have increased as family sizes have declined in the past 25 years.

Table 1: County Population Trends

| Counties | 1990 | 2000 | 2010 | Percent change 2000-2010 |
|--------------|---------------|---------------|---------------|-----------------------------|
| Hubbard | 14,939 | 18,376 | 20,428 | 11.2% |
| Becker | 27,881 | 30,000 | 32,504 | 8.3% |
| Clearwater | 8,309 | 8,423 | 8,695 | 3.2% |
| Total | 51,129 | 56,799 | 61,627 | 8.5% |

These trends point to the need to provide open space and recreational opportunities to serve growing populations while opportunities exist. Population growth trends coincide with growing interest in "close to home" trail opportunities, as shown in DNR trail studies (Kelly 2010)

Financial Impacts of Trail Development

Communities that support trail and respond to the needs of trail users have seen positive effects on their local economies. DNR trail studies indicate that tourists attracted to the trails use local facilities for eating, shopping, and lodging. There will be a significant number of tourist users on this trail if usage patterns follow those of existing trails in the area.

The DNR estimates that for five trails surveyed between 2007 and 2009, summer spending totaled nearly \$5 million. Most of that spending (95 percent in total) comes from trail users who reside outside the local economy of the trail. Their spending represents "new" dollars to the local economy. Trail users who have traveled a long distance to the trail, not surprisingly, outspend local

users by a factor of about 20 on a daily basis, primarily on food, travel, and overnight accommodations (Kelly 2010).

Trails also appear to increase property values and enhance the quality of life in the communities through which they run. Homes close to trails have become increasingly desirable. A number of studies of existing bike trails have shown that the average value of property near the trails is similar to or slightly above the value of other properties in the area (Della Penna 2005).

Trails also yield benefits that are highly significant but difficult to quantify. To the extent that trail use replaces motor vehicle use, it can result in monetary savings from lower air pollution, congestion and oil imports. There is growing interest in the multiple benefits to public health that can result from the use of trails for outdoor recreation. Trail use has been shown to be valuable not only in combating obesity and related public health problems but also in reducing stress, improving mental health, and encouraging healthy lifestyles.

Implementation

What Happens After the Master Plan is Finished?

Chapter 86A.09 of Minnesota Statutes requires that a master plan be prepared for state trails before trail development can begin – although planning, design, and land acquisition can take place before the plan is complete. Trail users and trail advocates need to recognize that the completion of a master plan is only one step in what typically is a long process of implementation.

Throughout the planning process for this trail extension, local trail advocates have worked to establish feasible alignments, contact landowners, seek funding from a variety of sources, and work with DNR regional staff on land acquisition. The process has been, and will continue to be, lengthy and complex.

The first generation of state trails in Minnesota, including the Heartland State Trail, were developed primarily on abandoned rail rights-of-way that state or local governments were able to acquire. Since that time, most of the remaining abandoned rail rights-of-way in the state have reverted to private ownership. The next generation of trails must cross a variety of public and private lands, making them much more challenging to develop than the rail-trails of the past.

DNR Parks and Trails staff work with individual landowners to acquire land or easements on a willing seller basis, keeping in mind that a series of acquisitions on adjoining properties will be needed in order to create a trail segment with a logical beginning and end. In other words, a trail segment should begin at an existing park or town center that can serve as a trail head, preferably with parking and restroom facilities. It is also desirable for a segment to end at some type of destination – a city, a park, a wildlife preserve, or a historic site.

In this process, DNR acquisition and development staff frequently work with city and county governments, conservation organizations, and local trail interest groups to assess the feasibility of a particular trail alignment. Acquisition is done on a willing seller basis.

Land can be acquired or otherwise set aside for trail development through a variety of methods:

- A trail may be located on non-DNR public land, such as county or city-owned land, through a cooperative agreement.
- A local government or not-for-profit organization can acquire land from a willing seller and then sell or donate it to the DNR.

BASIC DESIGN STANDARDS FOR HARD-SURFACE SHARED-USE STATE TRAILS

The following standards briefly highlight key points from the DNR publication *Trail Planning, Design and Development Guidelines*

- Pavement width: 10 feet is typical; 12 feet an option in high-use areas, 8 feet is an option where limitations exist or lower use is expected.
- Shoulders: 2 to 5 feet, depending on conditions such as side-slopes and hazards
- Maximum grade: 5% preferred, with certain exceptions
- 2% maximum cross-slope (the slope from one side of a trail to the other)
- Corners gently curved to meet standards rather than right angles
- 50' to 100' wide corridor width where possible to allow for buffers, storm water control and grading, separate treadways.

Trail Planning, Design and Development Guidelines is available through the [DNR online bookstore](#) or Minnesota's Bookstore.

- Local interest groups and/or DNR staff may make the initial contact with landowners, after which DNR staff will assess the feasibility of a particular trail alignment and potentially complete the land acquisition.

No matter which method is used, advance coordination with DNR staff is essential in order to ensure that the selected trail alignment is feasible to develop.

The following is a typical sequence of events in trail planning and development. However, the steps will likely overlap and the process will often require several rounds of feasibility assessment and landowner contacts.

1. **Complete the master plan.** The plan identifies several favored alignments for the trail. The intent of the plan is to provide flexibility while identifying the most feasible alignments, rather than “locking in” a specific route.
2. **Explore feasibility of each alignment.** Assess land ownership, road right-of-way width (is there enough room for a trail within the right-of-way?), connectivity, physical conditions such as slope, wetlands and natural resources, scenic qualities and historical significance. The alignment must allow state and federal design guidelines and rules to be met, including trail width, shoulders, curvature, accessibility, etc. Therefore, it is important for local governments and trail groups to coordinate their efforts with DNR staff.
3. **Initial informal landowner contact.** It is often preferable for landowners to be contacted by local trail supporters (rather than DNR staff). Landowner concerns frequently relate to privacy, safety and liability, and there are many information resources available to address these concerns.
4. **Formal landowner contact; complete acquisition process.** As mentioned above and with proper coordination, DNR or other entities may take the lead on land acquisition.
5. **Seek funding.** State trails are typically funded through a variety of sources that include state bonding appropriations, federal Transportation Enhancement (TE) funds and federal trail grants.
6. **Trail engineering and design.** The design process offers a final opportunity to assess feasibility, including the need to avoid sensitive natural or cultural resources and address constraints such as wetlands or steep slopes. Trail alignments may shift during the design process.
7. **Construction** on one or more segments, while the processes of negotiation and design continue on others.
8. **Ongoing maintenance and stewardship.** Trail associations often act as “eyes on the trail” to monitor conditions, notify DNR of concerns and

volunteer on certain efforts. Local units of government may provide trail maintenance via a cooperative agreement.

9. **Orientation and Interpretation.** All trails are developed with traffic safety and directional signs. Some trails provide interpretive signs that highlight notable natural and cultural resources and landscape features. An interpretive plan may be developed to identify themes and features that will be interpreted. These themes and topics should be developed in conjunction with development of the Heartland State Trail Extension, and tie in with those already developed for the Heartland State Trail and Itasca State Park.

Actions Local Governments Can Take to Support Trail Development:

City and county governments can play an important role in trail development through their planning and development review processes, including the following:

- **Integrate the trail concept into community plans,** including comprehensive and land use plans, park and open space plans, and transportation plans.
 - Through the local park and trail plan, link the state trail corridor to local and regional trails; integrate it with local parks
 - Seek opportunities to meet multiple goals through trail development – i.e., to improve water quality, protect natural areas, provide educational opportunities, or provide additional transportation options.
- **Require park and trail set-asides.** Through their subdivision ordinances, cities and counties may require that developers dedicate a reasonable portion of land within a development to public use for such things as streets, utilities, drainage, and parks, trails and recreational facilities (Minnesota Statutes; Chapter 394.25, Subdivision 7c [applies to counties] Chapter 462.358, Subdivision 2b [applies to cities]) (If the set-aside is for a state trail, coordinate with DNR staff in advance).
- **Work with DNR staff to seek funding for state trail acquisition and development.** State trails are typically funded by the State Legislature via bonding money or special appropriations, or through the Legislative Citizen Commission on Minnesota Resources. Some federal grants are also eligible to be used in conjunction with state funding for development. Transportation enhancement project grants and other transportation funding sources may also be used for state trails. It is

important for local government representatives to work closely with DNR regional staff in any pursuit of state trail funding.

- **Seek funding for local and regional trail connections.** Local and regional trails can be funded through a variety of sources, available through DNR and other agencies, including:
 - Parks and Trails Legacy Grant Program
http://www.dnr.state.mn.us/grants/recreation/pt_legacy.html
 - Local Trail Connections Grant Program
http://www.dnr.state.mn.us/grants/recreation/trails_local.html
 - Federal Recreation Trail Grant Program (also available for state trails)
http://www.dnr.state.mn.us/grants/recreation/trails_federal.html
 - Regional Trail Grant Program
http://www.dnr.state.mn.us/grants/recreation/trails_regional.html
 - Transportation Enhancement Projects awarded by Mn/DOT with Federal Highway Administration funding (also available for state trails)
<http://www.fhwa.dot.gov/environment/te/index.htm>

References

The following sources were used in the development of this master plan. Additional information was also drawn from DNR reports and databases, park and trail brochures, and other Department documents.

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Appendices

Appendix A: Summary of Public Comments

Summary and response to comments received at open house in September.

Summary and response to comments received during 30-day public review period.

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Appendix B: Special Concern, Threatened or Endangered Species and Natural Communities

The following list is drawn from the database of the Natural Heritage Information System of the DNR, Division of Ecological and Water Resources. All species within or near (within one mile) of the trail corridor are listed below. Terrestrial Communities and Animal Assemblages are listed because they represent high-quality habitats or important natural features, but have no legal status.

SPC Special Concern

THR Threatened

END Endangered

NON A species with no legal status, but about which the Division of Ecological and Water Resources is gathering data for possible future listing.

| Common Name | Scientific Name | Type | MN Legal Status |
|--|---|-----------------------|-----------------|
| Colonial Waterbird Nesting Site | Colonial Waterbird Nesting Area | Animal Assemblage | |
| Creek Heelsplitter | <i>Lasmigona compressa</i> | Invertebrate Animal | SPC |
| Bald Eagle | <i>Haliaeetus leucocephalus</i> | Vertebrate Animal | SPC |
| Blanding's Turtle | <i>Emydoidea blandingii</i> | Vertebrate Animal | THR |
| Northern Goshawk | <i>Accipiter gentilis</i> | Vertebrate Animal | NON |
| Red-shouldered Hawk | <i>Buteo lineatus</i> | Vertebrate Animal | SPC |
| Trumpeter Swan | <i>Cygnus buccinator</i> | Vertebrate Animal | THR |
| Jack Pine - (Bush Honeysuckle) Woodland, Bracken Subtype | FDc24a1 | Terrestrial Community | |
| Bog Adder's-mouth | <i>Malaxis paludosa</i> | Vascular Plant | END |
| Clustered Bur-reed | <i>Sparganium glomeratum</i> | Vascular Plant | SPC |
| Dragon's-mouth | <i>Arethusa bulbosa</i> | Vascular Plant | NON |
| Humped Bladderwort | <i>Utricularia gibba</i> | Vascular Plant | NON |
| Least Moonwort | <i>Botrychium simplex</i> | Vascular Plant | SPC |
| Limestone Oak Fern | <i>Gymnocarpium robertianum</i> | Vascular Plant | NON |
| Matricary Grapefern | <i>Botrychium matricariifolium</i> | Vascular Plant | NON |
| Ram's-head Lady's-slipper | <i>Cypripedium arietinum</i> | Vascular Plant | THR |
| Thread-like Naiad | <i>Najas gracillima</i> | Vascular Plant | SPC |
| White Adder's-mouth | <i>Malaxis monophyllos</i> var. <i>brachypoda</i> | Vascular Plant | SPC |