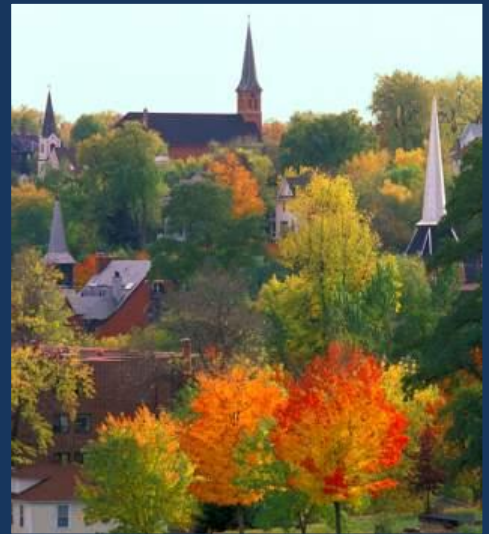


BROWN'S CREEK STATE TRAIL MASTER PLAN



Minnesota Department of Natural Resources
Division of Parks and Trails
March 2012



Brown's Creek State Trail Master Plan

The Minnesota Department of Natural Resources, Division of Parks and Trails would like to thank all who participated in this master planning process. Input from local officials and citizens in the City of Stillwater, Stillwater Township, the City of Grant, Washington County, and other locations was greatly appreciated. Many DNR staff and partners like the Gateway Trail Association and the Brown's Creek Watershed District were also involved in the planning process. Thank you.

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March 2012, Minnesota Department of Natural Resources.

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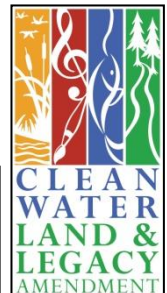
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A portion of the funding for the Browns Creek State Trail comes from the Clean Water, Land and Legacy Amendment and Washington County's Land and Water Legacy Program.

March 2012

Minnesota Department of Natural Resources

500 Lafayette Road · Saint Paul, Minnesota · 55155-4037

Office of the Commissioner

651-259-5555



March 8, 2012

RE: Department of Natural Resources Approval of Brown's Creek State Trail Master Plan

Minnesota Statutes, Section 86A.09, requires that a master plan be prepared for units of Minnesota's outdoor recreation system, including state trails. This master plan addresses the Brown's Creek State Trail from Duluth Junction in the City of Grant to Laurel Street East in the City of Stillwater, a distance of 5.9 miles. The trail was authorized as part of the Willard Munger Trail System in 2007, in Minnesota Statutes, Section 85.015, Subdivision 14.

An interdisciplinary team developed the master plan with the assistance of Washington County, the City of Stillwater, the Brown's Creek Watershed District, and other stakeholders. The plan received input and comments from the public, including two public open houses and additional meetings with stakeholders.

The Brown's Creek State Trail Master Plan has been reviewed by the Division of Parks and Trails and by the Central Region Management Team.

I have reviewed this master plan and determined that it complies with Minnesota Statutes 86A.09 and find it provides for the administration of the Brown's Creek State Trail in a manner that is consistent with the purpose for which the trail was authorized.

Sincerely,

A handwritten signature in blue ink, appearing to read "Tom Landwehr".

Tom Landwehr
Commissioner



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Brown's Creek State Trail Master Plan

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Executive Summary

Once part of a railway system that spanned thousands of miles between Minnesota and the Pacific Northwest, the Minnesota Zephyr dinner train followed a scenic 5.9 mile segment of that route between downtown Stillwater and Duluth Junction in the City of Grant, beginning in 1985. Twenty-one years later, negotiations for the sale of the railroad corridor were started by its owner. In 2007, the Minnesota Legislature authorized the Brown's Creek State Trail as part of the Willard Munger Trail System. At the end of 2008, the owner closed the business. Almost three years later, a purchase agreement with the Minnesota Department of Natural Resources was signed. The final transaction took place in February 2012 and only includes the rail corridor; the train cars and the Stillwater Depot Grill are not included.

The purchase represents a unique opportunity for the Minnesota Department of Natural Resources and Washington County, a key partner in the corridor's acquisition. Securing the entire corridor of a legislatively authorized state trail from a single landowner at one time is very rare.

Once complete, trail users will have the opportunity to travel to and from St. Paul, Stillwater, and through west and central Washington County via the Gateway and Brown's Creek state trails. The Brown's Creek trail corridor will travel through stretches of scenic woods, along a designated trout stream, past historic sites, and along the St. Croix River. Since the trail will be constructed on a former railroad grade, it will be generally level and accessible to users of all abilities.

The state trail and the designated trout stream are named after Joseph R. Brown, an early explorer and settler in the area – and later, a state legislator – who built the “Tamarack House” and other early buildings north of Stillwater near the mouth of the creek. Today a historical marker on the west side of St. Croix Trail and Highway 95 mark this location.

Recommended Trail Uses

The Brown's Creek State Trail will be a multiple-use, four-season trail. The trail will accommodate a range of uses over its length including bicycling, walking and running, and in-line skating. Other recommended uses like horseback riding, cross-country skiing, snowshoeing, and environmental education/interpretation may be accommodated on specific segments of the trail.

Like the Gateway State Trail, the trail is intended for pedestrian and non-motorized vehicle use only. In some areas where the width of the corridor is limited or sensitive natural or cultural resources are present, not all uses may be accommodated. The trail and its supporting facilities will be universally accessible to the greatest extent possible, as required by the Americans with Disabilities Act.

Trail Management

The plan contains recommendations for maintenance, environmental education/interpretation of natural and cultural resources, and enforcement. 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 resource management activities. 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. Native flowers, grasses, trees and shrubs that are consistent with the natural plant communities of the area will be planted and managed. Some native plant community management may include cooperative efforts with adjacent land owners. Areas disturbed during construction will be seeded with native plants.

Managing stormwater is also important in the trail corridor, particularly in the Brown's Creek gorge area. Passive, overland routing of runoff (i.e. natural infiltration) will be used wherever possible and will be supported by the use of other best management practices (BMPs) that address common development circumstances. There are a variety of BMPs related to managing stormwater, preventing erosion, and limiting nonpoint water pollution that have application to trail development. The DNR Parks and Trails Division will work closely with the DNR Ecological and Water Resources Division, the DNR Management Resources Division, and the Brown's Creek Watershed District on the use and application of BMPs in and near the trail corridor.

Several Aquatic Management Areas (AMAs) and easements exist along the trail corridor between St. Croix Trail North/Highway 95 and Neal Avenue North. These easements help to protect the designated trout stream, and restrict use in and around the creek to fishing primarily. In addition to the AMAs, private property abuts the trail corridor for a majority of its length. Trail users are strongly encouraged to stay on the trail to protect sensitive natural and cultural resources, and to respect private property rights along the trail.

Every effort to preserve cultural resources will be made and will be incorporated into an interpretive plan for the trail corridor. Trail users will have opportunities to experience the history of the region through existing historical and proposed interpretive sites.

1. Planning Process, Vision and Goals

The planning process places an emphasis on public input and makes every effort to incorporate the most reliable, up-to-date resource information. The diagram on the following page illustrates a typical trail planning process. However, each process has its own combination of partners, advocates, stakeholders and interested parties, as well as its public and/or private land base.

The Minnesota Department of Natural Resources mission and the Division of Parks and Trails vision provide important context to the planning effort.

Why Plan?

Master planning for state trails is conducted in order:

- To provide a unifying vision for trail advocates who are working to secure a trail alignment, and funds for development and maintenance of a trail.
- To guide the development, management and maintenance of a trail so that quality recreation and transportation opportunities are provided.
- To provide a forum for discussion of trail use and development options, management issues, enforcement needs, and related topics.
- To support partnerships and processes that will help execute the plan and contribute to providing quality trail opportunities.
- To assess the projected impacts of trail development on natural, cultural and historic resources, as well as impacts on local communities.
- To satisfy the requirement of Minnesota Statutes, Section 86A.09, which requires that a master plan be prepared for state trails.

Public Involvement and Partnerships

Prior to the first open house meeting, DNR staff reached out to representatives from Washington County, the cities of Stillwater and Grant, and Stillwater Township to discuss the future state trail. DNR staff met with a number of these local government units, as well as the Gateway Trail Association and the Brown's Creek Watershed District.

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 Stillwater Public Library on October 19, 2011. Approximately 110 people – primarily from local communities – were estimated to have attended. A summary of the input received is provided as an appendix to this plan.

A second open house meeting was held at the Stillwater Public Library on December 7, 2011. The primary purpose of this meeting was to give the public and other key stakeholders an opportunity to review the draft master plan.

The draft plan was available on the DNR website for a 30-day public comment period. The comments we received have been considered in developing the final draft plan, and are summarized as an appendix to this plan.

Department of Natural Resources Mission

Our mission 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.

Trail Planning Process Chart

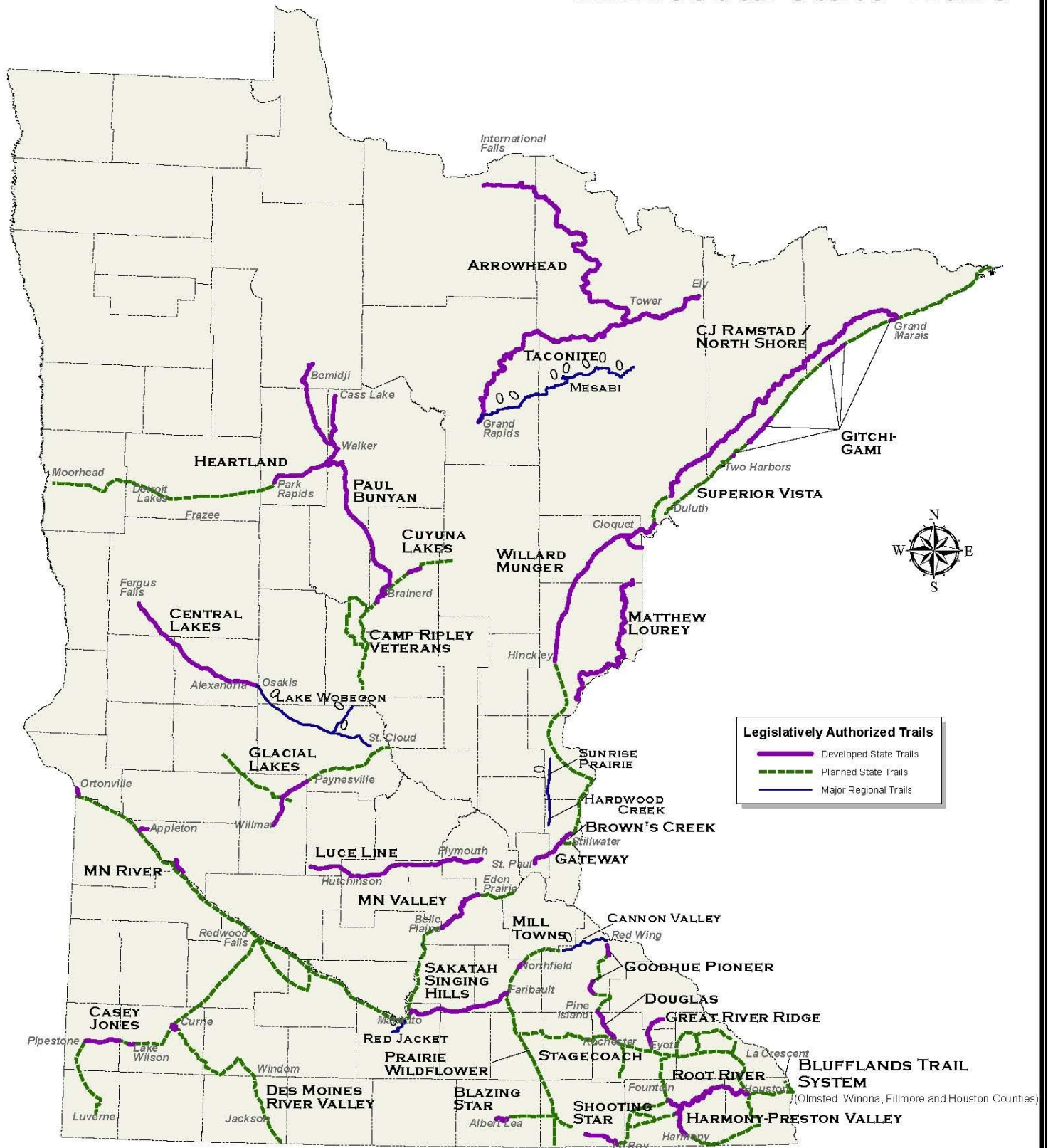
Who's Involved

- Trail User Groups
- Community Park, Trail and Economic Development Committees
- Regional Development Commissions
- DNR Resource Managers
- Community Leaders
- Scenic Byways Managers
- Elected Officials
- Other Agencies
- Citizens
- Adjacent Landowners
- Trail Users

Steps in the Process

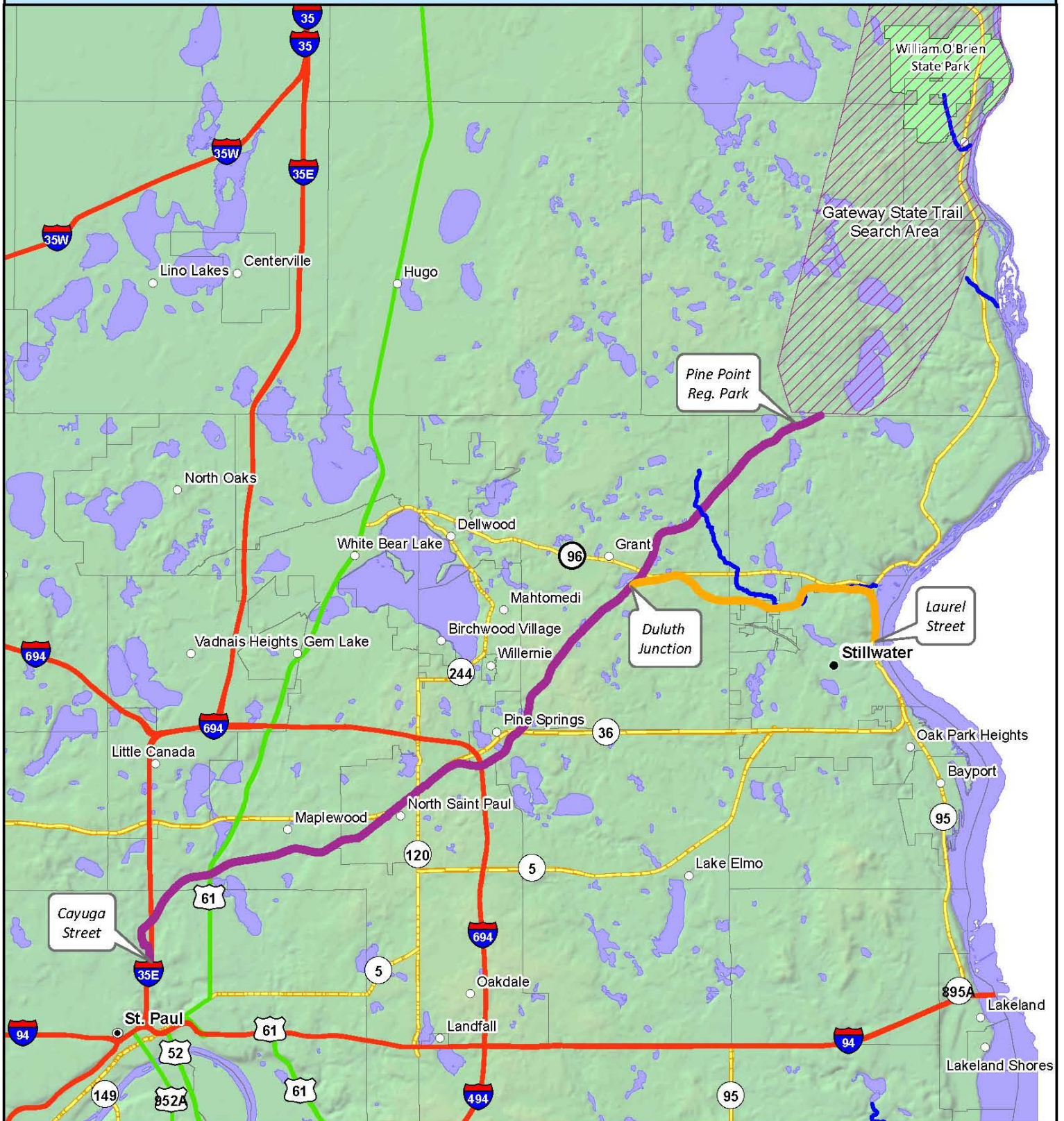


Minnesota State Trails



Brown's Creek State Trail

Regional Context



Legend

- Brown's Creek State Trail
- Gateway State Trail
- Designated Trout Stream
- State Park
- Lake, Pond, Stream, River
- Interstate Trunk Highway
- U.S. Trunk Highway
- MN Trunk Highway
- Minor Civil Divisions
- Major Cities
- Minor Cities
- Small Cities

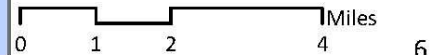
Gateway State Trail: Cayuga St., St. Paul to...
 - Duluth Junction = 13.3 miles
 - Pine Point Reg. Park, Stillwater Twp = 18.3 miles

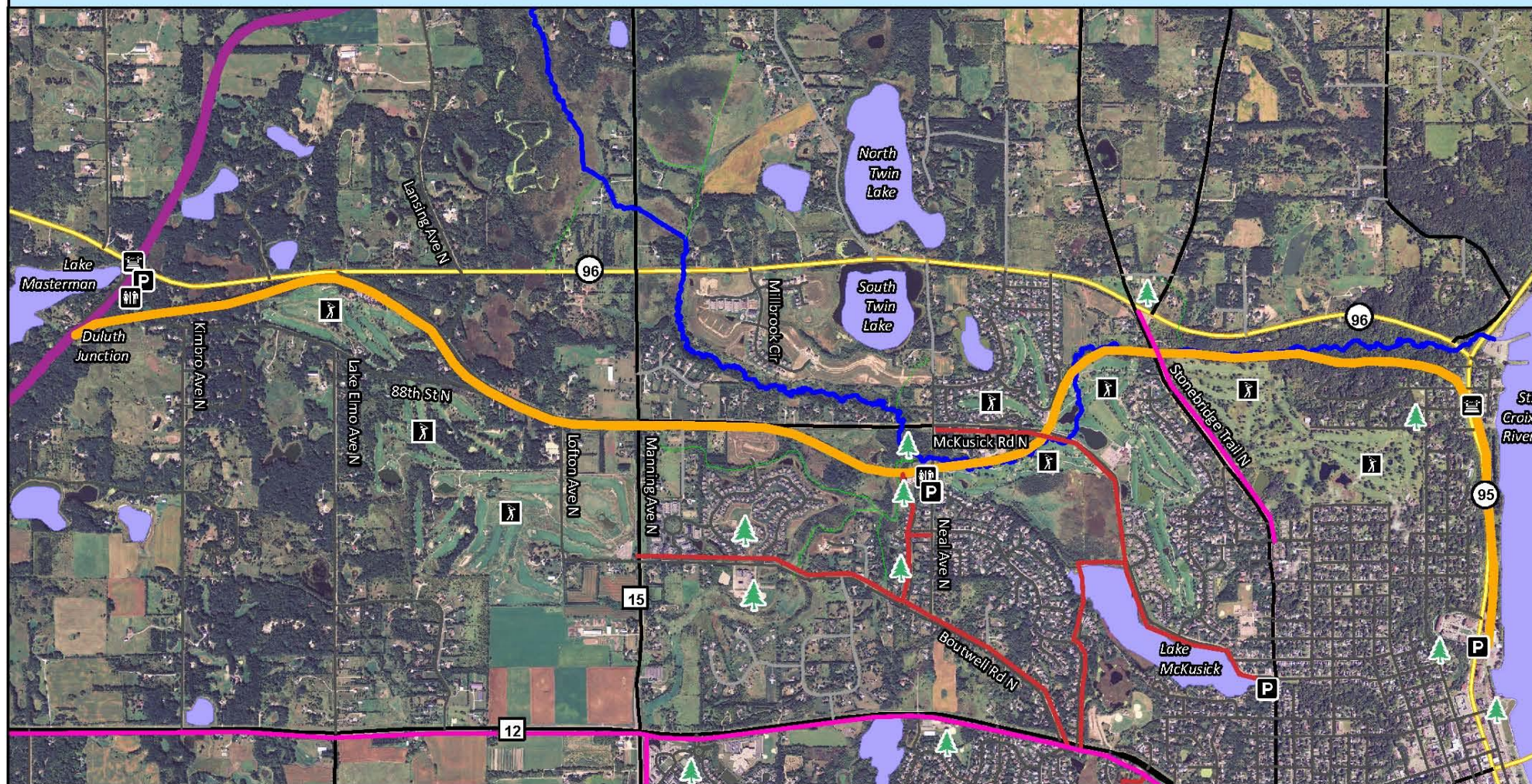
Brown's Creek State Trail: Duluth Junction to...
 - Laurel St., Stillwater = 5.9 miles

St. Paul to Stillwater, via Gateway and Browns Creek state trails = 19.2 miles



DNR Division of Parks and Trails
January 2012

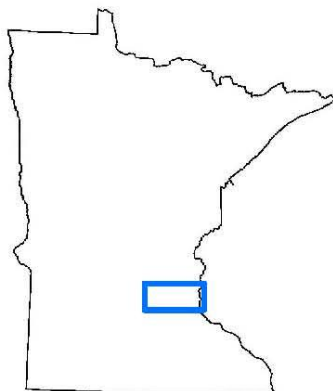




Legend

- Brown's Creek State Trail
- Gateway State Trail
- Washington County Trail
- City of Stillwater Trail
- Designated Trout Stream (Brown's Creek)
- Protected Tributary to Des. Trout Stream
- Lake, Pond, Stream, River
- MN Trunk Highway
- County Highway
- Municipal Road

- Parking
- Restroom
- Bridge
- Golf Course
- Park

**Legislative Authorization:**

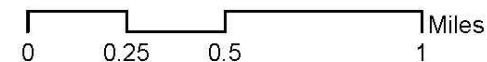
Willard Munger Trail System, Chisago, Ramsey, Pine, St. Louis, Carlton, and Washington Counties.

The trail shall consist of six segments...

...One segment shall be known as the Browns Creek Trail and shall originate at Duluth Junction and extend into Stillwater in Washington County. 85.015 Subd. 14 MN Statutes



DNR Division of Parks and Trails
January 2012



Legislative Authorization

During the 2007 legislative session, Minnesota Statutes section 85.015, subdivision 14, was amended to read:

Subd. 14. Willard Munger Trail System, Chisago, Ramsey, Pine, St. Louis, Carlton, and Washington Counties.

(a) The trail shall consist of six segments.

- One segment shall be known as the Gateway Trail and shall originate at the State Capitol and extend northerly and northeasterly to William O'Brien State Park, thence northerly to Taylors Falls in Chisago County.
- One segment shall originate in Chisago County and extend into Hinckley in Pine County.
- One segment shall be known as the Brown's Creek Trail and shall originate at Duluth Junction and extend into Stillwater in Washington County.
- One segment shall be known as the Munger Trail and shall originate at Hinckley in Pine County and extend through Moose Lake in Carlton County to Duluth in St. Louis County.
- One segment shall be known as the Alex Laveau Trail and shall originate in Carlton County at Carlton and extend through Wrenshall to the Minnesota-Wisconsin border.
- One segment shall be established that extends the trail to include the cities of Proctor, Duluth, and Hermantown in St. Louis County.

(b) The Gateway and Brown's Creek Trails shall be developed primarily for hiking and nonmotorized riding and the remaining trails 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. 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 Brown's Creek State Trail 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:

(1) Permits travel in an appropriate manner along a route which provides at least one of the following recreational opportunities:



Brown's Creek State Trail Master Plan

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

The Brown's Creek State Trail will pass through or travel adjacent to a number of high quality natural resource features including a designated trout stream, Aquatic Management Areas, areas of high biodiversity significance (as designated by the Minnesota County Biological Survey), and the Lower St. Croix National Scenic Riverway. The Lower St. Croix was the first riverway segment added to the National Wild and Scenic Rivers Program by Congress in 1972.

The state trail corridor will also have cultural and historical significance. When connected to the Gateway State Trail, the Brown's Creek State Trail will carry users from the "Birthplace of Minnesota" in Stillwater to the state capital in St. Paul, traveling along former railways connecting the two communities. There are also a number of historic sites along the trail.

If a new St. Croix River crossing is completed, Stillwater's Historic Lift Bridge would become a pedestrian-only crossing which would link to Lowell Park and the Brown's Creek State Trail to the north, and new trails that would be developed as a result of the new river crossing.

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

The Brown's Creek State Trail will pass through or adjacent to a number of high quality natural resource features including a designated trout stream and the Lower St. Croix National Scenic Riverway. It is a beautiful route that passes through woodlands, golf courses and historic sites.

(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.

Trail uses will be compatible with the distance and scale of the region.

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

The Brown's Creek State Trail will follow a portion of the Northern Pacific railroad between Stillwater and Duluth Junction. Duluth Junction in the City of Grant was where the Northern Pacific crossed the Minneapolis, St. Paul and Sault Ste. Marie or Soo Line. The Soo Line is now the Gateway State Trail.

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

The Brown's Creek State Trail will connect the Gateway State Trail to the St. Croix River Water Trail and Lower St. Croix National Scenic Riverway. The undeveloped St. Croix Islands State Recreation Area is also located



Brown's Creek State Trail Master Plan

near the trail corridor, just east of the intersection of Minnesota State highways 95 and 96.

(2) Utilizes, to the greatest extent possible consistent with the purposes of this subdivision, public lands, rights-of-way, and the like.

Brown's Creek State Trail will follow a railroad right-of-way for the length of its course from the Gateway State Trail at Duluth Junction to Laurel Street in Stillwater.

(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.

About two miles of the Brown's Creek State Trail will be immediately adjacent to Brown's Creek, a designated trout stream with a dense broadleaf forest canopy. About one mile of the trail corridor will run parallel to the St. Croix River, affording many views of the National Scenic Riverway. Other portions of the trail will pass through local parks and golf courses, pass historical markers and buildings and a community of historical significance.

(4) Takes into consideration predicted public demand and future use.

The Brown's Creek State Trail will connect to the Gateway State Trail, where 1,082,589 people live within ten miles. Future demand for recreational trail use in the area is projected to increase as the population continues to increase. Washington County's population is projected to grow 38.2% between 2005 and 2035, from 223,158 to 308,370.ⁱ

Guiding Principles for Sustainable Trails

Guiding principles for ecologically sustainable trails provide the underlying rationale for actions related to protecting, restoring, and managing natural environments associated with trail developmentⁱⁱ. 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.

Applications of these principles will minimize the impact of trails on natural resources and sensitive ecological systems. However, not all of these principles will apply uniformly to each trail. 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 scenery, 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 Brown's Creek State Trail

Vision

The Brown's Creek State Trail will connect the City of Stillwater and the St. Croix River to the Gateway State Trail and St. Paul. Multiple, non-motorized trail uses will be accommodated. Trail users will experience distinct landscapes comprised of diverse resources including maple-basswood and oak forests, prairie remnants, parks, rural homesteads, and a designated trout stream, Brown's Creek. The trail will help to preserve the area around Brown's Creek and complement the St. Croix Scenic Byway, adding a recreation amenity to the area and enhancing tourism. Local residents will experience positive health and economic benefits from the trail.

Goals

The vision will be achieved through the following goals for the trail. The trail will:

- Serve many different types of users throughout all seasons of the year.
- Increase awareness of the unique natural features of the St. Paul-Baldwin Plains and Moraines landscape.
- Preserve and protect these natural resources.
- Promote economic growth in the area by attracting new visitors year-round, attracting and retaining businesses, increasing tourism and linking tourist attractions.
- Provide a fun, safe, recreational resource for residents and visitors of all ages, thereby benefiting their health and improving their quality of life.
- Serve as an alternate means of transportation in the region, connecting rural areas to town centers, parks and schools, and reducing vehicle trips, thereby improving the environment.
- Connect to existing and future trail networks – including those of Washington County, the City of Stillwater, Stillwater Township, and the City of Grant – and connect local parks.
- Showcase the unique cultural themes of the area, including American Indian history, logging, settlement, and railroads.



2. Recommended Trail Uses

The legislation that established the Brown's Creek State Trail (MS section 85.015, subdivision 14 b) states that "The Gateway and Brown's Creek Trails shall be developed primarily for hiking and nonmotorized riding".ⁱⁱⁱ

Projected Trail Use Types

The Brown's Creek State Trail will be a multiple-use, four-season trail. In some areas where the width of the corridor is limited or sensitive natural or cultural resources are present, not all uses may be accommodated. The trail and its supporting facilities will be universally accessible to the greatest extent possible, as required by the Americans with Disabilities Act.

Bicycling. The length of the trail, the connections to other state and regional trails, and the proximity to local communities make this trail appropriate for recreational cyclists of all ages and abilities. The trail will add approximately 6 miles to the state inventory of 590 miles of paved state trails. Bicycling is recommended as a use along the entire length of the trail.



Hiking and Walking. On state trails, hiking or walking is second only to bicycling as popular low-impact cardiovascular fitness activities on state trails. Grades are likely to be minimal throughout the majority of the trail route, making it suitable for everyone to walk and hike. Hiking and walking are recommended as uses on the entire length of the trail.



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/Roller 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.



Horseback Riding. There are over 1,200 miles of public horseback riding trails in the state, mainly within state parks and forests. Horseback riding is recommended where it is feasible to develop a dual treadway and where such use will not harm sensitive natural resources. Engineering, design, and resource



assessments will determine the extent of the use. The most potential for horseback riding is west of Manning Avenue.

Cross Country Skiing and Snowshoeing. The relatively flat terrain of the trail corridor makes cross-country skiing a possible winter use when snow conditions permit. Snowshoeing is also feasible within the trail corridor, outside of cross-country ski lanes.

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 highly accessible to users of all abilities. The average grade of the trail is 1.1% with no grades exceeding 2.2%.

The DNR is currently assessing potential classes of Other Power Driven Mobility Devices (OPDMDs) for use in DNR facilities and on DNR lands. Based on preliminary assessments and until a final policy is issued, OPDMD devices may be used by a person with a mobility disability on paved and aggregate trails on DNR lands as outlined here: mndnr.gov/accessible_outdoors/policycfr35.html



Stillwater Township's Otto Berg Park, just north of Highway 96 and Stonebridge Trail N.

3. Trail Alignment and Development Options

Overview of the Trail Alignment; Key Access Points and Intersections

For the purposes of this plan, the start of the Brown's Creek State Trail will be defined as the intersection of Laurel Street East and the Minnesota Zephyr line terminus in downtown Stillwater¹. From there, the state trail will run 5.9 miles to Duluth Junction and the Gateway State Trail in the City of Grant.

Conceptually, the trail can be broken down into three approximately two-mile long segments: Laurel Street East to Stonebridge Trail North (Eastern Segment), Stonebridge Trail North to Manning Avenue North (Central Segment), and Manning Avenue North to Duluth Junction (Western Segment).

It is also important to focus design attention on access points, and on trail and vehicle intersections. The safety of trail users is of critical importance. Intersections need to be carefully designed to provide good sight distances, and appropriate signage and traffic control devices for trail and street users.

Such intersections can also provide access to the state trail when they are at the same grade or elevation as the trail. Not all of the intersections along the trail are at-grade. In those locations, most trail users will not be able to access the state trail. Typically, suitable access points are located a short distance away.

Specific information on trail development can be found on the Brown's Creek State Trail Planning website as it becomes available:
mndnr.gov/input/mgmtplans/trails/browns_creek.html

Laurel Street East to Stonebridge Trail North (Eastern Segment)

The Brown's Creek State Trail will start at Laurel Street East in downtown Stillwater, just east of Main Street North/St. Croix Trail North/Minnesota Highway 95, adjacent to the former Stillwater Depot Grill.

It is recommended that the following trailhead amenities^{iv} be considered near the trail's origin at **Laurel Street**:

- Permanent or portable restroom facilities
- Parking, with accessible spaces
- Drinking fountain(s)
- Seating area
- Security lighting
- Trail information kiosk
- Bicycle racks
- Shady area
- Waste receptacles
- General landscaping
- ADA accessible throughout

¹ The DNR and the city of Stillwater will continue to discuss options for the state trail's origin and connections with Lowell Park, about 0.25 mile to the south.

**Laurel Street to
Stonebridge Trail
1.9 miles**

Key Access Point



Laurel Street

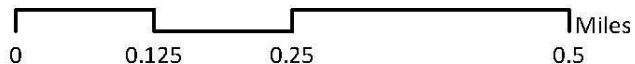


Legend

- Brown's Creek State Trail
- Washington County Trail
- City of Stillwater Trail
- Designated Trout Stream (Brown's Creek)
- Protected Tributary to Des. Trout Stream
- Lake, Pond, Stream, River
- MN Trunk Highway
- County Highway
- Municipal Road
- P Parking
- Bridge
- Golf Course
- Park
- Key Access Point
- Key Intersection



DNR Division of Parks and Trails
January 2012



Brown's Creek State Trail Master Plan

The first 0.8 mile will run north along the east side of Main Street North/ St. Croix Trail/ Highway 95 and the St. Croix River before crossing the roadway. This would be an appropriate stretch for interpretation of the riverway and making connections with the unique cultural history of the area, including the Minnesota Territorial-State Prison Warden's House and the Tamarack House historical marker.

The existing railroad bridge, a grade-separated crossing, will be rehabilitated to accommodate trail use. This will provide a safe and convenient bridge crossing over **St. Croix Trail** for trail users. The DNR will work with the appropriate agencies and organizations to ensure the rehabilitation process meets the needs of all users.

The National Park Service's Fairy Falls Day Use Area and the St. Croix Boom Site lie a short distance northeast of the intersection of St. Croix Trail and Highway 96. The DNR will consider adding these locations to maps and other interpretive information provided along the Brown's Creek State Trail when it develops its interpretive plan for the trail.

The state trail crosses **Hazel Street** at-grade. Sight distances are limited for both trail users and motorists. The trail crosses the street in the middle of a steep hill. For eastbound trail traffic, this intersection comes at the end of a mile-long downhill stretch with no street crossings. If the present grade is maintained, bicycle trail users have the potential to be traveling at a relatively high speed as they approach this intersection. The installation of appropriate signage, both on the state trail and Hazel Street, will be critical for the safety of trail users.

Turning west, the next 1.1 miles of the state trail largely run along the south side of Brown's Creek, a designated trout stream. Two Aquatic Management Areas (AMAs) exist in and around the creek in this area, and restrict use in the immediate vicinity of the stream to fishing primarily. This part of the trail passes through stretches of scenic woods, including maple-basswood and oak forest.

This section of the state trail gently rises from St. Croix Trail and Hazel Street to where it passes beneath Stonebridge Trail. Side slopes, particularly on the north side of the state trail, present safety and erosion concerns in this segment and will need to be addressed during the design process.

Access to the state trail from the Washington County trail running parallel to **Stonebridge Trail** – a grade-separated crossing – and Stillwater Township's Otto Berg Park to the north is desirable, but both present design and accessibility challenges. The DNR will work closely with Washington County, the City of Stillwater, Stillwater Township, and the Stillwater Country Club to discuss options for providing a connection at this location. Stillwater Country Club owns the land to the east of Stonebridge Trail and south of the state trail, where a trail connection could potentially be made. Stillwater Country Club is one of three golf courses along the state trail.



St. Croix Trail crossing

Key Intersection



Key Intersection



Hazel Street

Key Intersection



Stonebridge Trail

Stonebridge Trail North to Manning Avenue North (Central Segment)

Continuing west beneath Stonebridge Trail, the state trail travels for another 0.5 mile before it meets McKusick Road, an at-grade intersection.

Halfway to McKusick Road, the state trail passes over the creek, which meanders to the south and away from the trail. Both the creek and the state trail enter the Oak Glen Golf Course viewshed here, leaving behind the closed canopy of the Brown's Creek gorge and entering a more open landscape. Oak Glen is the second of three golf courses along the state trail.

At **McKusick Road**, a City of Stillwater trail intersects the state trail. This Stillwater trail represents the first existing at-grade trail intersection with the state trail since its origin in downtown Stillwater.

Crossing McKusick Road, the trail continues for 0.4 mile before it intersects with Neal Avenue North and Brown's Creek Park and Nature Preserve.

The creek and the state trail become closely aligned again as the trail crosses McKusick Road. Two more AMAs exist in and around the creek between McKusick Road and Neal Avenue and also restrict uses. In this stretch, the DNR and the City of Stillwater collaborated to construct a new stream channel in 1999 to improve habitat and water quality. (See p.25)

The state trail crosses **Neal Avenue** and passes in between Brown's Creek Park and Brown's Creek Nature Preserve – together comprising 60 acres of land – as it makes its way west to Manning Avenue North. It is 1.0 mile between Neal Avenue and Manning Avenue.

Brown's Creek Park – on the south side of the state trail – has several paved parking spots, benches, picnic tables, a seasonal portable bathroom, and a playground. The park's network of natural and paved trails connects to nearby neighborhoods and the City of Stillwater trail system.

Brown's Creek Nature Preserve – on the north side of the state trail – has a gravel parking area and natural trails, and is a popular destination for cross country skiing in the winter. The city of Stillwater and the Stillwater Cross Country Ski Association partner to groom and maintain the trails, and the Stillwater Area High School Nordic Ski Team trains here.

Additional trailhead facilities could be considered in the vicinity of the Brown's Creek Park and Nature Preserve, including:

- Drinking fountain(s)
- Trail information kiosk
- Bicycle racks

**Stonebridge Trail to
Manning Avenue**
1.9 miles

Key Access Point

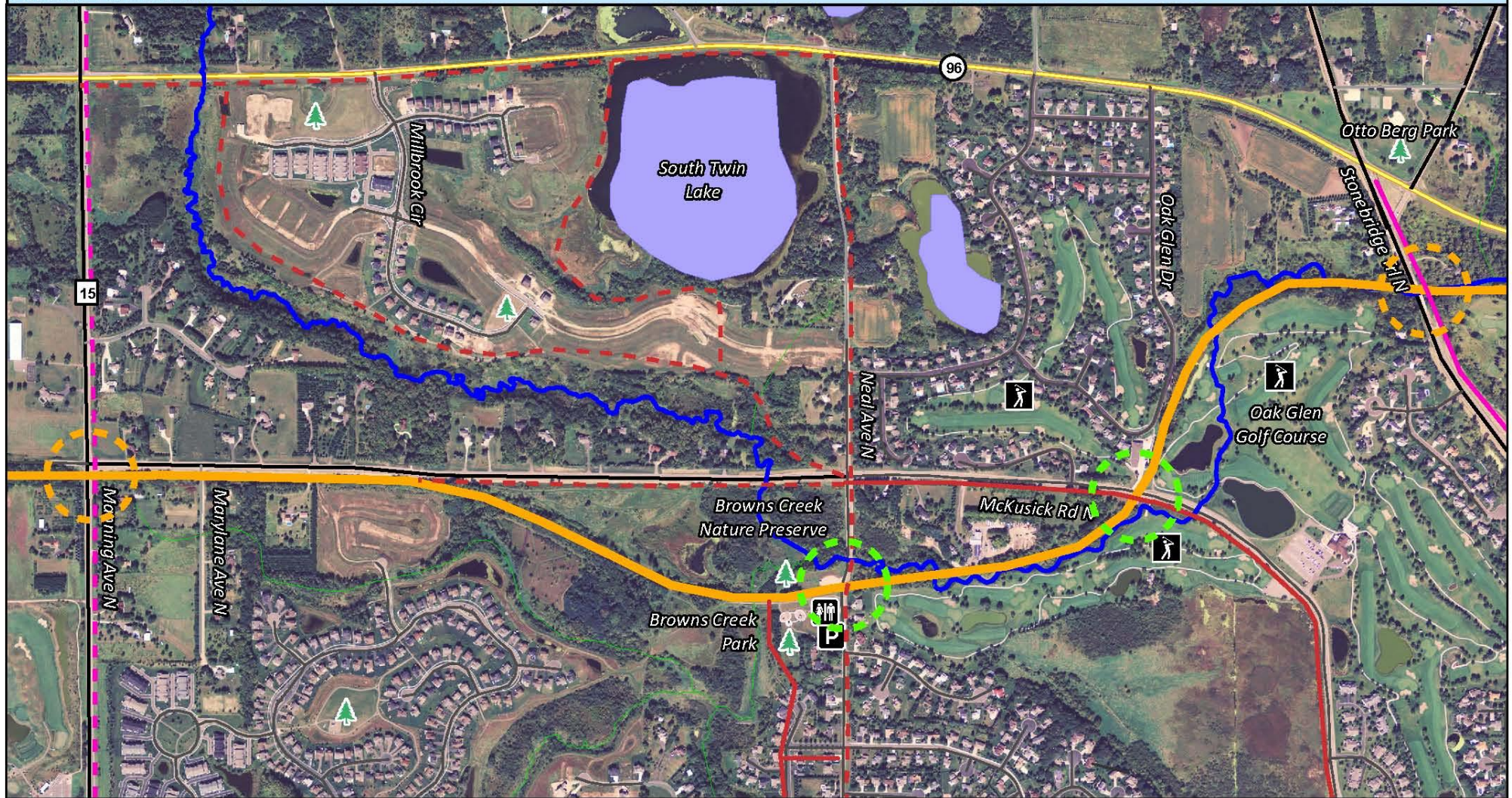


McKusick Road

Key Access Point



Neal Avenue

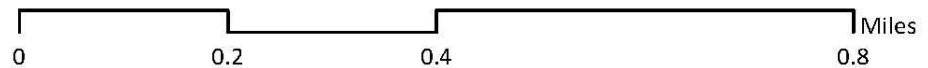


Legend

- | | |
|---|------------------|
| Brown's Creek State Trail | Parking |
| Washington County Trail | Restrooms |
| Washington Co. Central Greenway Reg. Trail (Proposed) | Bridge |
| City of Stillwater Trail | Golf Course |
| City of Stillwater Trail (Proposed) | Park |
| Designated Trout Stream (Brown's Creek) | Key Access Point |
| Protected Tributary to Designated Trout Stream | Key Intersection |
| Lake, Pond, Stream, River | |
| MN Trunk Highway | |
| County Highway | |
| Municipal Road | |



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Brown's Creek State Trail Master Plan

As the state trail leaves Browns Creek Park and Nature Preserve, it closely parallels McKusick Road as it approaches Manning Avenue. Because of the high volume and speed of traffic on **Manning Avenue** – as well as plans to expand the roadway to four lanes – it is recommended that a grade-separated crossing be installed as soon as funds are available.

The state trail would also intersect with the proposed Central Greenway Regional Trail, as defined in the *Washington County 2030 Comprehensive Plan: Parks and Open Spaces*^v. This trail would connect Big Marine Park Reserve in northern Washington County to Cottage Grove Ravine Regional Park in the southern part of the county.

Manning Avenue North to Duluth Junction (Western Segment)

Continuing west beyond Manning Avenue, the state trail continues to closely parallel McKusick Road and reaches Lofton Avenue after 0.25 mile. Just south of the state trail on Lofton Avenue is the Gasthaus Bavarian Hunter, a popular local restaurant.

The state trail intersects 88th Street 0.25 mile west of Lofton Avenue. 88th Street, a gravel road, is a designated horse trail in the city of Grant. After another 0.5 mile, the state trail intersects the entrance to Sawmill Golf Club. Sawmill is the third of the three golf courses along the trail. The last state trail intersection before Duluth Junction comes 0.75 mile later at Kimbro Avenue. A little more than 0.25 mile later, Browns Creek State Trail intersects the Gateway State Trail.

The connection to the Gateway State Trail at Duluth Junction will be an important at-grade intersection with significant trail traffic that will include a mix of bikers, pedestrians and horse riders. The intersection should provide good sight distances, and a right-angle intersection or roundabout should be considered to minimize the potential for collisions. The DNR will work closely with its partners to design an appropriate trail connection and any associated facilities.

Facilities in the vicinity of Duluth Junction could include:

- Shelter
- Water
- Orientation Signs
- Interpretation Signs

The present parking lot near the intersection of the Gateway State Trail and Highway 96 – about 0.25 mile northeast of Duluth Junction – provides 12 parking spaces, an information kiosk, portable toilet and a small horse corral.



Manning Avenue

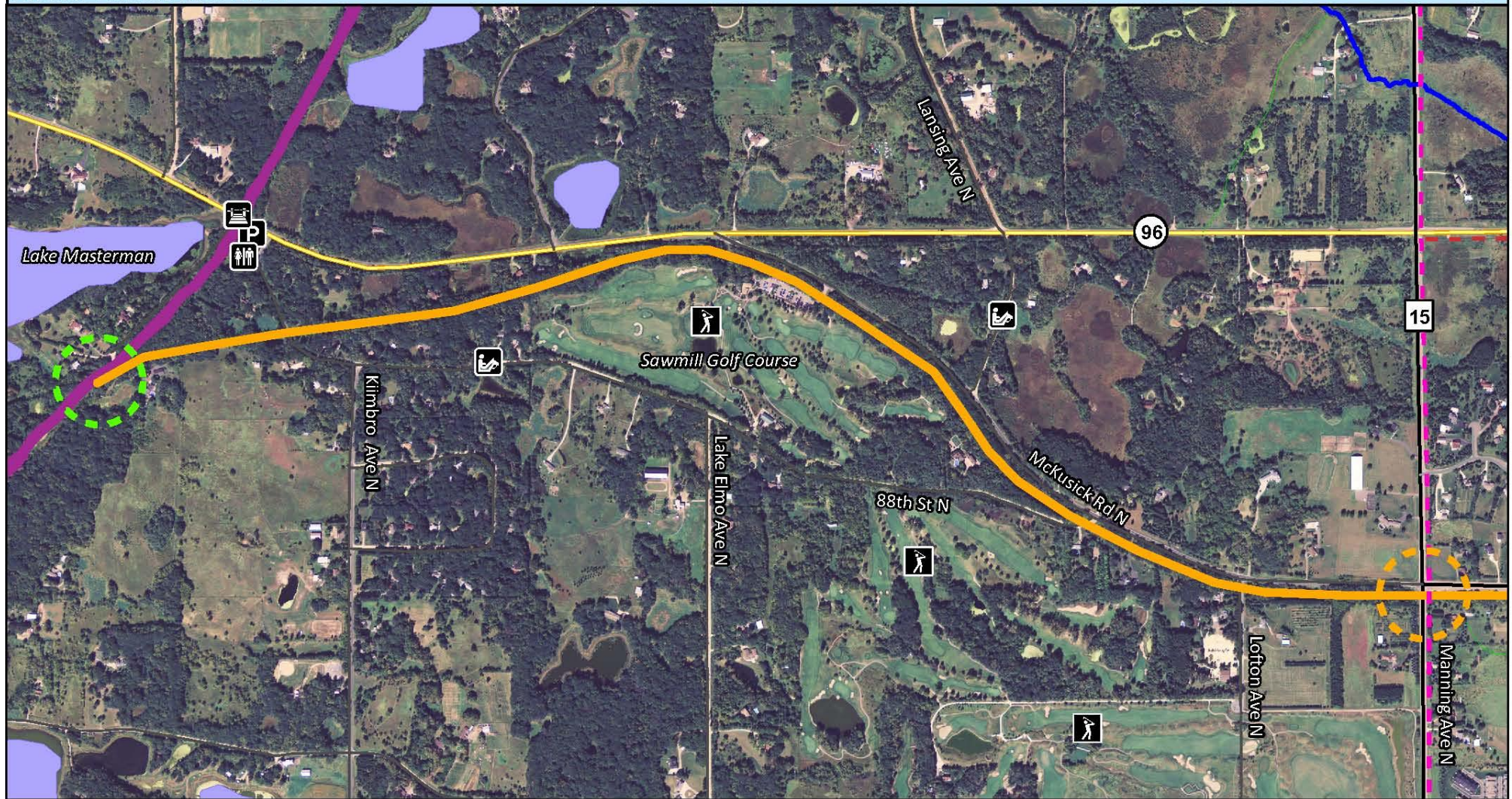
***Manning Avenue to
Duluth Junction
2.1 miles***



Duluth Junction



*Gateway State Trail bridge and
trailhead*

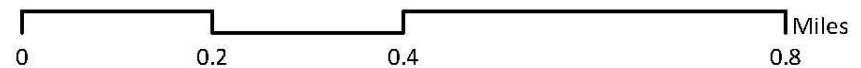


Legend

- Brown's Creek State Trail
- Washington Co. Central Greenway Reg. Trail (Proposed)
- City of Stillwater Trail (Proposed)
- Designated Trout Stream (Brown's Creek)
- Protected Tributary to Designated Trout Stream
- Lake, Pond, Stream, River
- MN Trunk Highway
- County Highway
- Municipal Road
- P Parking
- ♂ ♀ Restrooms
- ⚖ Bridge
- ⌂ Golf Course
- 🐎 Horse Trail (City of Grant)
- 🌲 Park
- Key Access Point
- Key Intersection



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Other Trail Design Considerations

Trail Surface

In Minnesota, asphalt is the most common and desirable surface for general multiuse trails.^{vi} The cross-slope on a trail should be no more than 1.5 to 2 percent. Cross-slope greater than 2 percent is noticeable and can be an annoyance to trail users. It also makes the trail less accessible to those in wheelchairs and using walkers.

Trail Width

Regional and state trails are typically a minimum of 10 feet in width, with a 12-foot width being an option in high use areas. Two-way traffic is the general standard for most trails.

Shoulder Width

Shoulders provide a recovery area for trail users to avoid conflicts and regain control if they have slipped off the trail. The design standard for such trail shoulders is 2 feet wide on each side.

In cases where the trail traverses significant side slopes or other hazards, the shoulder should be widened to increase the margin of safety. In most cases, a minimum of 5 feet is recommended, but this can vary considerably based on the site-specific circumstances.

Old rail beds with a limited top width pose a unique circumstance often requiring modified shoulder widths. Since the grade adjacent to the trail may be steeper than 3:1, a wider shoulder is desired to allow enough space for recovery if a bicyclist or other user travels off of the trail surface to avoid a collision or due to lack of attention.

When the separation between a hazardous slope or drop-off is less than five feet from the trail, a physical barrier such as a safety fence should be used to protect the trail user. The height for a safety fence is a minimum of 48 inches with 54 inches preferred.

Design Speeds

Major city, regional, and state trails typically have design speeds up to around 20 mph, with most bicyclists riding comfortably between 8 and 20 mph. Generally, trail design speeds need to take into consideration the setting, width of the trail, gradients, sightlines, and expected levels of use.

Appropriate signage and pavement markings (e.g. painted warnings, stripings) should be used wherever field conditions requires the user to slow down below the design speed of the trail.

4. Trail Management

Projected Trail Use

Existing State Trail Use as an Indicator of Brown's Creek State Trail Use

The Brown's Creek State Trail will be an important link between the Gateway State Trail and trail systems in Washington County, the City of Stillwater, Stillwater Township, and the City of Grant. Data from a survey done on the Gateway State Trail has been used to make estimates of the volume of trail users expected on the Brown's Creek State Trail. The Brown's Creek State Trail can be expected to have a use pattern similar to the Gateway State trail due to the similarities in location and proximity to population, and attractiveness of the destination.

Data for the Gateway State Trail was gathered in the summer of 2003 and is reported in "user hours."^{vii} One user hour is defined as one person using the trail for one hour. Two people using the trail for one hour is reported as two user hours. User hours are an effective way to combine and compare trail activities that have varied outing lengths.

From that survey trail activities accounted for the following user hours:

- | | |
|--------------------|-------------------|
| • Bicycling | 91,330 user hours |
| • Walking | 25,789 user hours |
| • In-line skating | 21,310 user hours |
| • Running | 6,318 user hours |
| • Horseback riding | 1,741 user hours |
| • Other activities | 1,574 user hours |

The intensity of summer use on the Gateway State Trail in 2003 was 148,062 seasonal hours per trail mile, which was the busiest of all the state trails. Based on this use per trail mile, and using visitation factors from Minnesota State Parks and the Metropolitan Council, the DNR estimates approximately 75,000 people will use the Brown's Creek Trail annually. Once the trail has been developed, use surveys will be conducted to determine actual trail use.

One reason the Gateway State Trail is used so intensively is the large number of people who live near the trail. Just over one million people live within ten miles of the Gateway, a local population base that is nearly twice as large as the next largest population base found for another Twin City metro area state trail (Luce Line).

While it is difficult to predict future trail use, it would be reasonable to estimate that the Brown's Creek State Trail will receive as much use as the Gateway State Trail.

Trail Maintenance

Maintenance of the Brown's Creek State Trail 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.
- Scheduling of maintenance tasks.
- 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.

Trail Maintenance Recommendation

Recommendation 1: *Additional maintenance funds will be required to maintain the trail after it is developed.*

Information and Education

Trail User Orientation

Trail users must have 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 information boards 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 communities, 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 (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 each community developed, maintained and updated by the community could be displayed on information boards at parking areas in each community.

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 trailheads and other key locations.

Volunteer trail ambassadors could be used to distribute information on appropriate trail behavior and etiquette relative to specific problems such as unleashed dogs, passing of other users, and the need to clean equipment to prevent the spread of invasive species.

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 are often identified during the planning process. Sometimes an overall interpretive theme can help tie together spatially separated interpretive sites and provides continuity in the messages presented. See the map on page 41 for possible themes and locations for resource interpretation.

Interpretive signage will be developed in consultation with other DNR divisions, the Minnesota Historical Society, and the Washington County Historical Society.

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 communities 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: Parks and Trails staff should cooperate with schools to use the trail for environmental education purposes.

Enforcement

Minnesota State Trails are very safe and generate very few complaints.^{viii} 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: *Investigate the feasibility of a state trail ambassadors program to communicate with trail users regarding trail safety and etiquette.*

Recommendation 4: *Enforcement related costs will be noted when providing information about trail costs to legislators and local government officials.*

5. 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 resource managers to better understand the landscape and manage resources sustainably.

Minnesota is located at the center of North America where the prairie, boreal forest, and eastern deciduous forest meet. There are four major ecological provinces in Minnesota: the Eastern Broadleaf Forest, the Laurentian Mixed Forest, the Prairie Parkland, and the Tallgrass Aspen Parklands. All four are parts of much larger systems that cover major areas of central North America.

The Eastern Broadleaf Forest Province, primarily made up of deciduous forest, extends eastward from Minnesota all the way to the Atlantic Ocean. The Laurentian Mixed Forest Province, largely consisting of coniferous forest, extends northward into Canada. The Prairie Parkland Province extends westward into the Dakotas and across the Central Plains of the United States. The Tallgrass Aspen Parklands Province represents the southern tip of a large province that extends north and west into the Canadian Prairie Provinces.

These ecological provinces are divided into subsections – distinct landscapes of Minnesota, defined by vegetation, geology and other resource criteria. The Brown's Creek State Trail is located in the St. Paul-Baldwin Plains and Moraines Subsection. The northern boundary of this subsection consists of the St. Croix Moraine complex. To the west, terraces associated with the Mississippi River separate the subsection from the Anoka Sand Plain subsection. The southern boundary coincides with the southern edge of the Rosemount Outwash Plain.

St. Paul – Baldwin Plains and Moraines Subsection

This subsection is small and continues into Wisconsin. Although it is topographically low in comparison to other areas in the state, the subsection is dominated by a large moraine and areas of outwash plain. The map on the following page illustrates all of the state's Ecological Subsections.

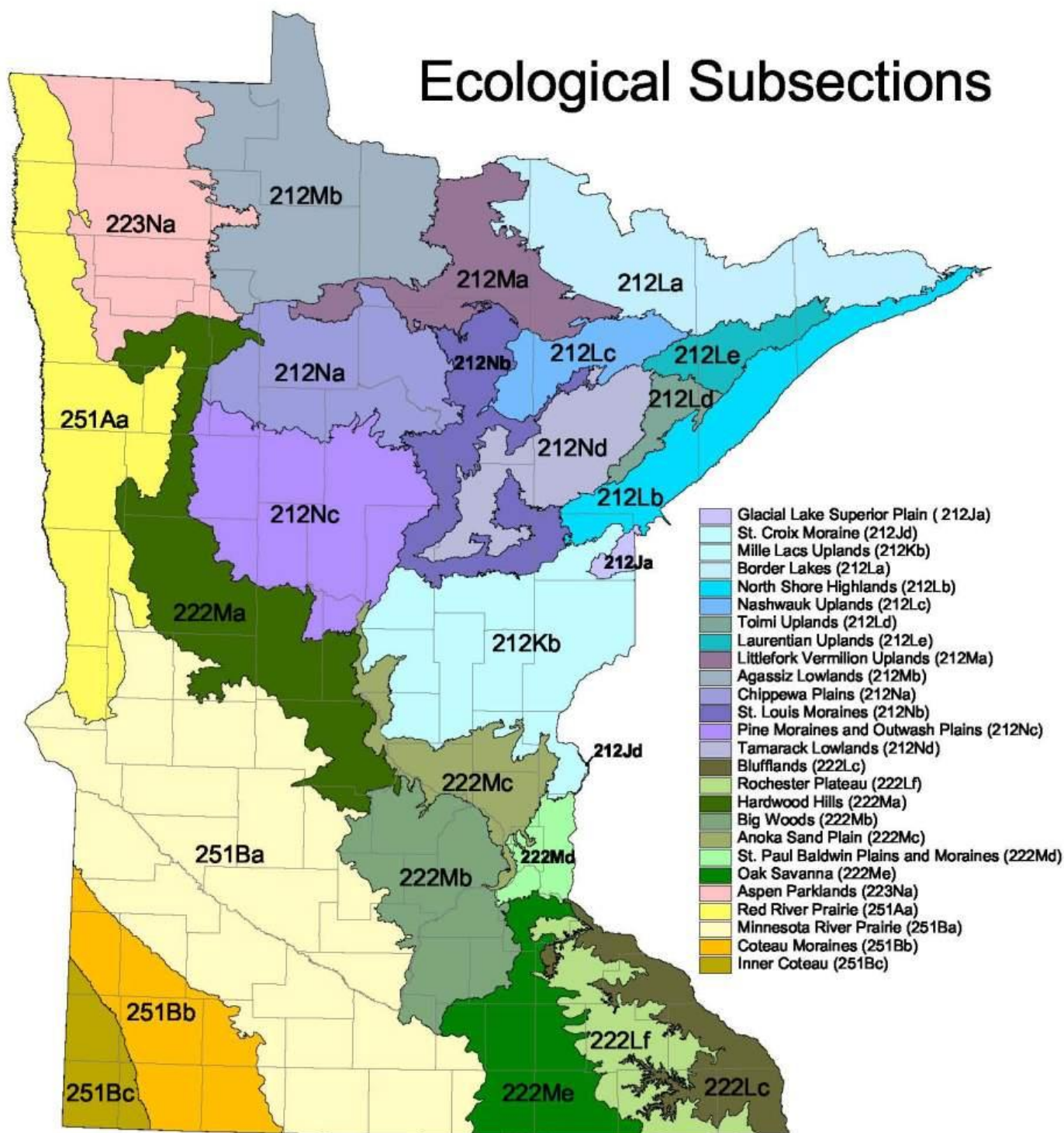
Climate. Annual normal precipitation ranges from 28 inches in the north to 31 inches in the south, and growing season precipitation ranges from 12.5 to 13 inches. The average growing season length ranges from 146 to 156 days.

Geology. This subsection is dominated by a Superior lobe end moraine complex. South of this moraine is a series of outwash plains associated with the Superior lobe. There are some areas of loess plain over bedrock or till in the southeastern portion of the subsection. Topography is rolling to hummocky on the moraine with steep, short complex slopes and level to rolling on the outwash.



The four major ecological provinces in Minnesota: Eastern Broadleaf Forest (green), Laurentian Mixed Forest (violet), Prairie Parkland (yellow) and Tallgrass Aspen Parklands (bright green)

Ecological Subsections



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September, 2000



Division of Forestry
Ecological Land
Classification Program

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Glacial drift is generally less than 100 feet thick within the subsection, with maximum thickness of about 200 feet^{ix}. Ordovician and Devonian dolomite with some limestone, sandstone, and shale is locally exposed, especially in the dissected stream valleys at the eastern edge of the subsection^x. Precambrian bedrock is exposed along the St. Croix River.

Soils. Soils in this subsection are primarily soils formed under forested vegetation. Areas of soils formed under prairie vegetation are present on the outwash plains. Parent materials are mixed on the moraines (mixtures of clay loams, loams, sandy loams, and loamy sands). The outwash plains have sandy parent materials.^{xi}

Vegetation

Presettlement Vegetation

Presettlement vegetation in the trail area consisted primarily of oak forests and brushlands with prairie openings, and some maple basswood forests on protected upland sites. The lowlands consisted of sedge meadows, cattail marshes, open water and some hardwood swamps. Northern pin oak and bur oak were the dominant species of the oak forests with black cherry, basswood, and green ash also being present, ranging from sizeable stands to small groves of oaks intermixed with aspen. Brushlands were shrub thickets consisting of hazelnut, gray dogwood, young aspen, and scrub oak. Fire often controlled the growth of these oak dominated woodlands.^{xii}

Present Day Vegetation

Between Laurel Street and Stonebridge Trail (Eastern Segment), the trail passes along a deep ravine or gorge. The forest here is a moderately dense, moist deciduous forest. The canopy is dominated by red oak, paper birch and yellow birch, but also includes green ash, basswood, and sugar maples. The sub-canopy has a rich diversity of sapling species including sugar maple, basswood, slippery elm and butternut. There are several smaller ravines that carry runoff and small moist areas of saturated seeps. The Minnesota County Biological Survey has identified several native plant communities in this area. Please see the map on the following page and information contained in Appendix A.

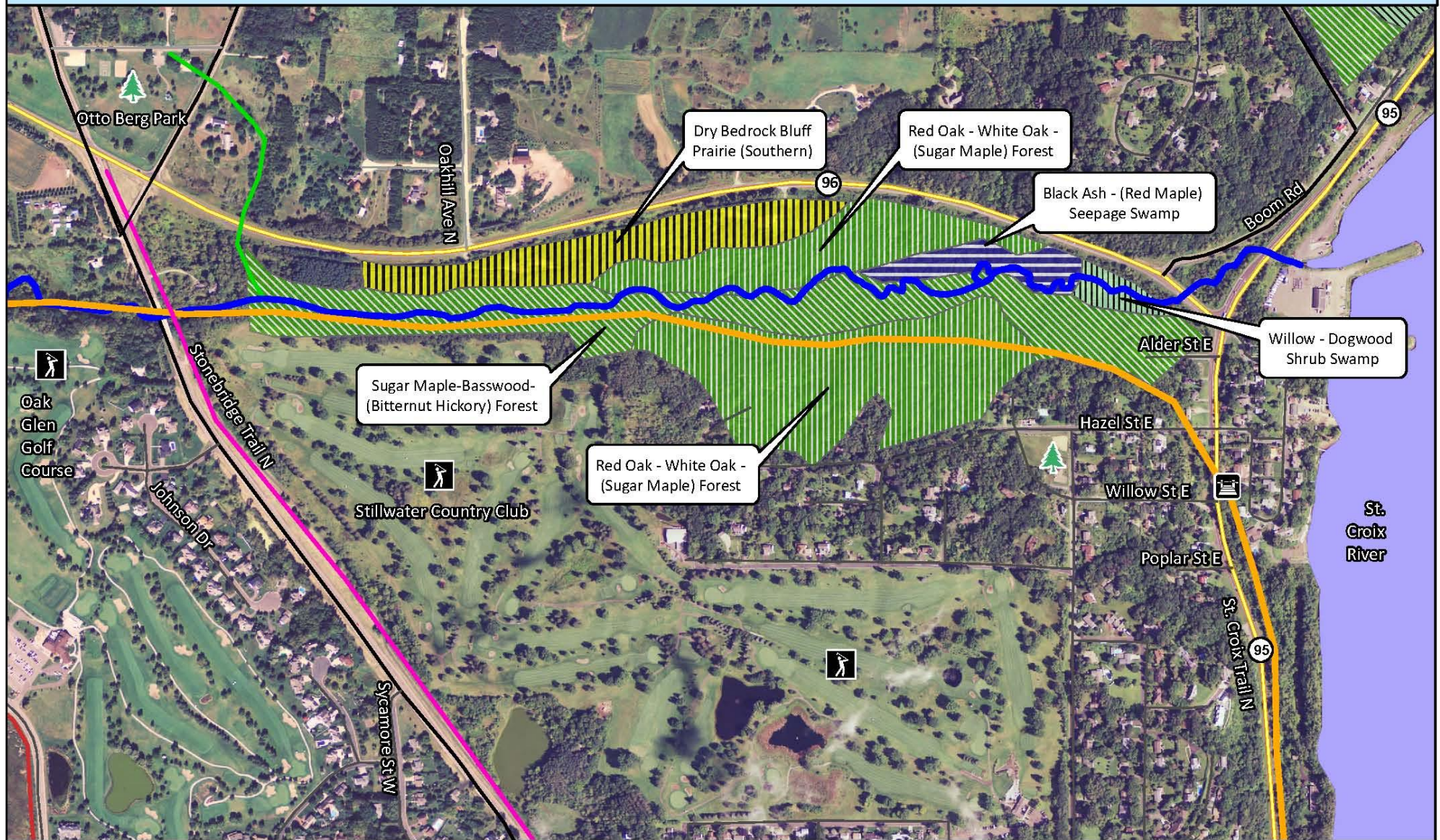
Between Stonebridge Trail and Manning Avenue (Central Segment), the trail passes through more developed areas including three golf courses.

Between Manning Avenue and Duluth Junction (Western Segment), the trail is fairly level, passing moist deciduous woods, and scattered wetlands.

All three segments contain various levels of non-native, invasive species.

Vegetation Management Recommendations

Recommendation 1: Produce a natural resource assessment that identifies native plant communities, natural features, invasive species, wildlife

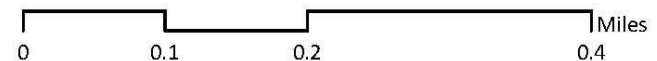


Legend

- | | | |
|--|------------------|---|
| Brown's Creek State Trail | MN Trunk Highway | Red Oak - White Oak - (Sugar Maple) Forest |
| Washington County Trail | County Highway | Sugar Maple - Basswood - (Bitternut Hickory) Forest |
| City of Stillwater Trail | Municipal Road | Dry Bedrock Bluff Prairie (Southern) |
| Designated Trout Stream (Brown's Creek) | Bridge | Black Ash - (Red Maple) Seepage Swamp |
| Protected Tributary to Des. Trout Stream | Golf Course | Willow - Dogwood Shrub Swamp |
| Lake, Pond, Stream, River | Park | Seepage Meadow/Carr |



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occurrences, water resources and cultural resources prior to development so resources may be protected during construction.

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

Recommendation 3: *Restore and manage native plants and 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 private land.*

Recommendation 5: *Encourage and support adjoining landowners to become partners in managing native plant communities.*

Recommendation 6: *Foster trail user awareness through information and interpretation of natural resources management practices.*

Wildlife and Habitat

The Mississippi and St. Croix Rivers are located within the St. Paul-Baldwin Plains and Moraines Subsection, making it a vital area for wildlife. Featured species in the subsection include bald eagles, peregrine falcons, red-shouldered hawks, Blanding's turtles, trumpeter swans, hooded warblers, and bobolinks. The area is also a significant migratory corridor for birds, and the St. Croix River provides habitat for a diversity of mussels and small stream fishes. The opportunities for wildlife observation will likely attract many trail users.

Species in Greatest Conservation Need

Species in Greatest Conservation Need (SGCN) have been identified for each ecological subsection in Minnesota. This category, which includes both plant and animal species, includes:

- Species whose populations are identified as being rare, declining, or vulnerable in Minnesota, including species with legal protection status (federal or state endangered or threatened species);
- Species at risk because they depend upon rare, declining, or vulnerable habitats;
- Species subject to specific threats that make them vulnerable (i.e. invasive species);
- Species with certain characteristics that make them vulnerable (i.e. highly localized distribution);
- Species with stable populations in Minnesota that are declining outside of Minnesota.

One hundred and forty-nine SGCN are known or predicted to occur in the St. Paul-Baldwin Plains and Moraines subsection^{xiii}, the second most of all subsections in Minnesota. (Only the Blufflands subsection, in southeastern Minnesota, has more SGCN.) These SGCN include 74 species that are federal or

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state endangered, threatened, or of special concern. The taxonomic groups with the largest number of SGCN in the St. Paul-Baldwin Plains and Moraines subsection are birds (59), fish (25), and mollusks (25).

Key habitats in the St. Paul-Baldwin Plains and Moraines subsection include deciduous forest, oak savanna, prairie, wetlands, lakes and rivers. Areas near the state trail corridor (e.g. Warner Nature Center, Square Lake Park, St. Croix Island State Recreation Area, and William O'Brien State Park) are important for SGCN. A complete list of SGCN by subsection is included in *Minnesota's State Wildlife Action Plan: Tomorrow's Habitat for the Wild and Rare*.

Threatened, Endangered, or Special Concern Species

Based on a search of the Natural Heritage Information database, the species listed in Appendix A as threatened, endangered, or species of special concern are found within or near (within one mile) of the trail search corridor. These species are protected by state law and should be considered during trail development. Some of these species are water-based (i.e., freshwater mussels) and would see little impact if water quality is protected during trail development. Others such as plant species are more vulnerable.

Wildlife and Habitat Recommendations

Recommendation 1: *Avoid impact to threatened and endangered species, and avoid or minimize impact to special concern species and natural features in trail planning, development and maintenance. Parks and Trails Division natural resource staff will keep current with Natural Heritage data, consult with regional plant ecologists and land managers, and perform on-the-ground surveys.*

Recommendation 2: *Avoid critical habitats; manage and enhance habitats, where possible; consider fish and wildlife needs when designing water crossings; and use native species – consistent with the natural communities of the area – when re-vegetating areas disturbed by trail construction and maintenance.*

Water Resources and Fisheries

The trail alignment is within the St. Croix Watershed. The St. Croix River is a significant water resource and a major recreational attraction in the area. There are also many lakes in the vicinity of the Brown's Creek State Trail alignment; most were created by the moraine topography. The drainage network is poorly developed throughout most of the subsection. This is due to the nature of the landforms. The end moraines in the northern third have an undeveloped drainage network. The St. Croix River forms the east boundary of the subsection, as well as the boundary between Minnesota and Wisconsin.

Brown's Creek State Trail is located primarily in the Brown's Creek Sub-watershed, which is a part of the St. Croix Watershed. The southeast end of the Brown's Creek State Trail as it runs parallel with the river is in the Middle St. Croix Watershed.

Brown's Creek State Trail Master Plan

Managing stormwater is important in the trail corridor, particularly in the Brown's Creek gorge area. Passive, overland routing of runoff (i.e. natural infiltration) will be used wherever possible and will be supported by the use of other best management practices (BMPs) that address common development circumstances. There are a variety of BMPs related to managing stormwater, preventing erosion, and limiting nonpoint water pollution that have application to trail development. The DNR Parks and Trails Division will work closely with the DNR Ecological and Water Resources Division, the DNR Management Resources Division, and the Brown's Creek Watershed District (BCWD) on the use and application of BMPs in and near the trail corridor.

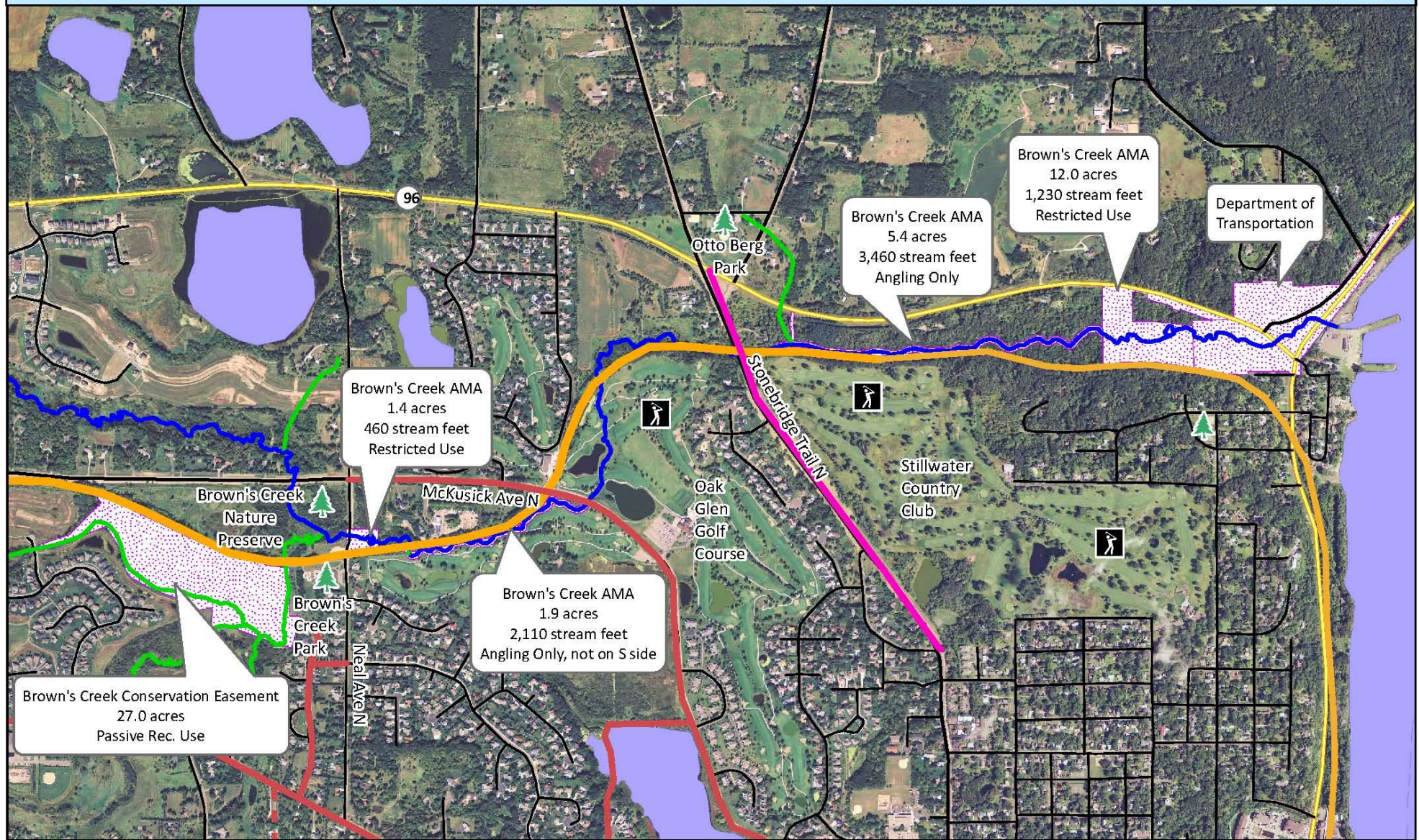
Several Aquatic Management Areas (AMAs) and easements exist along the trail corridor between St. Croix Trail North/Highway 95 and Neal Avenue North. These easements help to protect the designated trout stream, and restrict use in and around the creek to fishing primarily. In addition to the AMAs, private property abuts the trail corridor for a majority of its length. Trail users are strongly encouraged to stay on the trail to protect sensitive natural and cultural resources, and to respect private property rights along the trail.

With regard to fishing access, the Minnesota Department of Transportation maintains three parking spaces for anglers in the lower portion of the stream on the north shoulder of Highway 96/Dellwood Road, just west of the junction with Highway 95/St. Croix Trail and Boom Road.



Brown's Creek

Brown's Creek is a designated trout stream managed by the Minnesota DNR, Division of Fish and Wildlife^{xiv}. It's one of the few trout streams in the Twin Cities metro area that support a fishable trout population. The DNR has actively managed Brown's Creek since 1955. Over the years, the DNR has collected information about the stream and its trout population, and collaborated with several organizations and residents to help protect and improve Brown's Creek.

Population assessments help the DNR track the health of the stream and manage the recreational fishery. Brown's Creek was first stocked with brown trout in 1955 and then annually from 1958 to present. Current management plans call for about 800 to 1,000 fingerling brown trout to be stocked each spring. Stocked fish typically average about 5 to 6 inches in length, although some can be as large as 12 inches. Brown trout stocked in Brown's Creek usually fare well, growing at fairly rapid rates. Fall electrofishing surveys by the DNR occasionally find fish in the 10- to 12-inch range, and sometimes even as large as 18 to 20 inches. Both stocked trout and other fish are found during these DNR surveys; considerable wild fish production has been documented.



Legend

- Brown's Creek State Trail
- Washington County Trail
- City of Stillwater Trail
- Designated Trout Stream (Brown's Creek)
- Protected Tributary to Designated Trout Stream
- Lake, Pond, Stream, River
- MN Trunk Highway
- County Highway
- Municipal Road
-  Golf Course
-  Park
- Aquatic Management Area (AMA) or Conservation Easement

0 0.3 0.6 1.2 Miles



DNR Division of Parks and Trails
January 2012

Brown's Creek State Trail Master Plan

Water quality, habitat quality and food availability are all factors that determine how well trout survive, grow, and reproduce. In all trout streams, repeated periods of high streamflow and elevated water temperatures will take a toll on trout survival and reproduction.

Efforts to improve habitat and water quality have been ongoing. With the goal of reducing water temperatures and improving trout habitat, the city of Stillwater and the DNR collaborated to construct a new stream channel along the Minnesota Zephyr rail line and the Oak Glen Golf Course in 1999. This project created a 2,000 foot section of stream that replaced a 5,130 foot section that flowed through the wetland just north of McKusick Lake and across the golf course.

This rechanneling project lead to cooler water and improved habitat in and along Brown's Creek. Brown trout are now found farther upstream than before. More recently, the DNR and Trout Unlimited have worked with the golf course to improve trout habitat in what was some of the poorest quality habitat.

Trout aren't the only indicator of good water quality and good stream habitat. One of the best-known indicators is aquatic macroinvertebrates. They serve as indicators of water quality because they have varying levels of tolerance to pollution. Students from Stillwater Area High School have monitored habitat and aquatic macroinvertebrates at two sites in Brown's Creek since 1998.

In 2008, the stretch of creek between County Road 15 and the St. Croix River was designated by the Minnesota Pollution Control Agency and the US Environmental Protection Agency as impaired for aquatic life due to a lack of cold water fish assemblage (i.e. a biotic or fish impairment)^{xv}. In 2010, the same stretch was listed as impaired for aquatic life due to high turbidity (or a lack of water clarity). As a result, the Brown's Creek Watershed District has drafted a Total Maximum Daily Load (TMDL) Implementation Plan. The draft TMDL Implementation Plan was available for review and comment in late 2011.

In 2010, with a grant from the Clean Water Legacy Fund, the Brown's Creek Watershed District partnered with the Stillwater Country Club to improve the water quality of Brown's Creek. The improvements added aesthetically pleasing gardens and native plant diversity to the course. By late 2010, eight rain gardens, two native planting areas, and numerous other stormwater management features were added or completed. Rain gardens will help keep rainwater on the golf course, reducing the amount of soil that erodes and enters Brown's Creek.

Lower St. Croix National Scenic Riverway

The Lower St. Croix National Scenic Riverway includes the lower 52 miles of the St. Croix River between Taylors Falls, MN/St. Croix Falls, WI and the confluence with the Mississippi River at Point Douglas, MN/Prescott, WI. The Lower St.



Construction Work at the Stillwater Country Club. Photo courtesy of the Minnesota Board of Water and Soil Resources.

Brown's Creek State Trail Master Plan

Croix was the first river added to the National Wild & Scenic Rivers Program by Congress in 1972.

The upper 10-mile stretch of the Lower St. Croix is classified as scenic, while the lower 42 miles are classified as "recreational." The National Park Service, the Minnesota DNR and the Wisconsin DNR manage the riverway jointly. The scenic qualities of the St. Croix River will likely attract high numbers of state trail users.

Wetlands

A few areas of open water and other wetlands are located within one mile of the proposed trail location. Types of wetlands included in the area include wet meadows, marshes, shrub swamps and forested swamps. Roughly 370 acres of Public Waters Inventory (PWI) wetlands are located within one mile of the trail.

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 done, mitigation measures must be provided.

Water Resources Recommendations

Recommendation 1: Minimize trail development and maintenance impacts to adjacent water resources through the use of mulching, geo-textiles, silt screens and seeding to establish vegetation.

Recommendation 2: Continue to collaborate with the Division of Ecological and Water Resources, and the Browns Creek Watershed District for the protection of the designated trout stream and its surrounding habitat before, during, and after trail construction.

Historical and Cultural Resources

Presettlement^{xvi}

Migratory bands of people started moving into Minnesota during the Paleoindian Period (10,000 B.C. – 6,000 B.C.) as the glaciers retreated from the Upper Midwest. Stone knives and projectile points found throughout Minnesota suggest that hunters of the late Paleoindian Tradition pursued prairie animals such as mastodons and bison, as well as the deer and elk of the northern forests.

The Archaic Period (6,000 B.C. – 800 B.C.) was a time of increased diversity of plant and animal communities resulting from a changing climate. Humans also diversified their hunting, trapping, fishing, foraging, and woodworking technologies. Chipped stone tools, notched projectile points, and pecked and ground stone tools are evidence of this time period.

Brown's Creek State Trail Master Plan

The Woodland Period (800 B.C. to Historic Contact) brought the beginnings of plant domestication and more intense settlement patterns, especially near stream and lake areas. The development of ceramics and mound construction for burial activities were significant advances in this time period.

During the Oneota/Plains Village Occupation (900 A.D. to Historic Contact) in southern Minnesota, there was much development along major river valleys. Subsistence strategies were developed based on simple agriculture, gathering, and bison hunting.

Exploration and Settlement^{xvii}

In 1836, the St. Croix River was included in the new Wisconsin Territory, but the land between that river and the Mississippi was still unceded Indian land. Lumbering interests put pressure on the U.S. government to purchase the pine lands around the St. Croix. In 1837 Governor Henry Dodge of Wisconsin Territory met with various bands of Ojibwe and agreed to a treaty. The Treaty of St. Peters- also informally referred to as The White Pine Treaty- ceded the Ojibwe lands in the Chippewa Valley to the U. S. government in exchange for cash, goods and provisions as well as hunting, fishing and gathering rights^{xviii}. Another treaty was signed in Washington D.C. that September with the Dakota, who ceded their lands east of the Mississippi River, lands that now make up Washington County^{xix}. Again, the land cession was in exchange for cash, goods and provisions. The treaties were ratified in 1838.

Even before ratification, white settlers began pouring into the newly ceded triangle of land between the two rivers. Among them was a former soldier, Indian trader, promoter, and Justice of the Peace named Joseph R. Brown. Joseph R. Brown had been in the area since 1820, when he was a private in the frontier army that built Fort Snelling. Brown set up a store and farm at Grey Cloud Island, but kept a small warehouse at the head of Lake St. Croix to supply upriver fur trading operations. This warehouse, which was in what is now North Stillwater, became the nucleus of a new village that he called "Dacotah." Brown's claim became the county seat of St. Croix County, Wisconsin Territory in 1840.

In 1841, Joseph R. Brown built a house of tamarack logs, a courthouse and jail in Dacotah, just north of Stillwater. (Brown is the namesake of the trout stream whose mouth is just north of the Tamarack House site and now, the state trail.) Few settlers arrived, although the Tamarack House became a favorite stopping place on the St. Croix River. Two eastern lumbermen, John McKusick and Elam Greeley, looking for a good site to build a sawmill, stopped at the Tamarack House. They were pleased with the potential for waterpower and completed the construction of a sawmill, the Stillwater Lumber Company on April 1, 1844. This was the first frame building in Stillwater.

As the mill prospered, most of the settlers of Dacotah moved south to Stillwater. Brown's courthouse was never completed and Dacotah was all but



Historical marker on the west side of Highway 95.

Brown's Creek State Trail Master Plan

abandoned. In January 1846 Stillwater was made the new seat of St. Croix County. The first court was held in Stillwater in June 1847 in McKusick's store.

City of Stillwater and Stillwater Township

After Wisconsin became a state in May 1848, all the ceded lands west of the St. Croix and Mississippi Rivers were left without government. Joseph R. Brown and others called together settlers in this unorganized territory to meet at Stillwater on August 26, 1848, in what has become known as the "Stillwater Convention." At this convention, held in John McKusick's store, the delegates drafted a Memorial to Congress that a new territory be created and this territory be named "Minnesota," and elected Henry Sibley to deliver this citizen's petition to the U.S. Congress. Sibley's actions in Washington helped speed the formation of Minnesota Territory, which was organized in March, 1849. Because of this convention, Stillwater calls itself the "Birthplace of Minnesota."

Within a year of Minnesota becoming a territory, the decision was made to locate the territorial prison in Stillwater. Construction began in 1851, and the prison opened in 1853. On March 4, 1854, the same day as St. Paul, Stillwater was incorporated as a city.

The Minnesota Road Act was passed in 1850 and one of the first roads authorized was the Point Douglas-St. Louis River Military Road. The road would run from Point Douglas through Cottage Grove, Stillwater, Marine Mills (now Marine on St. Croix), Falls of St. Croix (now Taylors Falls), and on to the falls of the St. Louis River. This road crossed Brown's Creek just west of the St. Croix River and Stillwater. The Point Douglas-St. Louis River Road Bridge, dating to 1863, is the oldest stone arch bridge in the state of Minnesota.

Stillwater Township was organized in 1858 and once almost completely surrounded the city of Stillwater. The surface of the township is rolling and the soil is very good for agriculture. The township has several lakes, including Silver Lake, Loon Lake, Little Carnelian, Long Lake and Twin Lakes.

A government road was laid out in the township in 1848, running along the south boundary, and in 1858 a plat of 207 acres of land was purchased by the county to be utilized as the county poor farm. The poor farm was located in sections five and six and the original building could accommodate up to thirty persons. In 1924 the buildings were rebuilt and later the poor farm became the Pine Point Nursing Home and is today the Outing Lodge.

The Stillwater Town Hall was constructed around 1886, and was the scene of many community and social gatherings. The area north of the town hall was platted as North Stillwater, but was never incorporated.



*Stillwater looking south on Main Street
ca. 1865. Photograph by E.F. Everitt.*



Stillwater Town Hall

Grant Township

The first farms were established in the eastern part of Grant in 1849 by two men from New York. Soon after, more farmers from the East Coast began arriving to settle in the area. Before these eastern Americans arrived, Ojibwe occupied most of the land. The township was organized as Greenfield Township on October 20, 1858. It originally covered today's cities of Grant, Mahtomedi, Willernie, Birchwood, Dellwood and two-thirds of East White Bear Lake. In 1864, after the realization that there was also a Greenfield Township in Hennepin County, the name was changed to Grant to honor Ulysses S. Grant.

According to the St. Croix Valley Press (Jan. 2004), Grant was the place to be in the mid-1800s because of "lush farm country that included cheap land." At that time, Highway 96 (Dellwood Avenue), was an Indian trail that was used as a horse cart trail for travelers between Stillwater and White Bear Lake. Another road was surveyed across the township in 1847, connecting Stillwater with St. Paul on a line south of White Bear Lake. James Rutherford and S. C. Booth built a flourmill in 1857 on Brown's Creek.

Except for Withrow, which, in the early 1900s boasted a creamery, blacksmith and general store, bank, elevator and feed mill, stockyards, lumberyard, potato warehouses and a pool hall, Grant was almost exclusively a farming community during its first century.

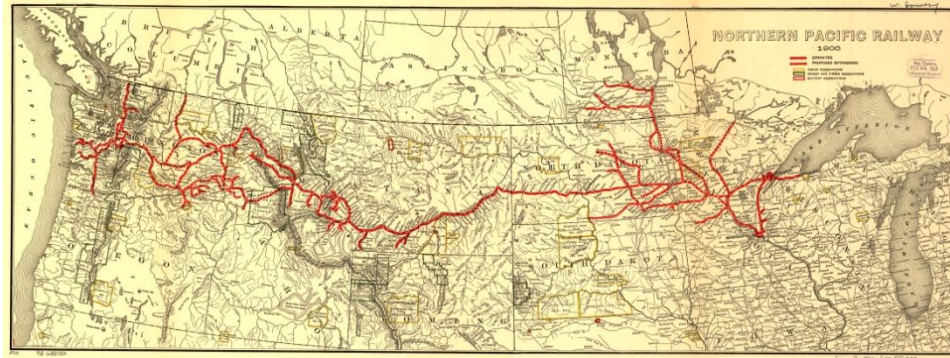
Over the years Grant Township was broken up into smaller units. The western one-third became Lincoln Township in 1918 and eventually Lincoln was split up into Mahtomedi, Willernie, Birchwood, and Pine Springs. The last community to break off was Dellwood in 1993.

Grant has remained primarily rural in nature, due, in part, to 1976 zoning that has required a 10-acre minimum lot size. Since then, most development has been residential. In 1996, Grant was incorporated as a city. Only a few commercial farms now remain in Grant, but many small hobby farms, mostly for raising, training, and boarding horses have replaced them.

Northport Airport on Highway 96 about midway between Stillwater and White Bear Lake operated in Grant for many years and was a general aviation grass-runway field that trained more than 3,000 glider pilots during World War II. It was torn down in the 1990s and is now the site of a housing development.

Railroads

The Stillwater & St. Paul Railroad, the first railroad to reach Stillwater, was completed in the fall of 1870 and traversed Grant from White Bear to Stillwater (this line was later purchased by the St. Paul & Duluth Railroad in 1899 and the Northern Pacific the following year). The years to come brought several additional rail lines to the area.



Northern Pacific Railway ca. 1900. Map courtesy of Library of Congress. From Fourth Annual Report of the Northern Pacific Railway company, for the Fiscal Year ending June 30, 1900.

The Minnesota, St. Croix & Wisconsin Railroad was constructed from 1884-1885 from Gloster (near Maplewood) to Carnelian Junction and on to the St. Croix River (the portion of the line from Carnelian Junction to the river was later taken up and replaced with a line from Withrow to the St. Croix River in 1911).^{xx} This line (which was acquired by the Wisconsin Central Railway Company and later, the Soo Line) was constructed to Chippewa Falls and, though circuitous, gave Grant Township a connection with Chicago. It is this line that now serves as the Gateway State Trail.

The Minneapolis & St. Croix Railroad pushed through Washington County in 1887, giving rise to the township's only village, Withrow (in 1888 this railroad merged with others to form the Minneapolis, St. Paul & Sault Ste. Marie, or Soo Line).

In 1892 the St. Paul & White Bear Lake Railroad Company ran a streetcar line out to Mahtomedi from St. Paul and by 1899 the Minneapolis & St. Paul Suburban Railway Company began regular streetcar service from Mahtomedi to Stillwater.^{xxi} Stops were at Parent, Masterman, Lies, Elliot and Grant crossings.

In 1949, the Northern Pacific's headquarters in St. Paul presided over a system of 6,889 miles, with 2,831 miles of main line and 4,057 miles of branch line under seven operating divisions.^{xxii}

Historic Districts, Buildings, and Sites

A number of historic sites near the trail corridor are listed on the National Register of Historic Places and some of them have been listed below². One, the St. Croix Boom Site, is also a National Historic Landmark, one of 23 in the state of Minnesota.

These, and many of the natural, historical and cultural resources mentioned above, provide a foundation for an interpretive plan that will be developed following the master planning process. Some possible interpretive themes are illustrated on the map on the following page.

Chicago, Milwaukee and St. Paul Freight House (added 1977-- #77000773)
233--335 Water Street, Stillwater.

Minnesota Territorial-State Prison Warden's House (added 1974 - - #74001044). 602 N. Main Street, Stillwater.

Mower, John and Martin, House and Arcola Mill Site (added 1980 - - #80000407). Arcola Trail, Stillwater.

Sauntry, William, House and Recreation Hall (added 1982 - - #82003080).
626 N. 4th Street and 625 North 5th Street, Stillwater.

St. Croix Boom Site (added 1966 - - #66000407). 3 miles north of Stillwater on St. Croix River, Stillwater. Also a National Historic Landmark.

St. Croix Lumber Mills--Stillwater Manufacturing Company (added 1982 - - #82003081). 318 North Main Street, Stillwater.

Stillwater Bridge (added 1989 - - #89000445). Also known as **Minnesota Bridge No. 4654; Wisconsin Bridge No. B-55-919**. MN 36/WI 64 over St. Croix River, Stillwater.

Stillwater Commercial Historic District (added 1992 - - #92000288).
Vicinity of Main, 2nd and Chestnut Sts. , Stillwater.

Stillwater South Main Street Archeological District (added 2010 - - #10000006). Off MN 95, Stillwater.

Washington County Courthouse (added 1971 - - #71000443). West Pine Street at South 3rd Street, Stillwater.



Chicago, Milwaukee and St. Paul Freight House



Minnesota Territorial-State Prison Warden's House



Stillwater Bridge

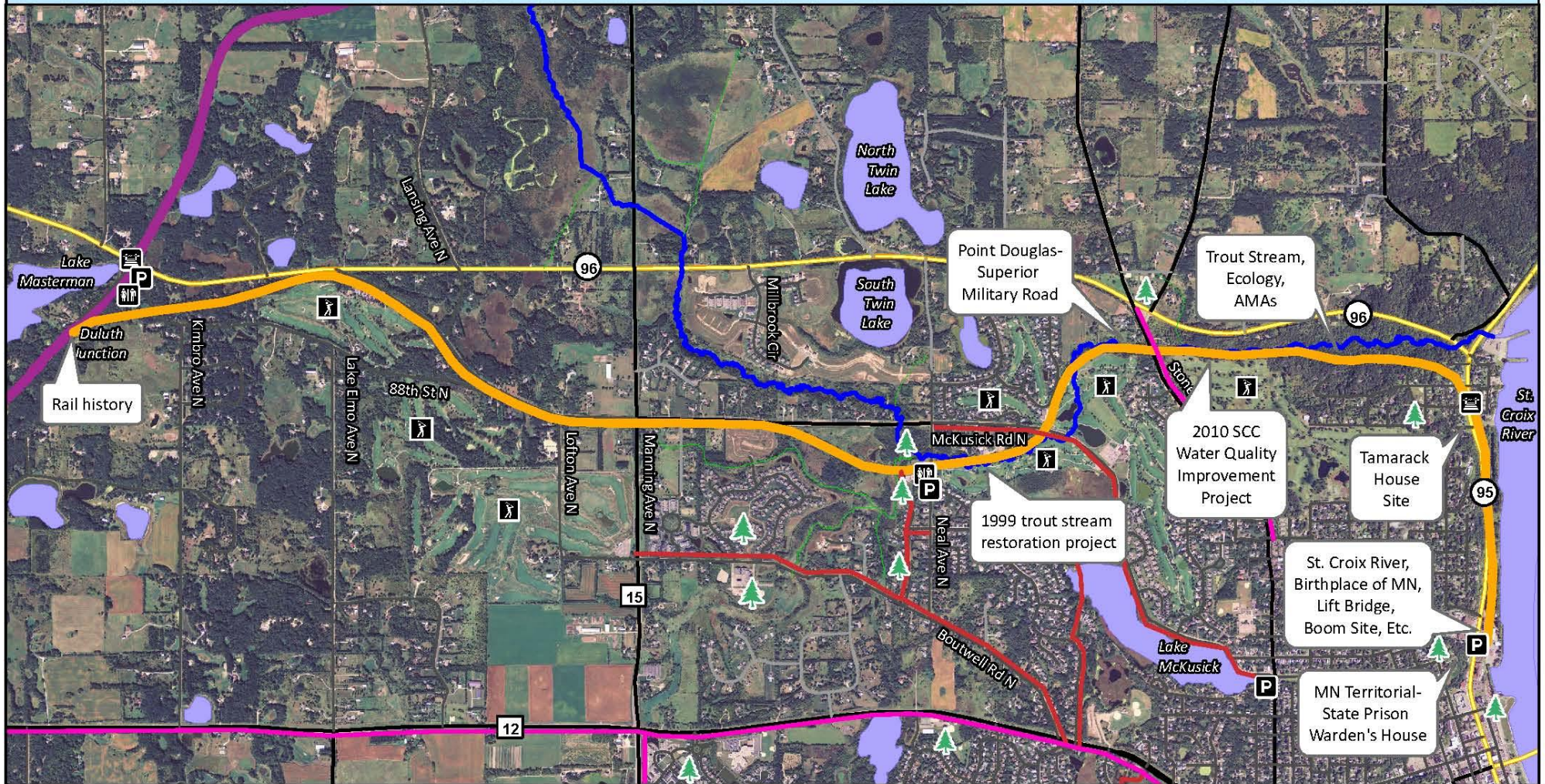


Washington County Courthouse

² National Register sites that are not open to the public or reside entirely on private property have not been included in this list.

Brown's Creek State Trail

Possible Themes and Locations for Natural, Historical, and Cultural Resources Interpretation



Legend

- Brown's Creek State Trail
- Gateway State Trail
- Washington County Trail
- City of Stillwater Trail
- Designated Trout Stream (Brown's Creek)
- Protected Tributary to Des. Trout Stream
- Lake, Pond, Stream, River
- MN Trunk Highway
- County Highway
- Municipal Road
- P Parking
- Restroom
- Bridge
- Golf Course
- Park

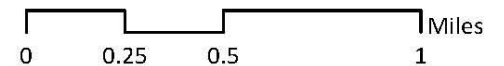
Goal for Minnesota State Trail interpretation (draft):

Cultivate the trail user's understanding and appreciation of the unique natural, historical, and cultural resources of each state trail, the communities they connect to, and the landscapes they pass through; encourage considerate behavior towards other trail users, local residents, and visitors; and satisfy trail orientation and safety needs.

Adapted from the Interpretive Plan for the Gateway Trail (1994)



DNR Division of Parks and Trails
January 2012



The Community Today

City of Stillwater and Stillwater Township

According to the 2010 Census, the City has a population of 18,225^{xxiii}. Stillwater is a popular tourist destination, offering various boutiques, antique shops, restaurants, and bed and breakfast inns, many of which are located in historical buildings. Health care and social assistance industry employs 24 percent of Stillwater residents. Other important industries include accommodations and food services and retail trade.

In 2005, the City of Stillwater had 509 acres of parks. The City also has a broad system of developed and proposed trails that connect to some of the City's parks and elementary schools. Stillwater's many parks offer a variety of amenities to users. Stillwater is also home to many community festivals, activities, and events throughout the year such as Lumberjack Days each summer.

Stillwater Township has a population of 2,366 (2010). The township consists mainly of the northern sections of its previous extent, as the former areas to the west are being annexed into the city.

City of Grant

According to the 2010 Census, the City has a population of 4,096^{xxiv}. Grant still maintains a rural character and has experienced only small amounts of commercial development. In 1976, the Grant Town Board adopted an average lot size of ten acres and a minimum lot size of five acres. In 1996 Grant reorganized as a city to preserve its rural character and protect critical habitat from high-density development.^{xxv}

There are small commercial zones in Grant along the Highway 36 and 96 corridors where several small businesses operate. Among Grant's commercial businesses are several agricultural related businesses, a farm store, two commercial apple orchards, a large nursery, and family farms that sell to the public.

Financial Impacts of Trail Development

Communities that support trails 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.

The DNR estimates that for five trails surveyed between 2007 and 2009, summer spending totaled nearly \$5 million.^{xxvi} Most of that spending (95% in total) comes from trail users who reside outside the local economy of the trail, and the 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.

Trails can 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 higher than the value of other properties in the area. For example, results of home sales near two Massachusetts rail trails (2005) show that houses near the trail sell for a higher proportion of the asking price and in about half the time that it took for houses in the general inventory.^{xxvii}

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.

6. 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.

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.

In the case of the Brown's Creek State Trail and other rail-trail conversions – where the entirety of the corridor transfers ownership at one time, there is only one alignment to assess prior to acquisition. Even so, the state trail planning process places an emphasis on public and stakeholder input, including that of local residents, businesses, government units, and other stakeholders.

1. Complete the master plan. The plan identifies a broad search corridor for the trail, within which one or more alternative alignments are identified. 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, and physical conditions such as slope, wetlands and natural and cultural resources. 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. Assess landowner interest in selling land along feasible alignments. 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. DNR or other entities may take the lead on land acquisition.

5. 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.

6. **Construction** on one or more segments, while steps 2-5 continue on others.

7. **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.

8. **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.

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.^{xxviii} (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 (LCCMR). 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>
 - Safe Routes to School: funding for local trail connections through Mn/DOT
<http://www.dot.state.mn.us/saferoutes/index.html>

Appendices

Appendix A: Natural Communities and Endangered, Threatened, and Special Concern Species

The following list of species is drawn from the database of the Natural Heritage Information System of the DNR, Division of Ecological and Water Resources, within or near (within one mile) of the trail corridor. Species are classified as follows:

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

Terrestrial Communities and Animal Assemblages are listed because they represent high-quality habitats or important natural features, but have no legal status.

Common Name	Scientific Name	Type	MN Legal Status
Black Ash - (Red Maple) Seepage Swamp		Terrestrial Community	
Black Ash-Yellow Birch-Red Maple-Alder Swamp (East central)		Terrestrial Community	
Black Sandshell	<i>Ligumia recta</i>	Invertebrate Animal	SPC
Blanding's Turtle	<i>Emydoidea blandingii</i>	Vertebrate Animal	THR
Colonial Waterbird Nesting Site		Animal Assemblage	
Dry Bedrock Bluff Prairie (Southern)		Terrestrial Community	
Fernleaf False Foxglove	<i>Aureolaria pedicularia</i>	Vascular Plant	THR
Goldie's Fern	<i>Dryopteris goldiana</i>	Vascular Plant	SPC
Kitten-tails	<i>Besseyia bullii</i>	Vascular Plant	THR
Lake Sturgeon	<i>Acipenser fulvescens</i>	Vertebrate Animal	SPC
Louisiana Waterthrush	<i>Parkesia motacilla</i>	Vertebrate Animal	SPC
Monkeyface	<i>Quadrula metanevra</i>	Invertebrate Animal	THR
Oak - (Red Maple) Woodland		Terrestrial Community	
Pistolgrip	<i>Tritogonia verrucosa</i>	Invertebrate Animal	THR
Red Oak - White Oak - (Sugar Maple) Forest		Terrestrial Community	
Round Pigtoe	<i>Pleurobema coccineum</i>	Invertebrate Animal	THR
Sedge Meadow		Terrestrial Community	
Seepage Meadow/Carr		Terrestrial Community	
Smooth Softshell	<i>Apalone mutica</i>	Vertebrate Animal	SPC
Sugar Maple - Basswood - (Bitternut Hickory) Forest		Terrestrial Community	
Trumpeter Swan	<i>Cygnus buccinator</i>	Vertebrate Animal	THR
Walter's Barnyard Grass	<i>Echinochloa walteri</i>	Vascular Plant	NON

Appendix B: Summary of Open House #1 Comments

Approximately 110 people attended the first public open house meeting at the Stillwater Public Library on October 19, 2011. More than 50 comment forms were received during the meeting or in the days and weeks afterwards.

The comments included here are thematic and are representative of all of the comments received. This summary does not include all of the comments submitted.

1. Trail Vision

Do you agree with this statement? What additions, changes, or deletions would you suggest?

- 25 “yes” or something similar (i.e.: Ok, sounds good, I agree, etc.)
- Should address multi-use aspect of trail: 4 comments
- Should address connection to downtown Stillwater: 5 comments
- Highlight preservation of Browns Creek: 3 comments
- Positive economic benefits: 3 comments
- One comment regarding higher taxes, negative economic consequences.

What is unique about the trail? Why would people come to ride this trail?

- Downtown Stillwater as a destination
- Access to Browns Creek
- Connection to larger Twin Cities trail network
- Access to natural and historic resources
- Safe bike route
- Easy grade into Stillwater
- Access for multiple uses

From your perspective, what will be the primary benefit of this trail?

- | | |
|--|---|
| • Access to and from downtown Stillwater | • Easy grade – accessible for all abilities |
| • Safe | • Scenery |
| • Multi-use | • Sense of community |
| | • Health benefits |

2. Trail Connections

Do you have any ideas for future trail connections?

- | | |
|----------------------------------|-------------------|
| • Connect to horse trails | • St. Croix River |
| • To Marine | • Prescott |
| • Duluth | • Boom Site |
| • Extend Gateway past Pine Point | • Hastings |
| • White Bear Lake | |

3. Trail Uses

Should any other uses be accommodated? How do you plan to use the trail?

- Carriage driving
- Roller skiing
- Mountain biking
- Bicycling
- Walking
- Running
- Hiking
- Cross-country
- Skiing
- Horseback riding
- Bird watching
- Snowshoeing
- Photography
- Rollerblading/in-line skating
- Environmental & historic interpretation

Is there a particular segment of trail you would most like to see developed for your use? (Identify your use and segment)

- All of it
- Horseback riding from Duluth Junction to Manning Ave
- Grant/Hwy 12 and east
- Start with Stillwater and work west
- As much as possible open to horses
- Stonebridge Trail to downtown
- Pine Point

4. Neighbor's Concerns

- No concerns
- Parking lot security
- Crime/theft at night
- Bridge over Manning?
- Traffic
- What will happen at the end in Stillwater?
- Pollution of Browns Creek
- Trash from trail users
- Trespass
- Preservation of Stone Bridge

5. Trail Management

Do you have any questions, comments, or concerns about trail maintenance, enforcement, or natural/cultural resource management?

- Protection of Browns Creek/trout stream/water quality
- Will it be open for running/walking/horses in winter and not just cross-country skiing?
- Keeping trail safe on steep sections
- Will there actually be enforcement?
- No motorized uses including snowmobiles
- Limit/prohibit dogs
- Include reminders of the corridors railroad past

6. Information and Education

Are there any informational or educational messages that you recommend be included in the development of trail information and education signs, brochures, and trail website?

- Location of amenities (restrooms, parking, etc.)
- Trail etiquette especially for dogs and horses
- Mile markers
- "You are here" signs
- Historical information about downtown Stillwater, Stone Bridge, railroad history
- Information about watershed

7. Other

Do you have any additional comments or questions?

- Grade separated crossing at Manning Ave.
- Dual tread way for horses – especially west of Manning Ave
- Lines separating inbound and outbound bikes
- Timeframe for completion?
- Equity among users – all users should pay not just horse riders and skiers.
- Trail facilities in Stillwater?
- Work with Browns Creek Watershed District/historical society/Boy Scouts
- Provide amenities for horse users
- Plant wildflowers and provide bird boxes along trail

Appendix C: Summary of Open House #2 Comments

Approximately 80 people attended the second public open house meeting at the Stillwater Public Library on December 7, 2011. Far fewer comment forms were filled out and returned during the meeting or afterwards. Most of the comments received came in the form of individual e-mails sent to Colin Kelly, Division of Parks and Trails Principal Planner, during the public review period.

As before, the comments included here are thematic and representative of all of the comments received. This summary does not include all of the comments submitted.

Trail Connections

- “What happens when bikers, etc. reach the Zephyr Depot building and make the transaction into Stillwater?...This entrance to downtown from this trail needs to be addressed... We don’t bikers and walkers to enter downtown with their first impression being an unorganized mess.”

Trail Uses, Alignment, and Development Options

- Several comments expressing support for a dual treadway:
 - “This is not only necessary for horseback riding along a busy trail, but also for dog walking on the trail when the trail is crowded with bicyclists riding at fairly high speeds. I generally walk and often run on the dirt portion of the Gateway as it is safer and more comfortable.”
 - “As you know, because of the speed of bicyclists and the hardness of the surface, walkers and runners often (prefer to) use (a) non-paved treadway to minimize injury.”
 - “I hope that all the activities listed (see p.12-13, *Recommended Trail Uses*) would be allowed on the complete trail and not limited in certain areas. Being an avid horse rider, I’m very familiar with riding the old Zephyr tracks along the Browns Creek area, I know how scenic it is and would love to be able to continue riding that route.”
- “I feel strongly about using some of our horse trail pass dollars to help fund some of the trails closer to the metro area. Since Washington County is the highest per capita horse population in the Nation, a lot of the money comes from our area...”
- (Re: Train Bridge over Hwy 95 at Willow Street E.) “My hope is that the bridge is not heightened for two reasons: 1) I would prefer the money for the trail go towards paving a longer section of the trail than put into the bridge. The money should go towards the benefit of trail users not truck drivers. 2) I do not want to increase the number and speed of semi-trucks in this residential area for the safety of the neighborhood and children.”

Neighbor's Concerns

- “As a resident of Stillwater that will be directly impacted by the development of this trail, as it is literally outside my front door, I have a concern regarding the type of trail this will become... Where we are located is considered part of the city of Stillwater, not the township and we as well as our neighbors would be less than pleased to have farm animals and their waste outside our houses and so close to a protected body of water, Brown’s Creek.”
- “(T)he DNR and the City of Stillwater must realize (the project) comes with important and critical environmental responsibilities. The trail will forever change the nature and wildness of the Brown’s Creek ravine through which it travels...75 thousand visitors a year have the potential to create countless paths down to the creek that exacerbate erosion problems...It may be necessary to restrict off trail access to the creek via ‘stay on the trail’ signs...”

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- “My hope is that the trail will bring an increased recognition by both the State and especially the City of Stillwater as to the importance of preservation and restoration to the health, beauty and sustainability of this unique and valued resource...”

Trail Management

- “I failed to find any reference to the Stone Arch Bridge which is just west of Stonebridge Trail. It is a remnant of the Military road which ran from Point Douglas to what is now the city of Superior....I don't know how you could miss it in discussing various historical aspects of the trail...It has a lot more significance than many of the other things mentioned! I believe the principal challenge is to prevent trail users from getting access to the bridge and at the same time providing information about the history of the structure.”
- “(It) seems you may need an ‘ambassador’ to address abutting neighbors and neighborhoods concerns: the trail will have an impact on their quality of life - noise, traffic, trespassing and litter...”

Other Comments and Suggestions

- “I couldn't be more in favor of the connector trail between the Gateway trail and downtown Stillwater. The scenery is great and it will be a much safer route than along County 12 and down Myrtle. Of course it will also be much easier leaving....(T)his will be a great addition to the Twin Cities trail system.”
- “I am very excited about this new trail... This will give a new dimension and route opportunities for those using the Gateway trail and will be an excellent means of safely getting into Stillwater... I have heard about the scenic and historical aspects of the Brown's Creek area and look forward to being able to get to this area via this new trail...This will have a nice, positive impact to our area.”
- “We are very pleased this trail has been acquired and look forward to its completion....We look forward to having a safe place to bike for our family with two young children...”
- “(I)s there space for concessions such as bike rental, blade, ski rental on the Laurel end?”
- Several comments related to renaming the trail:
 - Carl Erickson*
 - “I realize Brown's Creek is a natural name but I'd offer another suggestion; the ‘Carl Erickson Connector’. Carl was a potter in Stillwater whose studio was within a block or so of where this trail will end in downtown Stillwater. His award winning pottery captured the beauty of the St. Croix Valley and he was an avid biker. Carl passed away in early 2011, but biking was a big part of his self prescribed therapy as he lived with and eventually died from pancreatic cancer...”
 - “Recently Stillwater lost one of its greatest residents. Carl Erickson, local artist and avid cyclist, lost his battle with cancer less than a year ago. Carl loved Stillwater, the St. Croix River and spent his daily vigil on 2 wheels traveling through his town and exploring the rest of the state, and even country....I believe that in honor of his courageous fight and authentic love of all things this new trail represents, we should name it the ‘Carl Erickson Connection’.”
 - Zephyr*
 - “Several People have suggested that the trail name should be the ‘Zephyr Trail’ not Browns Creek. The reasons varied but the underlying theme was that the name

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Zephyr has community and cultural significance to Stillwater. And when people say the name 'Zephyr', almost all people recognize it and its location, where as 'Brown's Creek' is unknown and insignificant."

Bill Morrissey

- "I would like to suggest that a memorial for the recently deceased Bill Morrissey be worked into the plan. You most likely know of his huge contribution to the State Parks of Minnesota and his work on the Munger Trail System... A memorial could be accomplished by naming the trail for Bill or by including in the landscaping plan some kind of memorial site that would inform users of Bill's contributions."

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