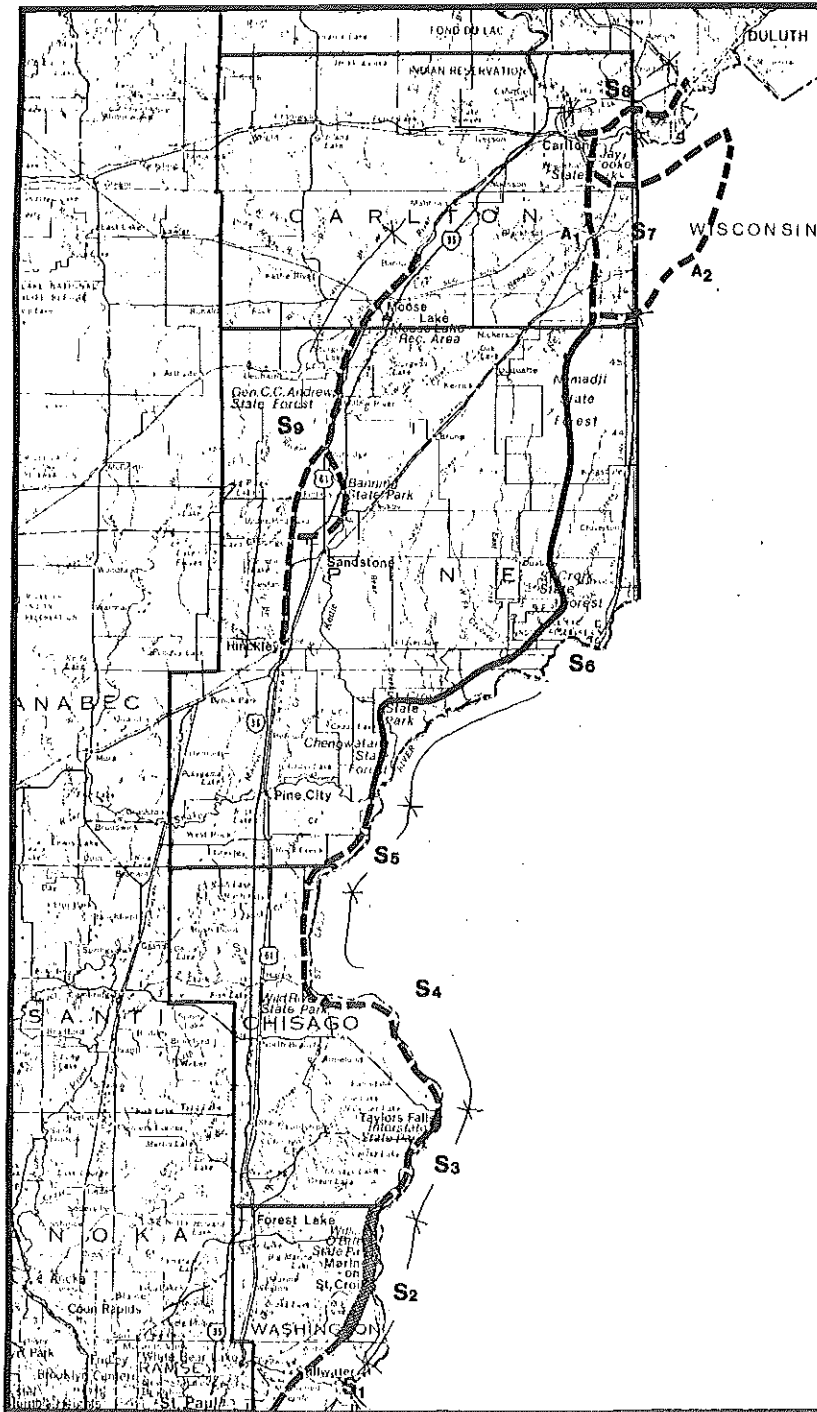


minnesota department of natural resources
trails and waterways unit, april 1982

part 1



master plan for the
minnesota-wisconsin boundary trail
....and west addition

For further contact and reference -

This master plan was prepared by:

Angela Anderson, Trails Planner
Trails Planning Section
Trails & Waterways Unit

Acknowledgements:

The planning effort for the Minnesota-Wisconsin Boundary Trail has been a lengthy and complex process and its goals were met because numerous people contributed time, energy and talents.

Don Carlson, Dan Collins and Bill Morrissey provided continuous support and encouragement throughout the planning process.

Management-oriented information and valuable technical advice were contributed by Tom Danger, Delos Barber, Tim Browning and Les Ollila.

Detailed technical field-oriented information and suggestions provided by Brian Garvey, Walt Johnson, Jerry Langworthy, Bruce Berggren, Jim Willford, Wally Bartel, John Lindell, Ron Hains, Randy Gordon, Duane Eilertson and Jerry Sullivan were most helpful and highly valued.

Debbie Porter and Ann Liebenstein did a fine job on the maps and graphic exhibits and also collected the data for the resource perspective.

Deadlines were consistently met because of Joyce Suckow's and Julie Opsahl's much appreciated assistance with mailings and typing.

There also were many local, state and federal officials, including other DNR personnel, who provided resource information within their respective management programs. Though they are too numerous to mention here, I am no less grateful for their contributions and support.

Finally, numerous private citizens took the time to assist and advise me throughout the planning process. Some supported the trail, others were opposed and some remain so; thus, the cooperative ambience in which we worked together to produce this master plan should be encouraged and strengthened to guarantee a first rate recreational trail experience.

No document of this nature is ever the work of just one person. The assistance of the above individuals materially enhanced and advanced this planning process. The resulting master plan, this document, is better only because of their involvement.

TABLE OF CONTENTS

	<u>Page</u>
LIST OF TABLES	v
LIST OF FIGURES	v
INTRODUCTION	vii
I. <u>SUMMARY</u>	1
Goal and Major Objectives	2
Major Actions by Trail Segments	3
Overall Major Actions	6
II. <u>LEGISLATION</u>	8
History of the Statewide Trail System	8
Trail Authorization	9
Trail Classification	9
III. <u>DESCRIPTION OF THE ENVIRONMENT</u>	11
<u>Natural Resource Perspective</u>	11
Climate	11
Geology	14
Landform and Soils	15
Watersheds	17
Vegetation	19
Fish and Wildlife	22
Cultural Perspective	26
Historic Resources	26
Population and Communities	30
Land Ownership and Land Use	34
Accessibility	38
Tourism and Recreation	39
Relationship to Other Recreation Areas	42
Trail Use Demand and Projections	44
IV. <u>THE TRAIL TODAY</u>	49
Existing Development	49
Existing Use	49
Maintenance and Management	50
V. <u>PUBLIC INVOLVEMENT</u>	52
Meetings and Workshops	52
Soo Line Right-of-Way	56
Moose Lake-Carlton Right-of-Way	58
Duluth Rights-of-Way	60
Hinckley-Moose Lake Right-of-Way	61
Conclusion	62
Draft Plan Review	63
Public Agency Review	75

	<u>Page</u>
VI. <u>THE PLAN</u>	76
Proposed Changes to the Original Legislation	76
Overall Minnesota-Wisconsin Boundary Trail System	82
Trail Description According to Landscape Regions	87
Development Segments	89
Segment 1: Soo Line Railroad Right-of-Way	90
Segment 2: Carnelian Junction to the Washington-Chisago County Line	96
Segment 3: Washington-Chisago County Line to Taylors Falls	98
Segment 4: Taylors Falls to Chisago County 5	101
Segment 5: Chisago County 5 to Snake River	106
Segment 6: Snake River to North Boundary Nemadji State Forest	108
Segment 7: North Boundary Nemadji State Forest to Jay Cooke State Park	114
Segment 8: Carlton-to-West Duluth Railroad Right-of-Way	120
Segment 9: West Addition--Hinckley to Barnum Railroad Right-of-Way	125
North Country National Scenic Trail	132
Overall Trail Design Recommendations	134
Accessibility	134
Invasion of Privacy of Adjoining Landowners	135
Conflicting and Competing Uses	135
Support Facilities	136
Natural and Cultural Resource Management	143
Vegetation	143
Soils	144
Surface Water	145
Wildlife	145
Man-made Resources	146
Recreation Management	148
Enforcement	148
Fencing	150
Monitoring Trail Use	151
Information and Promotion	152
Interpretation	152
Themes	152
History	154
Geology	154
Vegetation and Wildlife	154
Approach	154
Maintenance and Operations	156
Maintenance	156
Personnel	156

	<u>Page</u>
VII. <u>IMPLEMENTATION</u>	159
Coordination and Responsibilities	159
Acquisition and Development Costs by Biennium	160
Acquisition and Development Costs by Segments	161
Maintenance and Operations	167
Interpretation	167
Personnel	168
VIII. <u>EVALUATION</u>	169
Public Input	169
Provision for Modifications	169
BIBLIOGRAPHY	170
LETTERS OF COMMENT UPON THE DRAFT MASTER PLAN	174

LIST OF TABLES

	<u>Page</u>
1. Agriculture	35
2. State Park Attendance	41
3. State Parks and Recreation Areas	43
4. Demand for Trail Opportunities	45
5. Projections of Trail Activity Occurring in Region 3	46
6. Projections of Trail Activity Occurring in Region 7E	47
7. Projections of Trail Activity Occurring in Region 11	48
8. Comparison of Alternatives (Segment 1)	78
9. Comparison of Alternatives (Segment 7)	119
10. Coordination and Responsibilities	159
11. Acquisition and Development Costs by Biennium	160
12. Acquisition and Development Costs by Segments	161
13. Interpretation - Estimated Costs	167
14. Personnel - Estimated Costs	168

LIST OF FIGURES

1. Planning Process	7
2a. Climate	12
2b. Climate	13
3. Land Use by County	36
4. Commercial Forest Composition	37
5. Economic Development/Tourism Regions	39
6. Alignment Alternatives (Segment 1)	77
7. Spacing of Trail Support Facilities	137
8. Primitive Campsite Typical	139
9. Wayside Shelter Typical	140
10. Major Access Typical	141
11. Minor Access Typical	142

Remote for detachment, narrow for chosen company, winding for leisure, lonely for contemplation, the trail leads not merely north and south but upward to the body, mind and soul of man.

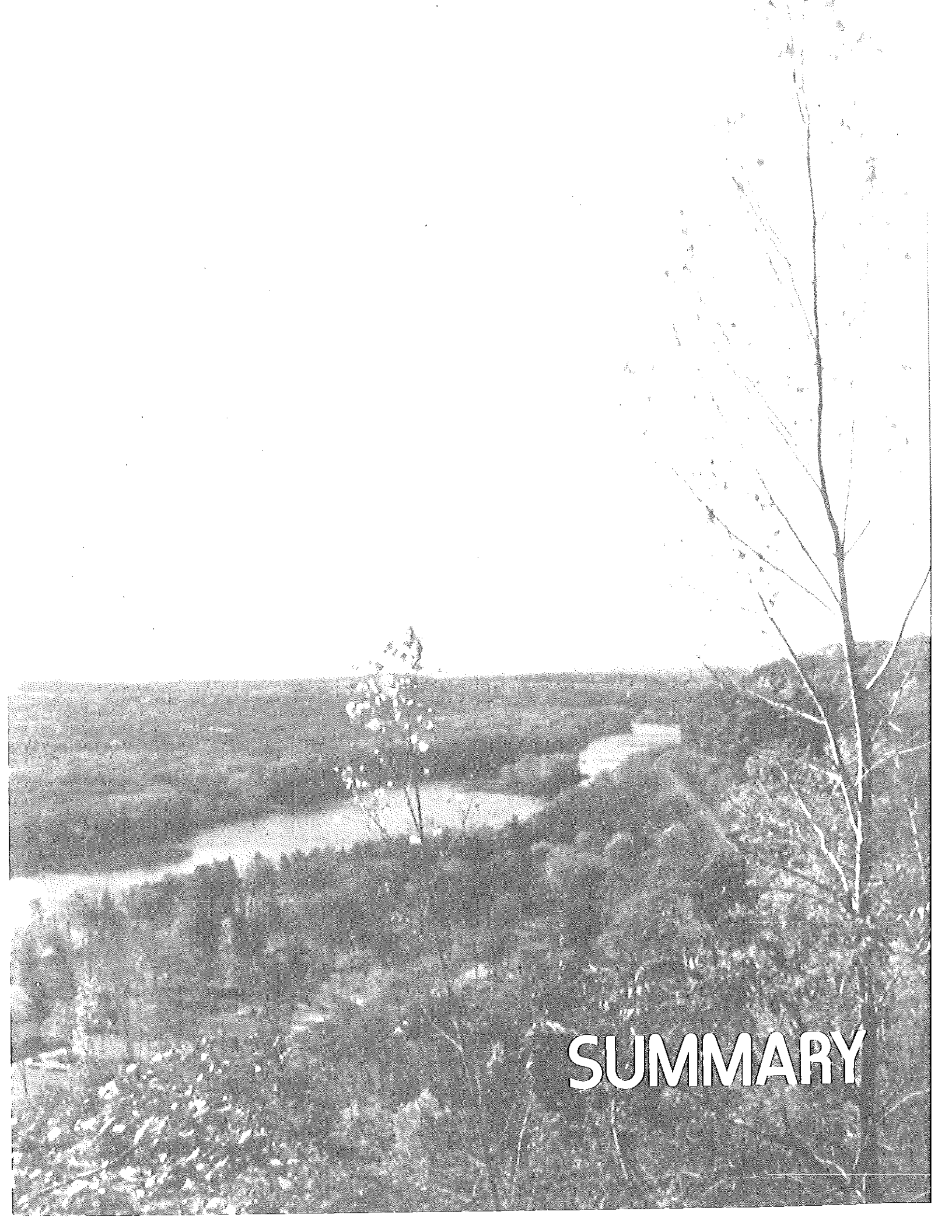
-- Harold Allen

INTRODUCTION

This master plan was prepared by the Minnesota Department of Natural Resources (DNR), Trails and Waterways Unit, to fulfill the requirements of the Outdoor Recreation Act (Minnesota Statutes, Sections 86A.01 - 86A.11). This law requires the DNR to prepare a master plan for the Minnesota-Wisconsin Boundary Trail and West Addition to insure that the trail is administered "in a manner that is consistent with the purposes for which the unit was authorized."

The pages that follow provide an outline for the development, administration and management of the Minnesota-Wisconsin Boundary Trail and West Addition. In addition, this master plan describes the trail's history, the trail environment, the DNR goals and objectives for the trail, and development and management techniques. Furthermore, the plan will outline management policies that should benefit all interest groups concerned. Finally, the plan will briefly address procedures to evaluate and modify the plan in the future.

Although this planning process has now been completed, the actions outlined are subject to revision. Changes in user demands, funding and the trail environment could require changes in the plan. The DNR will update the plan in 10 years to address changes which have occurred.



SUMMARY

I SUMMARY

The Minnesota-Wisconsin Boundary Trail was authorized by the Legislature in 1973. In 1974 the DNR Division of Parks and Recreation started construction of the trail in Pine County. Pressure from snowmobilers brought a steady increase of trail mileage. By 1978 approximately 80 miles of the Minnesota-Wisconsin Boundary Trail had been developed in Pine County primarily for snowmobile use, though parts were suitable for horseback riding and hiking. Most of this alignment traversed public lands, primarily state forests and parks.

When Burlington Northern Inc. abandoned its rail lines between Hinckley and Moose Lake and between Carlton and West Duluth, the DNR expressed interest in the right-of-way for a western addition to the Minnesota-Wisconsin Boundary Trail. In March and September of 1980 the DNR acquired both rights-of-way for the trail.

The DNR will not be able to allow all uses over the trail's 235-mile length. Therefore, the plan also describes a Minnesota-Wisconsin Boundary Trail System (see Trail System, map 15) that identifies a route -- a series of trails -- for each use, be it a DNR administered right-of-way or rights-of-way administered by other state or local entities.

The primary purposes of this plan are to fulfill the requirements of the Outdoor Recreation Act, and to establish an effective, orderly program for the Minnesota-Wisconsin Boundary Trail and West Addition. This program will ensure that the scenic, historic, scientific and recreational qualities of the trail are properly managed and maintained for the use and enjoyment of the citizens of Minnesota.

GOAL AND MAJOR OBJECTIVES

The goal of the DNR for this trail consists of four interrelated parts:

To provide a recreational trail from the Twin Cities to Duluth that takes maximum advantage of the area's outstanding resources, complements regional trail systems and other recreational facilities, responds to user needs and public concern, and contributes to statewide and national recreational goals.

To help implement this goal the following major objectives have been identified.

Resources

- To design the trail so it conforms to the existing landscape and minimizes adverse impacts on the resources.
- To minimize the trail user's adverse impact on resources.
- To expose trail users to the natural, cultural and historic qualities of the areas along the trail.

Recreation

- To link existing trails.
- To link other recreation sites.
- To conform to the goals and objectives of the St. Croix National Scenic Riverway.
- To contribute to the local recreation-based economy.

User Needs and Public Concern

- To work and plan with local units of government, other agencies, user groups, adjacent landowners and the general public so that the trail design satisfies their needs and concerns.
- To maximize opportunities for trail users to enjoy the essential natural, cultural and historical resources of the area.
- To route the trail on public lands as much as possible.
- To take into consideration use of the trail by people with physical disabilities.
- To develop and operate the trail so it provides safe, enjoyable recreation for hikers, bicyclists (West Addition), horseback riders, skiers and snowmobilers.

Statewide Goal

- To complete a segment of the statewide recreational trail system.
- To provide a trail that can serve a large number of people, including Minnesota's two largest metropolitan areas.

National Goal

- To complete a segment of the National Trail System.

MAJOR ACTIONS BY TRAIL SEGMENTS

The DNR is proposing the following major actions in an attempt to fulfill the goal and objectives outlined for the trail. (The number or numbers in each heading denote the trail segments involved. See Section VI for a further discussion of trail segments and references to plates 1-19.)

1, 2, 3. Twin Cities Metropolitan Area to Taylors Falls

- Recommend a change in the original legislation of 1973 (Minnesota Statutes, Section 85.015, State Trails, Subdivision 11a) to allow the trail to start at Oakdale instead of Arden Hills.
- Develop the Soo Line railroad right-of-way between North St. Paul and Carnelian Junction with two treadways to serve bicyclists, horseback riders, hikers and skiers.
- Develop appropriate support facilities with the help of Washington County and the city of Oakdale.
- Identify a corridor between Carnelian Junction and the Chisago County line (Cedar Bend) as a potential trail segment that would provide a continuous trail and take advantage of William O'Brien State Park.
- Develop a hiking trail along the St. Croix River to Taylors Falls within National Park Service land.
- Develop ski-touring loop trails where National Park Service land ownership and terrain allow.
- Develop a trail access and parking facility on Minnesota Department of Transportation land at the Washington-Chisago county line.
- Pursue one of two hiking trail alignment possibilities for Franconia: to bypass Franconia by using township roads and the old railroad right-of-way that leads into Interstate State Park; or to further negotiate with Franconia to use certain municipal roads (for hiking only) to connect with existing hiking trails in Interstate State Park.

4. Taylors Falls into Chengwatana State Forest (County 5 east of Rush City)

- Develop a hiking and ski-touring trail along the St. Croix River in coordination with Northern States Power Co., the present owner of the land, and the National Park Service. (Part of the trail will be located within the St. Croix River's 412-foot maximum preservation zone, which is administered by the National Park Service.)
- Pursue development of an alignment alternative to bypass St. Croix Shores residential development.
- Develop a trail access and parking lot at Lion's Club Park in Taylors Falls.
- Give consideration to future development of a second treadway for horseback riding and snowmobiling if the existing grant-in-aid snowmobile trail cannot be maintained and if existing horseback riding trails within Wild River State Park do not provide adequate opportunities.
- Develop links with loop trails in Wild River State Park to provide for additional ski-touring, hiking and horseback riding.
- Recommend development of a grant-in-aid snowmobile trail inside the park's western boundary as part of a connecting link to the proposed snowmobile trail access at County 5.
- Develop a walk-in camping facility and a shelter for hiking and ski-touring at Rush Creek.

5. Chengwatana State Forest (County 5) to Snake River

- Develop two trail treadways north of County 5 within Chengwatana State Forest: a hiking and ski-touring trail within the 412-foot maximum preservation zone along the St. Croix, and a snowmobile and horseback riding trail generally outside of the maximum preservation zone.
- Expand the National Park Service access and parking lot near County 5.
- Develop a walk-in camping facility and an Adirondack shelter south of State 70 for hiking and ski-touring.

6. Snake River to the Northern Boundary of Nemadji State Forest (existing trail)

- Rehabilitate the existing snowmobile, hiking and horseback riding trail alignment.
- Move the trail so that it no longer follows roads in St. Croix State Park.
- Relocate a section of trail in Wilma Township in coordination with Pine County and Wilma Township.
- Recommend that the Range Line Trail, which lies between St. Croix State Forest and Duquette, be designated and maintained as a local snowmobile grant-in-aid trail.
- Upgrade the trail alignment within the northern portion of Nemadji State Forest to provide for summer use as well as winter use.
- Recommend that the existing forest trail northeast of Nickerson be designated as part of the Minnesota-Wisconsin Boundary Trail so that the trail can continue into Jay Cooke State Park.
- Develop two walk-in camping facilities for hikers and an Adirondack shelter at one site for snowmobilers.

7. Northern Boundary of Nemadji State Forest to Jay Cooke State Park

- Pursue trail alignment alternative 2 if the railroad right-of-way is abandoned (see Section VI). The cooperation of Douglas County, Wisconsin, is essential for this alternative. Snowmobiling, hiking and horseback riding would be the designated uses. (If alternative 1 is chosen, trail use may have to be limited to hiking and snowmobiling because of the limited soil suitability and steep slopes.)
- Develop the railroad right-of-way between Wrenshall and the state line for hiking, snowmobiling and horseback riding. Coordinate efforts with Douglas County, Wisconsin, to ensure the development of a link to the Wisconsin trail system.
- Use the existing snowmobile grant-in-aid trail between Wrenshall and Jay Cooke State Park as a temporary trail alignment.
- Develop an access and parking lot within the railroad right-of-way at its present terminus of DNR ownership for snowmobilers, horseback riders and hikers.
- Develop a day-use trail wayside at the Minnesota-Wisconsin state line.

8. West Addition: Carlton-to-West Duluth Railroad Right-of-Way

- Develop a trail treadway on the railroad right-of-way between Carlton and West Duluth for bicycling, hiking and snowmobiling. Horseback riding will be accommodated on a second treadway. Horseback riding and snowmobile use will end at Seven Bridges Road near Duluth where a small access is recommended. If certain requirements can be met, snowmobile use may extend further into Duluth.
- Develop a horsemen's area within Jay Cooke State Park.
- Develop spur trails for all aforementioned uses into the development zone of the park.
- Develop the trail and facilities in coordination with Duluth's Parks and Recreation Department to avoid duplication.

- Recommend that Duluth and St. Louis County provide local trails to link the North Shore State Trail with the Minnesota-Wisconsin Boundary Trail.
- Develop a day-use trail wayside within the right-of-way near Bardon's Peak.
- Recommend ski-touring as the winter use between Seven Bridges Road and the West Duluth trail terminus.
- Recommend the development of a trail access in Duluth's Indian Point Park that will join the Waterfront Trail.

9. West Addition: Hinckley to Barnum

- Acquire the railroad right-of-way from Moose Lake to Barnum.
- Develop a main treadway for bicycling, hiking and snowmobiling. A second treadway will be developed for horseback riding, commencing south of Finlayson and ending in General C. C. Andrews State Forest.
- Recommend development of spur trails into Banning State Park's proposed trail center for all uses mentioned above.
- Provide for a trail connection into General C. C. Andrews State Forest for the uses mentioned above.
- Consider two alternatives for a major trail access in Hinckley.
- Develop a major trail access in Moose Lake.
- Develop a trail connection around Moose Lake to join the right-of-way to Barnum.
- Rename the trail to reflect its railroad history.

OVERALL MAJOR ACTIONS

- Coordinate planning with the Department of the Interior for the proposed North Country National Scenic Trail, which may follow the Boundary Trail between St. Croix State Forest and Jay Cooke State Park.
- Identify a Minnesota-Wisconsin Boundary Trail System, a series of trails that would provide continuous routes for all trail uses.
- Pursue legislation to allow the Minnesota-Wisconsin Boundary Trail to safely cross railroad tracks.
- Recommend a comprehensive interpretive program for the Minnesota-Wisconsin Boundary Trail.
- Recommend a resource and recreation management program for the trail.
- Recommend the hiring of permanent and temporary personnel to develop the trail on schedule and to ensure adequate maintenance and management.
- Recommend periodic monitoring of trail use to assess and meet demand.

PLANNING PROCESS

TECHNICAL TASKS

CITIZEN PARTICIPATION

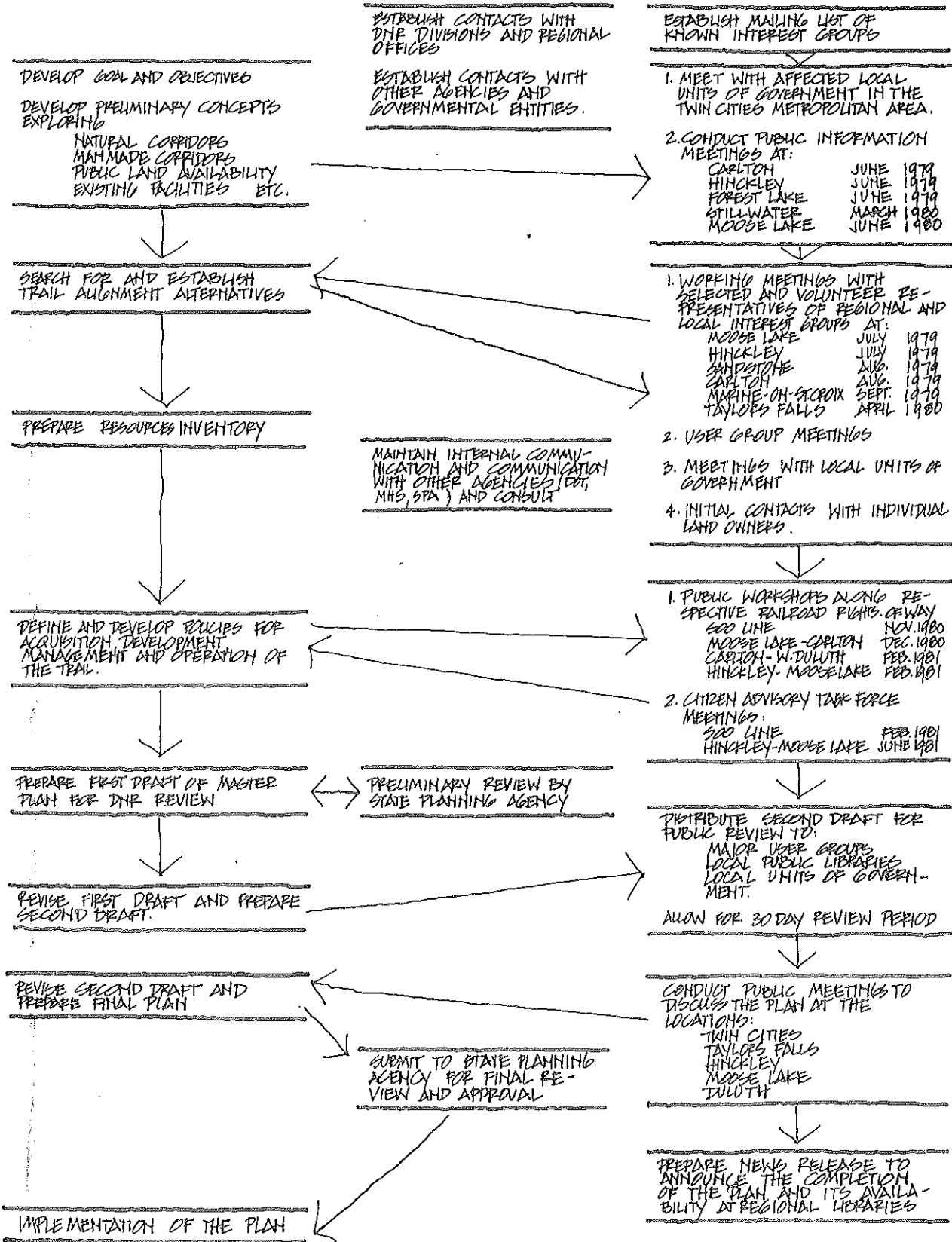


FIGURE 1

II LEGISLATION

History of the Statewide Trail System

Minnesota's first designated recreational trail came about after the establishment of Camp Release, the first state park, in 1889. Nonetheless, the formal beginnings of Minnesota's trail system did not occur until the late 1960s, when rapid growth in the popularity of the snowmobile created a need to provide trails and, sometimes, regulate use. Legislation was enacted to require snowmobilers to pay registration fees for trail development. In 1967 the DNR Division of Parks and Recreation was assigned the responsibility of promoting, developing and managing recreational facilities for snowmobile users (Minnesota Statutes, 1967, Section 84.83, Subdivision 2).

Until 1969 DNR trails were developed only in state parks and forests. But in 1969 the Legislature authorized the DNR to "establish, develop, maintain and operate recreation areas" (Minnesota Statutes, 1969, Section 85.015, Subdivision 1). From 1971 to 1975 the Legislature authorized 13 trails, including the Minnesota-Wisconsin Boundary Trail. These trails now form the backbone of the state recreational trail system.

In 1973 the Legislature provided the means for a statewide recreational trail system through the passage of trail legislation, appropriation of trail development and maintenance funds, and authorization of a temporary DNR trail staff. A grant-in-aid program also was initiated to complement the state trail system.

Grant-in-aid trails are developed through the cooperative efforts of the DNR, local units of government, trail-user groups and landowners. The DNR awards trail assistance grants to local units of government for the development and maintenance of these trails. The DNR encourages the establishment of grant-in-aid trails and other local trails to provide the necessary connections between communities, other recreational facilities and state trails.

In 1975 the Legislature passed another statute that affected the DNR trail program: the Outdoor Recreation Act (ORA), Minnesota Statutes, Sections 86A.01 - 86A.11. This act established an outdoor recreation system composed of 11 kinds of units managed by the state. State trails are one component of this system. The ORA required state trail master plans and set forth criteria that must be met for a trail to be classified as a state trail. The act also stated that

no construction of new facilities or other development of an authorized unit, other than repairs and maintenance, shall commence until the managing agency has prepared and submitted to the State Planning Agency and the State Planning Agency has reviewed, pursuant to this section, a master plan for administration of the unit in conformity with this section. This requirement shall not apply to an existing unit until August 1, 1977 (Minnesota Statutes, 1976, Section 86A.09, Subdivision 1).

The Trails and Waterways Unit, created by departmental reorganization in 1979, is now responsible for the planning and development of all DNR trails. The goal of the DNR trail program is to conserve and wisely use Minnesota's resources so that existing and future generations may enjoy a variety of recreational trails.

Trail Authorization

The Minnesota-Wisconsin Boundary Trail was authorized in 1973. According to Minnesota Statutes, 1973, Section 85.015, Subdivision 1:

The commissioner of natural resources shall establish, develop, maintain and operate the trails designated in this section. Each trail shall have the purpose assigned to it in this section. The commissioner of natural resources may acquire lands by gift or purchase, in fee or easement, for the trail and facilities related to the trail.

Subdivision 2 states the following:

Minnesota-Wisconsin Boundary Trail, Ramsey, Anoka, Washington, Chisago, Pine and Carlton counties

- (a) The trail shall originate in the vicinity of Arden Hills, Ramsey county, and thence extend northeasterly, traversing Anoka and Washington counties to the vicinity of Taylors Falls in Chisago county; thence northwesterly and northerly to St. Croix State Park in Pine county; thence northerly to Jay Cooke State Park in Carlton county, and thence terminate.
- (b) The trail shall be developed primarily for riding and hiking.

Within this master plan the DNR proposes a change in the above trail legislation. This proposal is fully addressed in Section VI.

The DNR also proposes within this plan a West Addition to the Minnesota-Wisconsin Boundary Trail. This West Addition consists of two abandoned railroad rights-of-way that extend between Hinckley and Barnum and between Carlton and West Duluth. By law the DNR is authorized to acquire railroad rights-of-way to be added to the state trail system (Minnesota Statutes, 1975, Sections 86A.04 and 84.029, Subdivision 2). According to Minnesota Statutes, 1975, Section 84.029, Subdivision 2:

Acquisition of land for trails. The commissioner may acquire by gift, purchase or lease, easements or other interests in land for trails and recreational uses related to trails . . . when railroad right-of-ways are abandoned.

Trail Classification

The purpose of the classification process, as stated in the ORA, is to establish "an outdoor recreation system which will (1) preserve an accurate representation of Minnesota's natural and historical heritage for public understanding and enjoyment and (2) provide an adequate supply of scenic, accessible and usable lands and waters to accommodate the outdoor recreational needs of Minnesota's citizens."

The ORA established several specific criteria for areas to be classified as state trails. It is the DNR's finding that the Minnesota-Wisconsin Boundary Trail and West Addition substantially satisfy these criteria. The trail qualifies because it "travels along a route which connects areas and points of natural, scientific, cultural and historic interest." Numerous historic sites are accessible from the Minnesota-Wisconsin Boundary Trail, be it within the St. Croix River valley or along the railroad rights-of-way of the West Addition (see Section III, Historic Resources). Significant geologic features from the last glaciation and interesting land forms can be observed from the trail (see Section III, Geology). Two major cities in the state are accessible from the trail (see Section III, Population and Communities).

The trail also "travels along a route which is historically significant as a route of migration, commerce or communication." The southern part of the Minnesota-Wisconsin Boundary Trail through much of Washington and Chisago counties follows the general route of the Old Government Road. North of Taylors Falls, the trail will actually be located on the original road alignment in two areas for a total of two miles. The Old Government Road served as a regular mail route and as a stage line between St. Paul and Duluth from 1854 until the construction of the first railroad in 1870. The West Addition to the Minnesota-Wisconsin Boundary Trail is proposed to be developed on the railroad right-of-way between Hinckley and Barnum. Although part of the original alignment has been relocated, this railroad right-of-way provided the first rail connection between the Twin Cities and Duluth in 1870.

The trail "travels between units of the state outdoor recreation system or the national trail system." The Minnesota-Wisconsin Boundary Trail will travel between several state parks and state forests. When completed, it will travel between and through the following state parks: William O'Brien, Interstate, Wild River, St. Croix and Jay Cooke; and between or through Banning, Moose Lake Recreation Area and Jay Cooke via the West Addition. The trail will also travel through the following state forests: Chengwatana, St. Croix, and Nemadji, and through General C. C. Andrews via the West Addition. The existing and proposed local trail system within Duluth will eventually provide a connection to the North Shore State Trail. The Minnesota-Wisconsin Trail alignment between St. Croix State Forest and Duluth is proposed as a potential segment of the North Country National Scenic Trail, which was signed into law by former President Carter on March 5, 1980. A comprehensive plan is being prepared by the National Park Service.

The trail "utilizes to the greatest extent possible consistent with the purposes of this subdivision, public lands, rights-of-way, and the like." The proposed Minnesota-Wisconsin Boundary Trail alignment and West Addition will be located on state lands, county lands, township roads and abandoned railroad rights-of-way to the greatest extent possible.

The trail "provides maximum potential for the appreciation, conservation and enjoyment of significant scenic, historical, natural or cultural qualities of the area through which the trail may pass." The master plan attempts to identify the best possible trail alignment without jeopardizing other interests. The plan also recommends a trail design that takes maximum advantage of scenic, historical, natural or cultural qualities of the area. In addition, the master plan outlines and recommends resource management and interpretive programs to benefit trail users.

The trail "takes into consideration predicted public demand and future use." Public demand and future trail use are difficult to predict. The master plan for the Minnesota-Wisconsin Boundary Trail does take into consideration public demand as provided in the State Comprehensive Outdoor Recreation Plan of 1980 (see Section III, Trail Use Demand and Projections) and as shown in Section V. Public information meetings, public workshops, working meetings and advisory task force meetings were conducted to achieve this criterion. All known interest groups had an opportunity to advise and make themselves heard throughout the planning process.

In addition, the DNR's Bureau of Comprehensive Planning and Programming has devised and started a process to monitor trail use and help predict future use and demand. This program will be applied on the Minnesota-Wisconsin Boundary Trail and West Addition. The plan will be periodically reevaluated and modified to assure flexibility.



III DESCRIPTION OF THE ENVIRONMENT

NATURAL RESOURCE PERSPECTIVE

Climate

Climate information was obtained from a U.S. Department of Commerce publication entitled, Climate of Minnesota. The data were prepared by State Climatologist Earl L. Kuehnast (published 1959, revised 1972).

Minnesota has a continental climate. The state is subject to frequent outbreaks of continental polar air throughout the year, with occasional arctic outbreaks during the cold season. Occasional periods of prolonged heat occur during summer, particularly in the southern portion, when warm air pushes northward from the Gulf of Mexico and the southwestern United States. Pacific Ocean air masses that move across the western United States produce comparatively dry weather during all seasons.

Temperature: The mean annual temperature ranges from 36 degrees F in the extreme north to 47 degrees F along the Mississippi River in the southeast. Mean temperatures during January in the northwestern and northern portions of the state average near 4 degrees F. This is 10 degrees colder than temperatures recorded at stations near Lake Superior and in southern Minnesota. The mean temperature in July is about 70 degrees F in most areas of the state, but it is 5 to 10 degrees cooler at stations near Lake Superior.

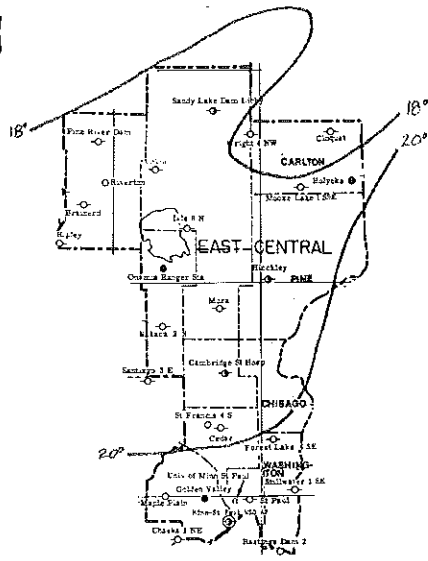
Precipitation: Mean annual precipitation is 32 inches in extreme southeastern Minnesota and gradually decreases to 19 inches in the extreme northwestern part of the state. Approximately two-thirds of the precipitation occurs from May through September.

Snowfall: Snow cover of one inch or more occurs an average of about 110 days annually--85 days in the extreme south to 140 days in the extreme north.

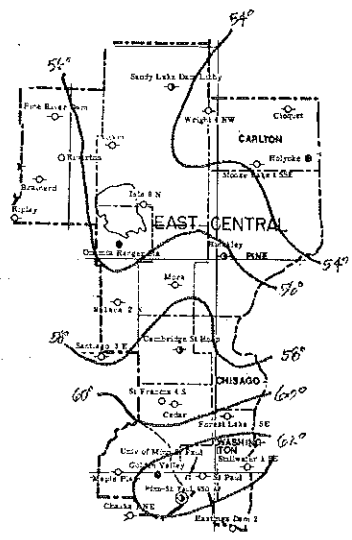
Storms: The annual frequency of thunderstorm days is about 45 days in southern Minnesota and about 30 days along the Canadian border.

Floods: Floods are most frequent in April during the spring thaw.

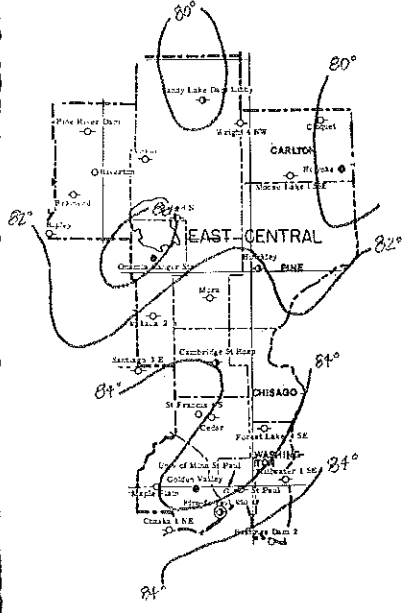
The accompanying charts represent the climatic conditions of east-central Minnesota where the Minnesota-Wisconsin Boundary Trail and West Addition are located. This information is adapted from Climatology of the United States, No. 60-21, U.S. Department of Commerce, 1972.



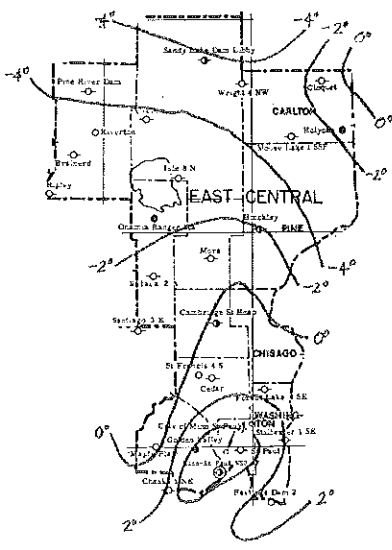
Average daily maximum temperature during January, 1951-1970.



Average daily minimum temperature during July 1951-1970.

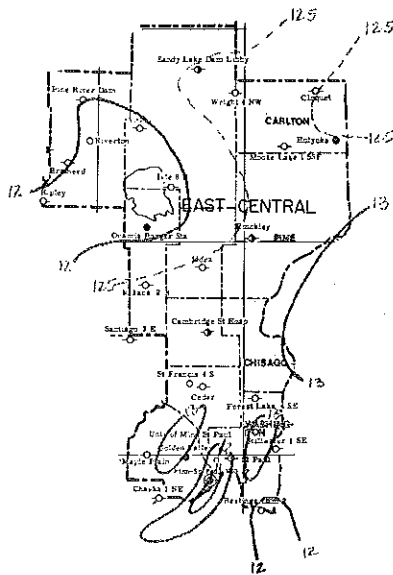


Average daily maximum temperature during July 1951-1970.

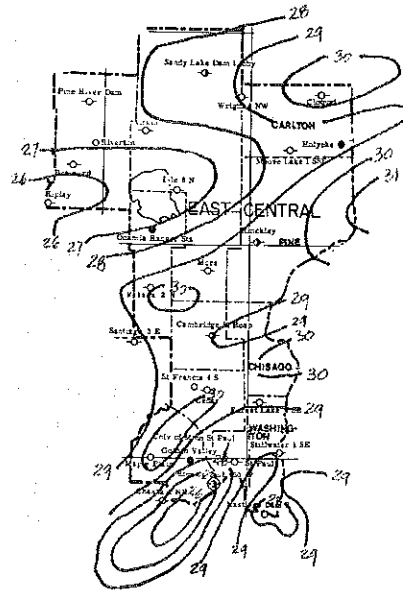


Average daily minimum temperature during January, 1951-1970.

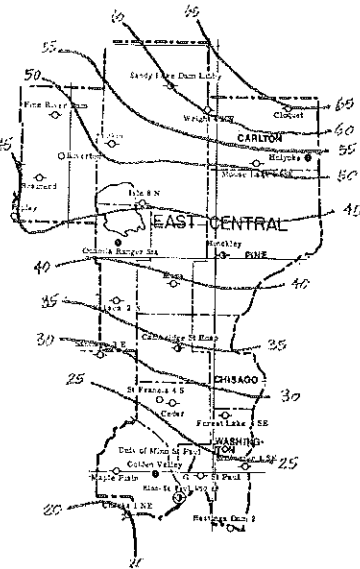
FIGURE 2a



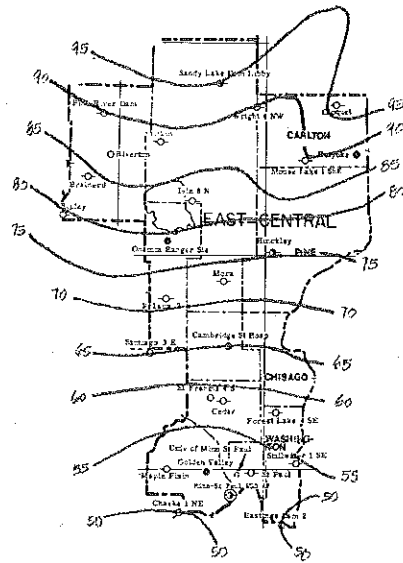
Summer (June, July, August) normal precipitation in inches. (Adapted from Minn. Tech. Bull. 314, 1978.)



Annual normal precipitation in inches, 1941-1970. (Adapted from Minn. Tech. Bull. 314, 1978.)



Average number of days per year when snow cover is more than 12 inches, 1959-1979. (Prepared by Earl L. Kuehnast, State Climatologist, 1980.)



Average number of days per year when snow cover is more than 6 inches, 1959-1979. (Prepared by Earl L. Kuehnast, State Climatologist, 1980.)

Geology

The following chapter will give a brief geologic history of the trail area from the time bedrock was formed to present-day geomorphic features of the area.

The oldest bedrock along the trail and in all of east-central Minnesota was formed during the middle Precambrian era, about 1.8 billion years ago. Waters eroding and precipitating the land mass formed the sedimentary shales and slates of the Thomson Formation (see Bedrock Geology, map 2). Then, about 1.2 billion years ago, a large rift formed, dividing the continent through eastern Minnesota into southern Kansas. Magma forced its way to the surface of the rift and eventually hardened into the dark rocks of the North Shore Volcanic Complex. The Chengwatana Volcanic Group, identified as part of this complex, comprises a major basalt rock formation in the trail area from the Snake River, north through Nemadji State Forest and around Taylors Falls (lava flows are visible at Taylors Falls). The volcanic activity also created a huge depression in the Great Lakes area known as the Superior Syncline. Sediment was continually being eroded and transported and, finally, metamorphosed into the Fond du Lac and Hinckley sandstones. Exposures of these sandstones can be found along the St. Louis River in Carlton County and along the Kettle River near Hinckley.

The following era of geologic history, the Paleozoic era, also played an important role in the trail area, primarily in Washington and Chisago counties.

In the Cambrian period of the Paleozoic era, 570 million years ago, seas invaded southern and central Minnesota and hosted early forms of life. The seas continually advanced and withdrew, forming the conglomerate rocks of the St. Croixan Series. These rocks contain large numbers of trilobite and brachiopod fossils. Along the St. Croix at Taylors Falls, exposures reveal a conglomeration, including boulders of lava that eroded from the Precambrian flows. These new deposits, within a group called the Franconia Formation (named after a type site at Franconia), are layers of yellowish and greenish sandstone and green siltstone.

The following period, the Ordovician, saw the return of the seas and the deposition of the Prairie du Chien Formation and St. Peter Sandstone. In the trail area, these two groups are primarily deposited in the Soo Line area and near Stillwater.

The extensive glaciers of the Pleistocene epoch (part of the Cenozoic era), left records on the landscape that persist today. Although the four-county trail area was covered by ice sheets several times during the glacial periods, the landscape and surface deposits record only the last (Wisconsin) glaciation, which began about 100,000 years ago and ended 10,000 years ago.

The landscape near the trail still exhibits numerous significant geologic features, which are briefly described here by county.

Washington County: This county is covered by glacial deposits from the Wisconsin glaciation. The eastern part of the St. Croix Moraine, a rugged belt of hills and depressions, extends from St. Paul northeastward to the northeast corner of the county and into Wisconsin. The landscape through which the Soo Line Trail travels exhibits these features. William O'Brien State Park also exhibits features of the St. Croix Moraine. Towns along the St. Croix were built on terraces of Glacial River St. Croix. At Marine-on-St. Croix, the St. Croix River flows through the Franconia Formation, where 100 feet of sandstone and siltstone are exposed above the river.

Chisago County: The landscape in the southeastern part of the county up to south of Taylors Falls is still determined by the St. Croix Moraine. Along the St. Croix River, two miles south of Franconia, the trail passes by a conglomerate ridge containing lava boulders (Chengwatana Volcanic Group) exposed 50 feet above the water. At Franconia, along Lawrence Creek (which is flanked by private land), there is the type site for Franconia Sandstone. At the "glacial gardens" in Interstate State Park, there is evidence of lava flows from the Chengwatana Volcanic Group (Late Precambrian). Other areas within Interstate State Park exhibit exposures of Chengwatana lavas and Franconia Sandstone. Below the dam at Taylors Falls, the St. Croix flows in the gorge cut through Chengwatana lavas by the glacial torrent which carried the meltwaters from Glacial Lake Duluth. Another significant site is within Wild River State Park at the confluence of the Sunrise and St. Croix rivers. The preglacial St. Croix flowed south in the valley that is now occupied by the Sunrise River, which is crossed by the trail. The St. Croix River now flows in the valley that was cut by the Glacial St. Croix. There are also rock outcrops near to where the St. Croix and Sunrise rivers join.

Pine County: East of Pine City, the existing trail is located on a terrace of the Glacial St. Croix River where the river established its route through the Pine City Moraine. There are exposures of Dresbach Sandstone east of the Snake River trail bridge. St. Croix State Park is bordered by the upper St. Croix River and the Kettle River, which originally drained Glacial Lake Nemadji. The park lies on the sand plain and layered lake deposits of Glacial Lake Grantsburg and on terraces and flood plains of the St. Croix and Kettle rivers, which were cut down into the lake deposits. The developed part of the trail traverses the park in an east-west direction (see Location, map 1).

Exposures of Hinckley Sandstone are frequent along the Kettle River gorge in Banning State Park, which is accessible by the West Addition of the trail. There are also spectacular potholes at Hell's Gate Rapids in the park. Several eskers exist near the trail crossing of County 34 in Finlayson. Gravel pits in the area exhibit excellent exposures of esker deposits with lenses and crossbedding.

Carlton County: The trail crosses the Nickerson Moraine and beaches of Glacial Lake Duluth and Glacial Lake Nemadji in the Holyoke area. The beach line is sharply defined (see plate 13 of 19). Jay Cooke State Park exhibits many exposures of Thomson Formation slates and graywackes. At the railroad and trail bridge below the Thomson Dam there are tipped layers of slate. The tipping was caused by folding action during the Precambrian era.

South of Moose Lake, the West Addition of the trail follows quite closely the Moose River, which was an outlet of Glacial Lake Nemadji, whose shore was along the south shore of Moosehead Lake. There is also a small field of drumlins just west of Moose Lake.

Landform and Soils

The trail passes through several distinctive landforms that have developed primarily during and after the last glaciation in Minnesota. This section of the report will describe these landforms and associated soils (see Soil Suitability and Geomorphic Regions, map 3). Soils have been categorized according to their suitability for trail and trail-related development. Soil suitability is an important criterion for building and maintaining a trail. In areas where the trail is located on abandoned railroad rights-of-way, this criterion is of less importance because a man-made base is already established.

The Twin City Formation: This formation is composed of irregular and terminal moraines. The landscape is characterized by steep hills with deep depressions, usually lakes or peat. The soils are a heterogenous mixture of sand, silt, clay, pebbles, cobbles and boulders. Gravel deposits can be found in the kames and eskers found throughout the formation. The soils over which the trail passes vary in suitability for trail use, having slight to moderate limitations in spots of rock outcrops and severe limitations on very poorly drained peat and alluvial soils.

Mississippi Valley Outwash: From the Stillwater area north to the Washington County line, the trail passes through the Mississippi Valley Outwash region. The topography consists of nearly level gravel terraces and river bottom lands. The soils are silt or loam over sand and gravel, well-drained except in spots of alluvial soils, where they are subject to frequent flooding. Limitations for trail development depend on steepness of slopes; there are moderate limitations for slopes up to 18 percent.

McGrath Till Plain: The undulating to gently rolling McGrath Till Plain covers a large section of the trail area, including much of that which already has been constructed. Soil textures range from fine, sandy loam to loam to silty clay. There are also large areas of reddish-brown till with numerous cobbles, stones and boulders. In general, these soils are well drained to poorly drained with moderate limitations for trail development in loam soils. Severe limitations exist on the poorly drained abundant organic soils. Organic soils occur primarily within the St. Croix and Nemadji state forests. The high water table presents the largest problem, even causing ponding on the better-drained nonorganic soils. These conditions explain the present unsuitability of portions of the existing trail alignment for summer uses.

Hinckley Outwash Plain: This area covers a long strip of land along the St. Croix River. Like the Mississippi Valley Outwash, this plain is composed of nearly level terraces and river bottoms. The terraces are mainly made up of gravel, while the other soils range from loamy sand to fine sandy loam. Large peat bogs are common in depressions throughout the plain. The trail travels primarily across soils that have few limitations on development, except in areas of steep slopes. There are, however, pockets of alluvial and peat soils that have severe restrictions because of wetness.

Nickerson Moraine: The trail cuts through the Nickerson Moraine near Holyoke. The Nickerson Moraine is characterized by short and irregular topography with numerous small wet depressions and peat bogs. The drift in this moraine is a reddish-brown loam to clay. There are also areas of water-sorted sand and gravel. This type of soil, through which several miles of new alignment will be developed, has moderate limitations on trail development, except in areas exceeding 18 percent slopes.

Nemadji-Duluth Lacustrine Plain: This area is a nearly level lake plain that is deeply dissected in the trail area by the Nemadji River and its tributaries. The reddish-brown lake sediments from Glacial Lake Duluth are well-drained to moderately well drained clays in the rooting zone and substratum. There are some low, poorly drained areas and peat bogs where the water table is at the surface. Limitations on trail development can be severe on these soils, especially on the steep slopes (25-30 percent) along the deeply entrenched streams. The chief concern of management is erosion. When wet, these soils also get very soft and sticky, which certainly does not benefit the trail user.

Automba Drumlin Area: Primarily made up of gently sloping and sloping drumlins, this area borders the trail near Duluth. The trail is located on the abandoned railroad right-of-way of the West Addition. The soils in this area, with the exception of the

railroad grade, are deep silty and loamy, well drained to moderately well drained. Limitations on development of trails and trail-related facilities are slight to moderate on slopes of up to 12 percent.

Thomson-Cloquet Moraine Complex: Near Moose Lake the trail traverses the Thomson-Cloquet Moraine Complex. The topography in this area is primarily rolling but includes hilly land and small wet depressions and peat bogs. The soils are loam to fine sandy loam, well drained in rolling topography with slight to moderate developmental limitations on slopes of up to 12 percent. To maintain vegetation on the sandy surface is noted to be difficult.

Willow River Outwash Plain: This area is a nearly level to gently rolling plain. The trail is located on an abandoned railroad right-of-way. The soils in this area are reddish-brown, acid sands that drain excessively and have a low water-holding capacity. Developmental limitations are moderate on slopes of up to 12 percent.

Watersheds

The majority of the trail is located within three major watershed units: the Lower St. Croix Unit, the Kettle River Unit and the Lake Superior Unit.

The first two units belong to the St. Croix River Basin, and the third is part of the Lake Superior Basin. The trail also passes through a small portion of the Snake River Unit of the St. Croix River Basin and the St. Louis River Unit of the Lake Superior Basin.

The trail crosses a continental divide in the Nemadji State Forest (see Watershed Units, map 4). From there all streams to the northeast of the divide drain into the Lake Superior Basin and ultimately into the St. Lawrence River and Atlantic Ocean. All streams to the southwest of the divide drain into the Mississippi River Basin and ultimately into the Gulf of Mexico.

Because streams must be crossed at bridges or fords, a short description of each major watershed is given below.

Lower St. Croix Unit: The steepest gradients in the lower St. Croix River occur in the 38-mile reach above Taylors Falls, where the river falls about 100 feet. From Taylors Falls to Marine-on-St. Croix, the gradient is about 0.5 foot per mile. Below Marine-on-St. Croix water stages are affected by the backwater from Lock and Dam 3 on the Mississippi River. The small tributary streams of the lower St. Croix have cut short, deep valleys, especially in the area above Taylors Falls.

High flows in the St. Croix River are usually recorded in the spring, although some high flows have occurred during the summer. High flows have caused little flood damage within the watershed because of the high banks.

Low flows in the St. Croix River normally occur from September through December.

Snake River Unit: Surface runoff in this watershed could potentially affect the trail only in its lower reaches east of Pine City. Below Cross Lake, the Snake River flows over a series of rapids, falling 147 feet in the remaining 14 miles to its mouth. The Minnesota-Wisconsin Boundary Trail bridge is located near the mouth.

Peak flows on the Snake River are usually caused by spring snow melt and accompanying spring rains. Flooding in the watershed is not serious because most of the stream banks in the lower watershed are high and because the numerous lakes and wetlands collect and store runoff and then release it slowly to the streams.

Kettle River Unit: The Kettle River provides the major drainage for this watershed. Its principal tributaries are the Moose (the upper river is sometimes called the Moose Horn), Pine, Willow, Grindstone and Split Rock rivers. The trail crosses all but the Split Rock. The southeastern part of the watershed is drained by several relatively short streams that are direct tributaries to the St. Croix River. The Tamarack River and Crooked and Sand creeks are the largest streams in this area. The trail crosses Crooked and Sand creeks in St. Croix State Park.

The Kettle River falls 484 feet over its entire length and is characterized by steep gradients in several reaches. The small streams in the southeastern part of the watershed are characterized by steep gradients that mark their descent from the morainal ridge to the deep St. Croix River valley.

Streamflow normally is highest at the spring breakup and lowest in late fall or winter. No data are available on floods within the watershed, but flooding probably is not common because of the deeply incised channel throughout much of the lower reaches of the Kettle River.

Lake Superior Unit: The Nemadji River, which the trail will cross twice north of Holyoke, drains areas in Carlton and Pine counties and Douglas County in Wisconsin before it enters Lake Superior. The Nemadji falls 608 feet; all but 83 feet of this amount is in its upper reaches, where it is entrenched in sediments of Glacial Lakes Nemadji and Duluth.

Limited information is available for the Nemadji River watershed, probably because of its relatively small area (118 square miles). Some records have been kept during the last 20 years for the South Fork of the Nemadji River, during the last eight years for the Nemadji River, and during an even shorter time for tributaries such as Skunk and Deer creeks. These data are insufficient to determine general characteristics of stream flows. In small watershed areas, such as the Nemadji River and its tributaries, any heavy thunderstorm can produce annual peak flows. Because of the primarily steep terrain along the banks of the streams, the severe soil erosion and rapid discharge of water, extreme caution must be used in selecting and designing bridges or fords across these streams.

St. Louis River Unit: The part of the West Addition from Carlton to West Duluth and the trail alignment in and around Jay Cooke State Park are in the St. Louis River Unit. In this area, however, the St. Louis River flows in a deep gorge, and flooding has occurred very infrequently. Moreover, streamflow in the St. Louis River is regulated considerably at all stages by natural ground water and surface water storage. Artificial regulation is also provided by reservoirs in the headwaters of the St. Louis, Whiteface and Cloquet rivers. Just above the trail bridge over the St. Louis River the streamflow is regulated by a reservoir system that was constructed and put into operation during the period 1909-23 to maintain adequate streamflow for generating power at the Thomson hydroelectric station. Low-flow characteristics of streams in the watershed are modified to various degrees by water released from storage in the reservoirs.

Vegetation

The Minnesota-Wisconsin Boundary Trail passes through a variety of native plant communities. Although most original plant communities have been disturbed and altered by man and natural disasters, many plant species and communities still represent the general composition of the original vegetation before white settlement in the area.

The following paragraphs will outline the characteristics of the original vegetation in the area according to Francis J. Marschner's interpretation in 1930 (see Original Vegetation, map 5). There also is a generalized account of present plant communities (see Forest Cover, map 6) along the proposed trail alignment. Present-day plant community information is derived from John T. Curtis's "Vegetation of Wisconsin" (1959) and the Minnesota Land Management Information System. An additional source of information was Alvin Fedkenheuer's "Vegetation of St. Croix State Park" (1975), a University of Minnesota Ph. D. thesis.

Presettlement vegetation in the southern third of the trail area to approximately the Pine County line was dominated by three major plant communities: oak savanna, rich upland hardwood forests and river bottom forest. Oak savannas and oak openings occurred primarily in Washington County. These communities formed the transition zone between the prairie and the rich upland hardwood forests. Dominant plant species were closed stands of aspen intermixed with oaks in savannas, while oak openings consisted of oak groves or single trees (burr oak) in a tall-grass prairie. Upland hardwood forests occurred extensively in the Taylors Falls area, with a narrow corridor continuing along the uplands of the St. Croix River valley to approximately the county line. Dominant species were oak, maple, basswood, elm and birch, with occasional pine, spruce and fir. Rich shrub and ground layer communities were also a characteristic of these forests. The river bottom forest, found along the St. Croix and other streams in the area, was dominated by elm, ash, cottonwood and soft maple.

Today the majority of these plant communities have been altered or replaced by pastures and croplands. Urbanization is also advancing rapidly in Washington and Chisago counties. Along the Soo Line, outside its right-of-way, altered oak openings and oak woods are still present, intermixed with agricultural lands and residential developments. The railroad right-of-way itself exhibits in most parts a weed community which is typical of an abandoned railroad grade. Along the St. Croix River, through Wild River State Park, the trail travels through aspen-oak communities interspersed with farmlands on the uplands and river bottom hardwood forests in the lowlands.

The original vegetation through Chingwatana State Forest, St. Croix State Park and St. Croix State Forest, where the trail generally follows the upper St. Croix River, was dominated by several major plant communities: mixed hardwood and pine, jack pine barrens and pine groves, river bottom forest, and aspen-birch (conifer) intermixed with areas of open muskeg and conifer bogs.

Mixed hardwood and pine represented a community made up of maple, basswood, elm, ash, birch and aspen intermixed with white and red pine. This type of forest formed a transition to the more pure stands of pine, the pine groves. Pine groves were the valuable pine stands reported by early settlers and harvested during Minnesota's early lumbering era (1870-1930). The best areas were reported to have been along the Snake and Kettle rivers.

PLANT COMMUNITIES

OAK SAVANNAH

Quercus macrocarpa - burr oak
Quercus ellipsoidalis - jack oak
Quercus alba - white oak
Prunus serotina - black cherry
Populus tremuloides - quaking aspen
Euphorbia corollata - flowering spurge
Amorpha canescens - lead plant
Rosa spp. - wild rose
Smilacina racemosa - false solomon seal
Amphicarpa bracteata - hog peanut
Smilacina stellata - star flower solomon seal

NORTHERN HARDWOOD FOREST

Tilia americana - basswood
Populus tremuloides - quaking aspen
Ulmus americana - American elm
Quercus macrocarpa - burr oak
Acer saccharum - sugar maple
Betula papyrifera - paper birch
Fraxinus pennsylvanica - green ash
Ostrya virginiana - ironwood
Corylus cornuta - beaked hazelnut
Corylus americana - American hazelnut
Amphicarpa bracteata - hog peanut
Mitella diphylla - miterwort
Fragaria virginiana - common strawberry

RIVER BOTTOM FOREST

Quercus macrocarpa - burr oak
Populus tremuloides - quaking aspen
Tilia americana - basswood
Ulmus americana - American elm
Fraxinus nigra - black ash
Corylus cornuta - beaked hazelnut
Xanthoxylum americanum - prickly ash
Amphicarpa bracteata - hog peanut
Asarum canadense - wild ginger
Athyrium filix-femina - lady fern

MIXED HARDWOOD - PINE FOREST

Acer rubrum - red maple
Betula papyrifera - paper birch
Pinus strobus - white pine
Populus tremuloides - quaking aspen
Populus grandidentata - big tooth aspen
Pinus resinosa - red pine
Pteridium aquilinum - bracken fern
Vaccinium angustifolium - lowbush blueberry
Maianthemum canadense - Canada mayflower
Aster macrophyllus - large leaved aster
Waldsteinia fragarioides - barren strawberry

JACK PINE BARRENS

Pinus banksiana - jack pine
Quercus rubra - red oak
Populus tremuloides - quaking aspen
Pinus resinosa - red pine
Corylus americana - American hazelnut
Amelanchier spp. - Juneberry
Vaccinium angustifolium - late low blueberry
Galium boreale - northern bedstraw
Aster ciliolatus - ciliate aster
Pteridium aquilinum - bracken fern

ASPEN - BIRCH (CONIFER) FOREST

Populus tremuloides - quaking aspen
Populus grandidentata - bigtooth aspen
Betula papyrifera - paper birch
Pinus resinosa - red pine
Quercus rubra - red oak
Tilia americana - basswood
Corylus cornuta - beaked hazelnut
Diervilla lonicera - dwarf bush honeysuckle
Rubus allegheniensis - blackberry
Aster macrophyllus - large-leaved aster
Aralia nudicaulis - wild sarsaparilla

BOREAL FOREST

Abies balsamea - balsam fir
Picea glauca - white spruce
Thuja occidentalis - northern white cedar
Betula papyrifera - paper birch
Pinus strobus - white pine
Populus tremuloides - quaking aspen
Galium triflorum - fragrant bedstraw
Aster macrophyllus - large-leaved aster
Cornus canadensis - bunchberry
Maianthemum canadense - Canada mayflower
Aralia nudicaulis - wild sarsaparilla
Clintonia borealis - blue bead lily
Trientalis borealis - starflower

CONIFER BOG

Larix laricina - tamarack
Picea mariana - black spruce
Betula pumila - swamp birch
Chamaedaphne calyculata - leatherleaf
Vaccinium oxycoccos - small cranberry
Kalmia angustifolia - sheep laurel
Sphagnum spp. - peat moss
Polytrichum spp. - cap moss

NORTHERN SEDGE MEADOW

Carex stricta - tussock sedge
Calmagrostis canadensis - blue joint reedgrass
Poa palustris - fowl bluegrass
Scirpus atrovirens - bulrush
Glyceria canadensis - rattlesnake mannagrass
Aster simplex - panicked aster
Eupatorium maculatum - spotted joe-pye weed
Campanula aparinoides - bedstraw bellflower
Iris shrevei - Shreve's blueflag

ALDER THICKET

Ainus rugosa - speckled alder
Aster simplex - panicked aster
Eupatorium maculatum - spotted joe-pye weed
Calmagrostis canadensis - blue joint reed grass
Onoclea sensibilis - sensitive fern
Scirpus atrovirens - bulrush
Cornus stolonifera - red osier dogwood
Spirea alba - meadowsweet
Ribes americanum - American black current

SHRUB CARR

Cornus stolonifera - red osier dogwood
Salix discolor - pussy willow
Ribes americanum - American black currant
Rubus strigosus - red raspberry
Sambucus canadensis - elderberry
Viburnum lentago - nannyberry
Echinocystis lobata - wild cucumber
Parthenocissus vitacea - woodbine
Rhus radicans - poison ivy

RAILROAD WEED COMMUNITY

Acer negundo - boxelder
Aster spp. - aster
Cornus racemosa - grey twig dogwood
Corylus americana - American hazelnut
Equisetum psilotum - horsetail
Fragaria virginiana - common strawberry
Rosa rugosa - wrinkled rose
Rubus strigosus - red raspberry
Solidago spp. - goldenrod
Verbascum thapsus - common mullein
Poa compressa - Canada bluegrass

Jack pine barrens were a community that occurred primarily on sandy, thin soils in the St. Croix State Park area. This community was characterized by jack pine stands interspersed with nearly treeless heaths or open rock outcrops.

River bottom forests were the dominant community along the St. Croix, Snake and Kettle rivers.

Aspen-birch (conifer) was a successional community that occurred after areas were destroyed by fires or other natural disasters. Dominant species were quaking aspen, bigtooth aspen and paper birch. The understory included conifers such as pine, balsam, fir, spruce and northern white cedar.

The open muskeg community was dominated by sedges, reeds and grasses and also contained bog birch and tamarack.

Conifer bogs, which occurred in acid peats, were dominated by black spruce, tamarack, bog birch and sphagnum mosses, while the less acid peats also supported northern white cedar, balsam fir and speckled alder.

Present-day plant communities in the area occur in the following order of dominance:

1. Aspen-birch (conifer) successional forest.
2. River bottom hardwood forest along the major streams in the area.
3. Northern hardwood forest, primarily in St. Croix State Forest on approximately 28 percent of the land base.
4. Jack pine stands, which occur on approximately 10 percent of St. Croix State Park land.
5. Lowland brush communities, which exist more within Chengwatana State Forest than in other areas.
6. Sedge and conifer bog communities, which are found interspersed throughout.

Presettlement plant communities along the northern third of the trail, through Nemadji State Forest and the Nemadji River watershed area into Jay Cooke State Park, were again aspen-birch (conifer) successional forest interspersed primarily with conifer bogs, sizeable areas of mixed hardwood and pine forests, and an area of pine groves south of Jay Cooke State Park.

Today's plant communities show generally the same composition but are somewhat altered by man's interference. The successional aspen-birch communities occur most frequently intermixed with occasional large bogs and wetlands. Northern hardwood and bottom land forests rank second. Less than 10 percent of the area can be categorized as boreal forest--balsam, fir and white spruce the dominant conifers and paper birch, aspen and maple the dominant deciduous species. The pine groves have all but disappeared.

The West Addition is located exclusively on abandoned railroad rights-of-way that connect cities and towns and travel through farmland.

Original vegetation in this area was largely composed of forest land much like the areas described along the eastern part of the trail (see Original Vegetation, map 5). Pine forests also existed in this area, but during early logging and lumbering days the original plant communities were greatly altered. Extensive fires, such as the Hinckley Fire in 1894, contributed to this change, and much forest land was converted to agricultural land.

Today wooded areas are primarily composed of successional forests of aspen-birch (conifer) with small stands of pine still existing within Banning State Park and General C. C. Andrews State Forest. Although the trail user can experience diverse plant communities from a distance or within parks and forests in the area, the plant community on the railroad right-of-way itself is composed of plants and weeds inherent to an area where vegetation has been suppressed for many years.

Fish and Wildlife

Wildlife is abundant along the Minnesota-Wisconsin Boundary Trail. The trail travels for most of its length within large expanses of public lands, such as state parks, state forests and county-owned lands. These areas are generally sparsely populated and provide good wildlife habitat because of their diversity. Wildlife along the Western Addition may be less abundant and made up of different species because the trail travels through more settled areas.

The following wildlife inventory is based entirely on DNR Division of Fish and Wildlife information.

Over 35 species of non-game mammals are common in the four-county trail area. Several species, however, are rare or uncommon in the area because of their unique habitat requirements or because Minnesota's climate signifies the end of their range. The least weasel, eastern pipistrelle, big brown bat, and Keen's little brown bat are examples. The spotted skunk is also identified as uncommon because it has been significantly reduced in numbers. The gray or timber wolf, also found in Pine and Carlton counties, is listed as a threatened species on the federal endangered species list even though the Minnesota wolf population is considered stable.

Game mammals are also abundant in the trail area. The black bear and moose are found primarily from St. Croix State Park north, while most other species live along the entire trail within their respective habitats.

About 30 species of reptiles and amphibians inhabit the trail area. The DNR lists several of these as species of interest because they are less common than others (see following page).

MAMMALS

COMMON NON - GAME MAMMALS

Short-tailed shrew
Water shrew
Arctic shrew
Masked shrew
Pygmy shrew
Star-nosed mole
Eastern chipmunk
Least chipmunk
Northern flying squirrel
Red squirrel
Southern flying squirrel
Gapper's red-backed vole
Meadow vole
Southern bog lemming
Meadow jumping mouse
Woodland jumping mouse
Deer mouse
House mouse
White-footed mouse
Porcupine
Woodchuck
Franklin's ground squirrel
Thirteen-lined ground squirrel
Norway rat
Red bat
Short-tailed weasel
Plain's pocket gopher
Striped skunk

GAME MAMMALS

Black bear
White-tailed deer
Bobcat
Moose
Beaver
Muskrat
Raccoon
Eastern gray squirrel
Fox squirrel
Badger
River otter
Red fox
Snowshoe hare
Eastern cottontail rabbit

THREATENED SPECIES

Timber wolf

UNCOMMON SPECIES

Least weasel
Eastern pipistrelle
Big brown bat
Keen's little brown bat
Spotted skunk

Sources: Minnesota Mammals, Mn. DNR
The Uncommon Ones, Mn. DNR

REPTILES AND AMPHIBIANS

SPECIES OF INTEREST

Blanding's turtle
Blue racer
Smooth green snake
False map turtle

Wood turtle
Red-backed salamander
Six-lined racerunner
Bullfrog

COMMON SPECIES

Western spiny softshell turtle
Common snapping turtle
Western painted turtle
Map turtle
Eastern garter snake
Western fox snake
Northern ringneck snake
Red-bellied snake
Northern water snake
Eastern hognose snake
Bullsnake
Eastern milk snake
Western plains garter snake
Blue spotted salamander
Eastern tiger salamander
Mudpuppy
Northern prairie skink
American toad
Boreal chorus frog
Northern leopard frog
Gray tree frog
Mink frog
Green frog
Wood frog
Western chorus frog
Northern spring peeper

Source: Mn. DNR - Fish and Wildlife Division

BIRDS

COMMON GAME BIRDS

Canada goose
Mallard
Blue-winged teal
Wood duck
Ring-necked pheasant
American woodcock
Common snipe
Ruddy duck
Virginia rail
Ruffed grouse
Sora
Gray partridge

BIRDS OF INTEREST

Broad-winged hawk
Pileated woodpecker
Connecticut warbler
Eastern meadowlark
Spotted sandpiper
Belted kingfisher
Blue jay
Short-billed marsh wren
Gray catbird
Eastern bluebird
Yellow-throated vireo
Yellow warbler
Black-crowned night heron
American kestrel
Bald eagle

COMMON NON-GAME BIRDS

Red-winged blackbird
Common grackle
Starling
American robin
House sparrow
Common yellowthroat
Mourning dove
Common crow
Barn swallow
Western meadowlark

Source: Breeding Birds in Minnesota, 1975-1979, Mn. DNR

An abundance of birds live along the river valleys, forests and pasture lands of the trail area. The DNR categorizes the birds into three groups: common non-game birds, common game birds and birds of interest. Bird species in the latter group are less abundant in the trail area but may be of special interest to the trail user (see preceding page).

The majority of the Minnesota-Wisconsin Boundary Trail is located within three large watershed areas, those of the St. Croix River, Kettle River and Lake Superior. The trail also crosses numerous streams varying in size and quality. Fish are plentiful in the St. Croix and Kettle rivers. Fishing pressure in both rivers is moderate. The most common game fish and rough fish species are listed in the following paragraphs.

In the St. Croix River, the lake sturgeon and muskellunge are most common in the headwaters; crappie, largemouth bass and black bullheads prefer the more placid waters downstream. The flathead catfish, sauger, white bass, gar and gizzard shad remain mostly below the St. Croix Falls dam.

The St. Croix also provides a habitat for the Higgin's eye pearly mussel, which is on the federal endangered species list. The mussel's host is the sauger, and it is found only in the St. Croix River, Lake St. Croix and in the Mississippi south of Minneapolis.

The Kettle River, which flows through Banning State Park and into the St. Croix River in Chengwatana State Forest, also provides a good opportunity for fishing. It has been stocked by the DNR Division of Fish and Wildlife with muskellunge, northern pike and walleye. The lake sturgeon is an unusual addition to the fish population, since it is currently found with any frequency only in the Kettle, St. Croix and Rainy rivers. This fish is Minnesota's largest game fish and can weigh up to 100 pounds. Because of its size, it was overfished in the past. Now it can only be taken by hook and line, the limit is one, and it must be at least 40 inches long. The Kettle River is considered to have the finest fishing found in the trail area.

The Snake River, which the trail crosses in Chengwatana State Forest, has many of the same game and rough fish species found in the St. Croix and Kettle rivers. In the past it has been stocked with bluegill, crappie, walleye, channel catfish and largemouth bass.

Several streams in the trail area are managed for trout fishing and have been designated trout streams under Commissioner's Order 2062.

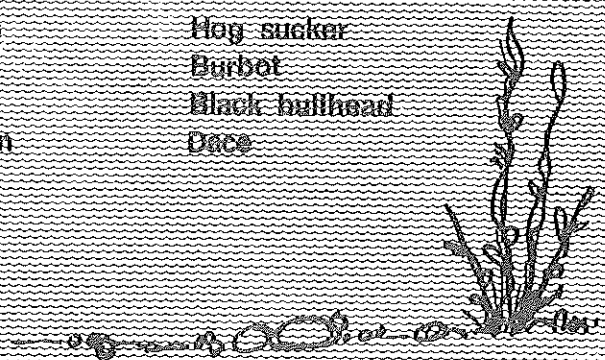
ST. CROIX RIVER

GAME FISH	ROUGH FISH
White bass	Carp
Crappie	Drum
Sauger	Bullhead
Walleye	Gar
Channel catfish	Gizzard shad
Small mouth bass	Silver redhorse
Bluegill	Northern redhorse
Flathead catfish	
Lake sturgeon	
Northern pike	
Largemouth bass	
Muskellunge	

Source: A Biological Reconnaissance of the Upper St. Croix River Mn/Wi Conservation Dept., August, 1961

KETTLE RIVER

GAME FISH	ROUGH FISH
Small mouth bass	Silver lamprey
Walleye pike	Common sucker
Northern pike	Northern redbreast
Northern log perch	Hog sucker
Rock bass	Burbot
Black crappie	Black huffhead
Shovelnose sturgeon	Dace
Bluegill	
Yellow perch	
Channel catfish	
Stonocat	
Lake sturgeon	
Muskellunge	



Sources: A Management Plan for the Kettle River - Mn. DNR 1974
Fisheries Stream Survey Report - Mn. DNR
Division of Game & Fish 1962

DESIGNATED TROUT STREAMS

CARLTON COUNTY

- Clear Creek
- Little Otter Creek
- Midway River
- Moosehorn River
- Mud Creek
- Net River
- North Fork Nemadji River
- Rock Creek
- South Fork Nemadji River

PINE COUNTY

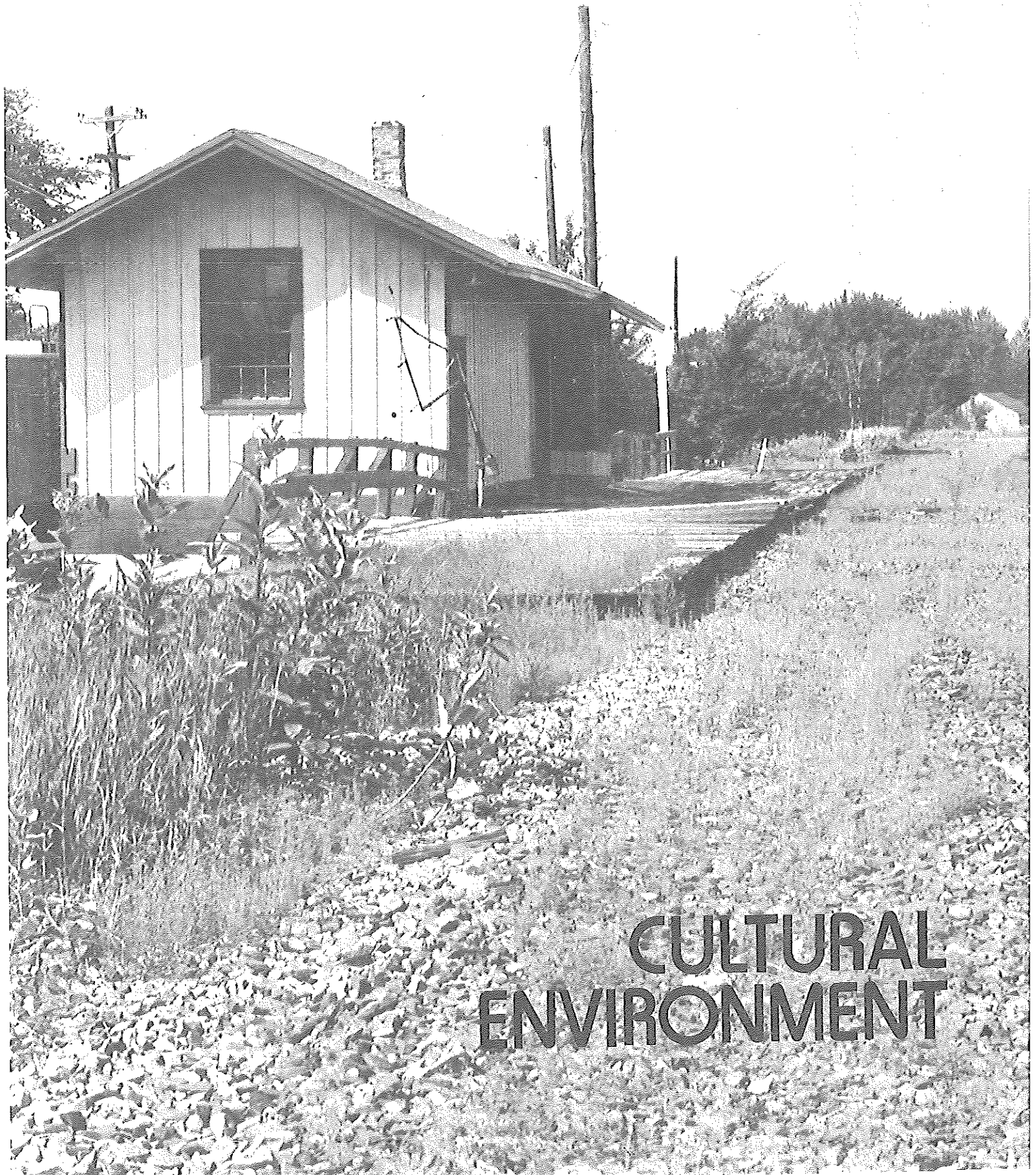
- Bang's Brook
- Crooked Creek
- Grindstone River
- Little Hay Creek
- Lost Creek
- Spring Brook
- Wilbur Brook
- Willow River

CHISAGO COUNTY

- Lawrence Creek



Source: Mn. DNR Commissioner's Order No. 2062



**CULTURAL
ENVIRONMENT**

CULTURAL PERSPECTIVE

Historic Resources

The Minnesota-Wisconsin Boundary Trail and West Addition area has significant historical and archaeological resources. To give a clear portrait of these resources, the following inventory is divided into three major subject areas: historic resources within the St. Croix River valley, historic resources in the Duluth area and to the south, and historic resources along the Hinckley-Moose Lake abandoned railroad right-of-way.

Historic Resources within the St. Croix River Valley: Historic records indicate that prehistoric peoples occupied the trail area. Paleo-Indian hunters, who lived 8,000 to 10,000 years ago, are the earliest known. They were followed by woodland cultures. Pottery fragments of middle and late woodland cultures have been found at the Stumne Indian Mounds site on the Snake River near present-day Pine City.

The trail area was occupied by the Sioux (Dakotah) in the 1500s. By the mid-1600s, however, the Chippewa (Ojibway) pushed west from their homeland around Lake Superior, forcing the Sioux to move further westward. To the disadvantage of the Sioux, the Chippewa had allied themselves with early French fur traders and were using firearms in battles against the Sioux and other enemies. Finally, through efforts of explorers, missionaries and government agents, the Sioux and Chippewa signed a tribal agreement on August 19, 1825, at the "grand conference." This agreement drew a territory boundary from the Chippewa River west to the Mississippi, crossing the St. Croix River at Cedar Bend, immediately below the Chisago-Washington county line. In spite of this agreement, however, intertribal fighting continued up to the 1850s. In 1854 the Chippewa agreed to give up a vast tract of land bordering Lake Superior, and reservations were created. According to the Minnesota Historical Society's survey, there are numerous sites along the St. Croix where archaeological artifacts have been discovered.

From 1679 to 1837, fur traders, explorers and missionaries came to the St. Croix valley. In an attempt to make peace between the Sioux and other tribes, and to assist the fur traders, Daniel Greysolon, Sieur du Lhut, for whom Duluth is named, ascended the Brule River in June 1679. He portaged the short distance to the St. Croix River and continued down the St. Croix to the Mississippi.

In the middle 1700s, the established French fur traders had to compete with English fur traders and eventually lost control of the area. Several collecting points for furs were established in the St. Croix valley, including one at the Snake River's confluence with the St. Croix River and one at Pokegama Lake near Pine City in 1804, the North West Co. Fur Post (see Historic/Natural Features, map 7). After 1819, British-Indian fur trade ceased in the area with the establishment of Fort Snelling. By midcentury, fur traders, voyageurs and coureurs de bois disappeared from the scene because beaver pelts became more difficult to find and less fashionable in Europe.

In 1767 the first English explorer, Jonathan Carver, passed through the area in search of the Northwest Passage, a land route across the continent to the Pacific Ocean.

In June 1832, the first American expedition, under Henry Rowe Schoolcraft, explored the full length of the St. Croix River. Scientist and explorer Joseph Nicollet undertook the last organized expedition of the valley in 1837.

Around 1838 American settlement began along the St. Croix River. While some of these settlers were farmers, the lumber industry quickly established itself as the king of the St. Croix. Logging commenced in the southern part of the basin along the streams and progressed inland and northward. For the next 80 years, the forests rang with the sound of falling timber. Trees were cut and hauled to the rivers to be floated downstream. At times the St. Croix River looked more like a pile of logs than a free-flowing stream. Navigation on the river became more difficult as the great number of logs floating down the river wore away the banks and increased the sandbars, which in turn created immense logjams and obstructed the channel. St. John's Landing, now a youth camp within St. Croix State Park, became a well-known stopping place. A boardinghouse was established here for the lumberjacks on their way to the pineries. The Fleming logging railroad in this area moved a vast quantity of white pine to the river landing. Today, the Fleming Road (County 22) from Bruno south into St. Croix State Park follows almost exactly the old railroad bed. Big Yellow Banks (now in St. Croix State Park) was the terminus of the old Fleming logging railroad. From there, logs were carried down the river to southern mills.

In 1839 the first commercially productive sawmill went into operation in Marine Mills, now Marine-on-St. Croix. Several other sawmills were established in the 1840s--in St. Croix Falls across the river from Taylors Falls and in Stillwater, Osceola, Arcola and Hudson. By 1855 there were 17 lumber mills between St. Croix Falls and Prescott. At the same time, the first paddle wheelers came up the river as far as St. Croix Falls to bring goods and people.

The farmer also played a part in the opening of the St. Croix basin. Settlers were successful in carving out farms from woodlands in the southern portion. Farming grew in the northern portion as long as the lumber industry expanded, but with the abrupt decline in lumber production, land clearing in the northern area greatly subsided. The soil was not the best for crop growing, and agricultural lands elsewhere produced more efficiently.

In 1855 a flour mill began operating in Marine-on-St. Croix, and a store was built there about 1870 to sell general merchandise and lumbermen's supplies. This building stands today as originally constructed, one of Minnesota's historic landmarks. To the end of the century, lumber and wheat represented the most important sources of income in the St. Croix Valley. The peak year of the lumber industry was 1890, when approximately 3.5 million logs passed through the boom site north of Stillwater. The last log drive down the St. Croix River was in 1914.

In 1849 the Minnesota Territory was established as a result of the Stillwater Convention. One year before that, Wisconsin had become a state, with the St. Croix River forming its western boundary. The year 1850 saw the first Swedish immigrants at Hay Lake, south of Scandia. A historic monument marks the place today. The majority of the first immigrants were Swedish as some of the town names--Almelund, Lindstrom, Scandia and Marine--still indicate.

In 1850 the Congress passed the Minnesota Road Act, authorizing five military roads and funds for their construction. The first priority was given to the Point Douglas-St. Louis River Road, and by 1853 the road was completed to a point twelve miles above Taylors Falls along the west bank of the St. Croix. There it departed from the river, followed a northwesterly route, and swung to the east again south of Duluth. Stagecoach service began by 1861 and continued until 1870. Though it remained rutted and unsurfaced, the road was vital and heavily used. But when the Lake Superior and Mississippi Railroad opened its line in 1870 to connect St. Paul and Duluth (see West

Addition), traffic on the military road ceased almost overnight. Today half of the old roadbed has been abandoned, while the rest has been incorporated into existing roadways. The Minnesota-Wisconsin Boundary Trail uses several miles of the old roadbed north of Taylors Falls.

The years between 1860 and 1890 were also considered the heydays of river travel. Steamboats traveled up and down the river, bringing goods and settlers.

As transportation and industries changed, some settlements vanished.

Arcola, founded in 1846, grew around the spacious home of John Mower and the sawmill of his brother Martin. Today the Arcola mill is on the National Register of Historic Places.

Vasa is today's Copas and is the site of the nationally recognized historic John Copas house. It once had a post office, steam sawmill, several stores, a three-story hotel and a number of substantial houses. The town collapsed during the 1857 depression.

Franconia was a lively river town that was bypassed by the 1870 railroad. But that was not the only reason for Franconia's demise. This milltown depended on the lumbering business and the continuance of river traffic for transportation. By the mid-1880s, when the St. Croix Boom Company gained control over the entire valley and made no attempt to keep the channel open, the flour milling towns north of Stillwater were left to die, one by one. Although Franconia was never a large village, it was prosperous, with a flour mill, sawmill and shipbuilding yards. Today Franconia is a sleepy settlement of a few homes and summer cottages. Franconia has been declared a historic district and is listed in the National Register.

Sunrise, located on the Sunrise River and the newly developed military road, was a settlement of about 15 families in 1856. The village grew slowly and reached its peak (300 inhabitants) in 1869. The population gradually declined after Jay Cooke's railroad was built through North Branch and the traffic on the military road ceased. Sunrise enjoyed a temporary boom as the Arrow Line, a projected railroad to link the Twin Cities with Superior, began grading and laying trails in the vicinity. The project was abandoned, and today Sunrise is a town of 100 people in the vicinity of Wild River State Park.

Amador was founded by Dr. C. P. Garlick in 1857. The town never really prospered and remained a small settlement with only a sawmill, hotel and ferry.

Chengwatana, which means "town of pines," originally was an Indian village at the mouth of Cross Lake on the Snake River. In the 1800s it served fur traders (at least two wintering posts were there) and lumbermen. In 1856 a small village was established and served as a stopping place along the military road. For a while Chengwatana was the largest settlement in the area north of Taylors Falls, but it never had more than 100 people. In 1857 Chengwatana was the county seat of Pine County, but when the railroad bypassed the town in 1870, it vanished, and Pine City became the county seat.

After 1850 people visited the valley for health purposes. It was said that the invigorating climate was conducive to health. The lower valley also became a tourist spot with resorts and hotels. In 1874 more than 5,000 persons visited the Dalles of the St. Croix from all parts of the United States. In 1895 Interstate State Park was established as Minnesota's second state park. St. Croix State Park was established in

1943. In 1945 William O'Brien State Park came into being, named after a St. Croix-Kettle River lumberman. Wild River State Park was established in 1973 within the Upper St. Croix Management Unit. All of the state parks mentioned along the St. Croix River exhibit historic and archaeological resources.

Historic Resources South of Duluth: In 1679 French explorer Sieur du Lhut traveled up the St. Louis River, which was called Kitchigumizibi (Lake Superior River) by the Dakotah, and claimed the area for France. Until the mid-1700s, the St. Louis River area was a major fur trading route for the French voyageurs. From Cloquet, Indians and voyageurs were forced to portage to Fond du Lac trading post. The Grand Portage Trail in Jay Cooke State Park still represents a segment of these extensive portages. In 1763 France ceded the area to Great Britain, and by 1816 Congress restricted Indian trade to American citizens. In 1854 the federal government deeded most of the land in Carlton County to lumber interests; Indians were forced from their land, and they moved to the Fond du Lac Reservation. Carlton County, which was established in 1857, was virtually uninhabited because it was inaccessible. There were, however, some small settlements along navigable waterways. In 1870 the county was opened up when the railroad was built between St. Paul and Duluth. With assistance from Philadelphia financier Jay Cooke, construction of the Northern Pacific Railway started at the Northern Pacific Junction, now Carlton, in February 1870. A sign commemorating this event can be seen on State 210. The first local industries served by rail were lumber and mining. Quarrying of Thomson Slate was for many years an important industry of the area.

In 1873 the first Finnish homesteaders settled in Thomson, and in 1878 the first sawmill opened in Knife Falls, now Cloquet. Work in the mills and land for homesteading attracted more immigrants, including Swedes and Norwegians. Logging railroads played a major role in the area. Rails were brought within skidding distance of the timber. On October 12, 1918, the area between Cloquet and Moose Lake was devastated by forest fires.

The area south of Jay Cooke State Park and into Nemadji State Forest had its greatest significance during the logging era. Towns like Bruno, Kerrick, Duquette and Holyoke were then very active logging communities, much like towns along the St. Croix. They ceased to be prosperous after the white pine was harvested and the logging industry declined. Twin Lakes, now called Scott's Corner, three miles west of the trail, was once a place of some importance on the military road. The Carlton County seat from 1857 to 1870, it had a stage station, which also served as a trading post, general store and courthouse. When the courthouse was moved to Carlton and traffic ceased on the military road, Twin Lakes dwindled to its present status as a country crossroads.

Historic Resources along the West Addition: The earliest white settlers in the area of the West Addition of the trail were homesteaders and lumbermen. They first arrived after the completion of the military road in 1857, which allowed year-round overland travel. Overnight accommodations were available at Rock Dam Station, where the road crossed the Kettle River. This site is now within Banning State Park, and remnants of the road and dam are still visible.

The completion of the Northern Pacific line from St. Paul to Duluth in 1870 brought more settlers into the area. With the presence of the railroad, settlements and towns were established. Central Station, now Hinckley (named after the railroad tycoon, Isaac Hinckley), is one of the oldest towns in Pine County. Before the railroad made the town a midway point between St. Paul and Duluth, the community served lumber camps on the upper Snake and Tamarack rivers and Sand and Crooked creeks. Farmers

settled here even before the Hinckley Fire of 1894 because of the large natural meadows along the Grindstone River and its tributaries, which were desirable for stock raising and dairy farming. The fire consumed the whole town on September 1, 1894, and with it, the great forest resources of the area. Hinckley was rebuilt and became a farming community. Today the Hinckley Fire Museum lets the visitor relive the events of the fire. On its way north, the trail passes Skunk Lake, a marsh where 350 people found safety during the fire. A historic marker now marks the site.

At Sandstone Junction a three-mile spur line went east to serve the village and quarry of Sandstone until the Great Northern Railroad was built through the village in 1893. The proposed bicycle route to Sandstone closely follows the original spur line as it uses the County 61 right-of-way.

Sandstone (originally Fortuna) was established in 1887, with logging and mining of sandstone as its main industries. At the peak of mining, 400 loads of sandstone were shipped out per day. Just a short distance north of Sandstone (now within Banning State Park) was the village of Banning, incorporated in 1901. The population was once 300, and more than 600 stonecutters were at work. In the mid-1930s, the quarries were closed and Sandstone's population declined, and the town of Banning ceased to exist. The quarries and spur rail lines are still visible within the park. A spur trail will connect the park with the West Addition.

The town of Finlayson was incorporated in 1905 and was named after a Scottish immigrant, David Finlayson, who operated a sawmill there in 1880. The Northern Pacific Railroad depot there was recently placed on the National Register of Historic Places.

The towns of Rutledge, Willow River, Sturgeon Lake, Moose Lake, Barnum and Carlton were all established when the railroad came through the area in the 1870s. Main sources of income for settlers were in the lumber business and farming. The area around Moose Lake and Carlton was used to raise vegetables to supply local markets and Duluth. The area was noted as poor man's country because one did not need a fortune to buy land. The first settlers were primarily Finnish. Swedes, Norwegians, Germans and Irish followed.

Population and Communities

The Minnesota-Wisconsin Boundary Trail and West Addition will pass through four counties--Washington, Chisago, Pine and Carlton--and several towns and communities. The trail will end at Duluth, which is in St. Louis County. The following chapter will attempt to give a socioeconomic profile of counties and towns that will be affected by the trail. This reconnaissance should assist in the successful integration of the trail into each affected community.

Washington County: This county, where the southern terminus of the trail is located, is fast becoming a popular place for Twin Cities commuters to live. The county's population increased 37 percent between 1970 and 1980 (1980 census--113,720) and is expected to reach 163,500 by the year 2000. Many of the newcomers are looking for rural, single-family homes. The Washington County Comprehensive Development Plan (1976) states that if this trend continues, the county may lose its rural quality and become another suburb. Already in 1976, 62 percent of the population was commuting to work and depending heavily on the Twin Cities for services. Presently, however, a large percentage of the land in Washington County is still agricultural.

Stillwater, the "birthplace of Minnesota," is the county seat. Its 1980 population was 12,225. The main employers in the city are the public school system and the Anderson Windowalls Corp. Within easy reach of the Twin Cities, it is served by the Metropolitan Transit Commission and Zephyr Bus Lines. The city operates 23 municipal parks and several bicycle routes. Its location on the St. Croix River provides another aspect of recreation--boating. Stillwater has a theater and celebrates Lumberjack Days each year. Although the Minnesota-Wisconsin Boundary Trail will not pass through Stillwater, it is mentioned here because of its regional historic significance and its proximity to the trail.

The trail is proposed to start in Oakdale. With a population increase of 55 percent since 1970 (1980 census--12,147), Oakdale is now a thriving community. With the 3M company nearby, Oakdale houses many 3M employees. Croix Industries recently established its headquarters in Oakdale also. The city has an active recreation program and is planning to expand recreational open space within the next couple of years. With cooperation from local government, the trail could greatly enhance recreation in the area.

The trail is also bordered by Pine Springs (1980 census--269) to the northwest and Lake Elmo (1980 census--5,296) in the southeast. Both communities are planning eventually to connect their local park systems with the trail and provide local citizens access to the trail. The DNR-operated main access to the trail is planned to be in Oakdale (see plate I of 19).

Chisago County: This county was until recently primarily agricultural. It has, however, like Washington County, been discovered by Twin Cities commuters. From 1970 to 1980, the population has increased 46 percent (1980 census--25,606). The population is expected to increase to 44,900 by the year 2000. According to the county's Overall Economic Development Plan of 1978, there are many skilled and semi-skilled craftsmen in the county, and manufacturing industries are expected to increase 300 percent by 1990. The tourism industry is not as extensive as desired. The county development plan blames this partially on the lack of county recreation systems. Chisago County, however, does have an extensive grant-in-aid snowmobile trail system. Tourism and the timber industry are expected to increase in the future, and agriculture will remain at present levels.

Taylor's Falls (population 628 in 1980) is a well-known tourist spot and recreation area for Twin Citians. Interstate State Park borders the city to the south. This state park has consistently ranked in the top five of all state parks for visitor attendance. People long have been attracted to Taylor's Falls because of its geologic and historic significance. Taylor's Falls has three municipal parks, one of which is proposed to serve as an access to the trail. Highlights of the city include the Dalles of the St. Croix, the Angel's Hill District with the historic Folsom House, Wannigan Days and an annual arts and crafts festival.

Pine County: Approximately 100 miles of the Minnesota-Wisconsin Boundary Trail and West Addition traverse Pine County--70 miles along the St. Croix River and through Nemadji State Forest and approximately 30 miles on the abandoned railroad right-of-way from Hinckley through Sturgeon Lake. The east-west trail along the St. Croix River has been used for several years, primarily for snowmobiling and horseback riding.

Pine County's population has increased roughly 18 percent since the 1970 census (1980 census--19,881). Pine City, located eight miles due west of the trail access at the Snake River is the county seat (1980 census--2,490).

The county's principal industry is agriculture. Dairy farming is number one, with the raising of beef and swine following closely. Crops are raised for animal production rather than marketing. Government is the second largest employer in the county, providing jobs in the school system, highway department and the correctional institution in Sandstone.

Tourism and forestry are described as having great potential in the county's future employment picture. Forested lands (approximately 50 percent) within the county are not now productive because of heavy logging in the late 1800s and the several disastrous fires that followed. The county's Overall Economic Development Plan of 1979 recognizes that the tourism industry is under-developed, though excellent recreational opportunities exist in the county. Two state parks, four state forests and vast expanses of public land presently cater to campers, hunters, anglers and other trail and park users. The completion of the Minnesota-Wisconsin Boundary Trail and West Addition would greatly enhance the tourism potential in the county, especially for the communities along the West Addition of the trail. Interstate 35 also passes through the county and provides easy access for tourists. The Overall Economic Development Plan indicates the county is eager to increase the tourism industry.

Hinckley, midway stop between the Twin Cities and Duluth, also known as the site of the disastrous fire, had a population of 963 in 1980. Tourism is a principal employer. The city is served by Greyhound Bus. Interstate 35 provides good access to the area. Overnight accommodations and several restaurants serve travelers. Additional attractions of the community are three city parks, the fire monument and the fire museum, located in the historic Northern Pacific railroad depot. Efforts should be made to locate the trailhead in the city, rather than at the northern city limits where it presently is. The trail could possibly start one day at the depot. Hinckley also features annual ice fishing contests and the Corn and Clover festival.

Sandstone, located on the scenic Kettle River just south of Banning State Park, has tourism potential. A trail spur route is proposed to connect Sandstone with Banning State Park and the West Addition. The city had a population of 1,598 in 1980 and is served by Greyhound Bus, Amtrak and a small airport, all of which are capable of bringing recreationists into the community. Plans exist to connect the municipal Robinson Park with Banning State Park via a hiking trail along the Kettle River. The Kettle River's Hell's Gate Rapids, just upstream from Sandstone, also bring white-water canoeists into the area. Sandstone is the site of a federal correctional institution.

Finlayson, a community of 202 residents, is known for its historic Northern Pacific Depot. The depot was placed on the National Register of Historic Places. The Pine County Historical Society recently refurbished the outside of the depot and plans to operate a small museum there, including a caboose stationed alongside the depot. A cooperative project between the Historical Society and the DNR would present an opportunity for trail interpretation and could benefit the community.

The trail also passes through the communities of Rutledge (1980 census--186), Willow River (1980 census--303) and Sturgeon Lake (1980 census--222). Rutledge lies at the northern tip of Banning State Park, and Willow River lies next to General C. C. Andrews State Forest. All three communities could benefit from trail-related business, and the trail also ties together state park and state forest facilities. Several existing private resorts, campgrounds and other recreation businesses in the vicinity could capitalize on the trail's presence.

Carlton County: Two trail routes are proposed to traverse Carlton County, one providing a connection between Carlton and West Duluth on an abandoned railroad right-of-way and an easterly route through the Nemadji River watershed area into Jay Cooke State Park. Both alignments meet within Jay Cooke State Park.

Carlton County's population (1980 census--29,898) has increased only 6.5 percent since 1970. The county's principal employer is the pulpwood industry. The paper mills in Cloquet provide employment for many Carlton County residents. Conwed Corp. on the St. Louis River provides additional employment. Presently uranium mining potential in the area receives major attention (see Bedrock Geology, map 2, and Section III, Land Use). Although the natural resource industry will continue, the service-oriented businesses, primarily tourism, are expected to increase.

The county's natural resources offer many recreational opportunities. In addition to Jay Cooke State Park, there is canoeing on the Kettle River, lake and river fishing, hunting, agate hunting, and more than 100 miles of grant-in-aid snowmobile trails. With the completion of the Minnesota-Wisconsin Boundary Trail and West Addition, an extensive trail system will be available, attracting visitors to Carlton County to the benefit of the local economy.

Moose Lake (1980 census--1,403) is located on Interstate 35 and is served by Greyhound Bus and a small airport. Recreation opportunities are ample, and the completion of the trail will add yet another dimension. Presently a city park with camping facilities on Moosehead Lake, a golf course, and Moose Lake State Recreation Area are available. Moose Lake State Hospital and service and tourism businesses provide the major employment for the city's residents. The city is interested in tourism, and during the last several years, snowmobiling has benefited the local economy.

Barnum (1980 census--465) is four miles north of Moose Lake. In the tourism industry, the community is referred to as the "gateway to the northwoods." Barnum offers the annual county fair, a railroad museum, canoe races, agate pits and the annual Trout-o-Rama. A small city park along Moosehead Lake offers camping, and Camp Wanakiwin, a YWCA youth hostel, is just outside Barnum at Hanging Horn Lake.

Carlton (1980 census--862) is the county seat. The Minnesota-Wisconsin Boundary Trail alignment from the south meets near Carlton in Jay Cooke State Park with the trail right-of-way that travels from Carlton into West Duluth. Carlton has one city park, one private park, two motels and a historical museum. The city sponsors the Mid-Continent Sled Dog Races. The main employers for Carlton residents are Stearns Sporting Goods and the papermills in Cloquet.

St. Louis County: Duluth (1980 census--92,789), in St. Louis County, is the northern terminus of the trail. Duluth's population decreased by 7.7 percent since 1970. The third largest city in the state, it is served by major highways, railroads, Greyhound Bus and commercial airlines. The public schools, light manufacturing plants and port facilities are among the major places of employment for Duluth's citizens. Hospitals, other health-care facilities and the railroad provide additional employment opportunities. Duluth's cultural attractions include several museums and galleries, historic buildings, the Duluth symphony, the Civic Theatre and Ballet, and a zoological garden. Duluth also has 115 municipal parks and playgrounds. Its main attraction, relative to recreation and tourism, is its location on Lake Superior as the beginning of the North Shore drive, one of the most scenic roads in the nation.

Land Ownership and Land Use

The majority of the Minnesota-Wisconsin Boundary Trail alignment will be located on publicly owned lands (see Public Ownership, map 8, and plates 1 through 19). Principal public landholders are the state, individual counties, and the federal government, approximately in that order. The trail passes through state parks and state forests and in places is located on railroad rights-of-way owned by the state and managed by the state trail program.

The trail is proposed to pass through Pine County lands in Wilma and New Dosey townships, and through Carlton County lands in Holyoke and Wrenshall townships. Where federal ownership occurs along parts of the upper and lower St. Croix National Scenic Riverway, the trail alignment is proposed primarily within these lands.

Northern States Power Co., which once owned large tracts of land all along the St. Croix River, still retains sizeable tracts of land along the St. Croix River in Pine and Chisago counties. The trail is proposed through those lands as well.

The use of township roads for trail activities are proposed in areas where connections through other lands were not feasible at this time and where traffic is light and compatible with trail uses. The use of township roads will be only temporary until more suitable routes can be found.

The majority of land in the four-county trail area is forested or is under agricultural production. In and around the Twin Cities and Duluth, however, land is primarily used for urban, residential and industrial development (see Land Use, map 9, figures 3 and 4, table 1). Forested lands occur primarily in Pine and Carlton counties, where most forests are grown for timber production. The primary agricultural use is dairy farming, though beef and swine production also are prominent. Crops are raised primarily for animal feed.

Lands in Chisago County and the western part of Washington County are mainly under agricultural production; corn, soybeans, oats, wheat and barley have the highest production in the order listed. Hay is also grown. An increase in hobby farming is expected in these southern counties, which are in the commuter fringe of the Twin Cities.

Forests in the northern counties still are recovering from the initial harvest in the early 1900s, and productivity has been low. There is, however, a great potential for improvement and expansion of timber production. According to the DNR Division of Forestry, most areas have not been harvested to the extent they could have been because of poor access to timber stands and the lack of management. With expansion and proper management in planting and cutting, as well as multiple use of forested lands for recreation, wildlife habitat and silviculture, forest resources are expected to contribute more to the economic well-being of the area.

Just recently, increased attention has been given to the uranium mining potential in Carlton and Pine counties, and explorations are being conducted. According to R. W. Ojakangas's report of 1976, Uranium Potential in Precambrian Rocks of Minnesota, Carlton and Pine counties show favorable bedrock formations based on radioactivity levels and geology (see also Bedrock Geology, map 2).

The potential for so-called "unconformity pitchblende uranium" deposits is good in these counties; however, no discovery of commercial deposits has been announced. The existing or proposed trail alignments are not near these exploration areas except at the northern end of the proposed trail near Jay Cooke State Park.

TABLE 1 Agriculture

Crop Production

(bushels) 1978

	corn	soybeans	oats	wheat	barley	hay (tons)
Carlton	43,400	2200	229,100	4600	11,100	84,700
Chisago	3,415,000	185,700	266,900	10,500	3,700	87,800
Pine	1,204,000	20,100	669,700	8000	11,400	165,800
Washington	3,390,000	435,300	400,000	65,000	7,400	67,200

source: Minnesota Agriculture Statistics - 1979

Livestock Production

(number of animals)
1979

	cattle	sheep	hogs	dairy cows	chickens
Carlton	22,000	500	800	5700	3000
Chisago	28,700	900	21,300	8000	55,000
Pine	52,400	2400	27,800	14,100	300,000
Washington	22,000	700	7400	5100	45,000

source: Minnesota Agriculture Statistics - 1979

Farm Cash Income

(thousand dollars)
1977

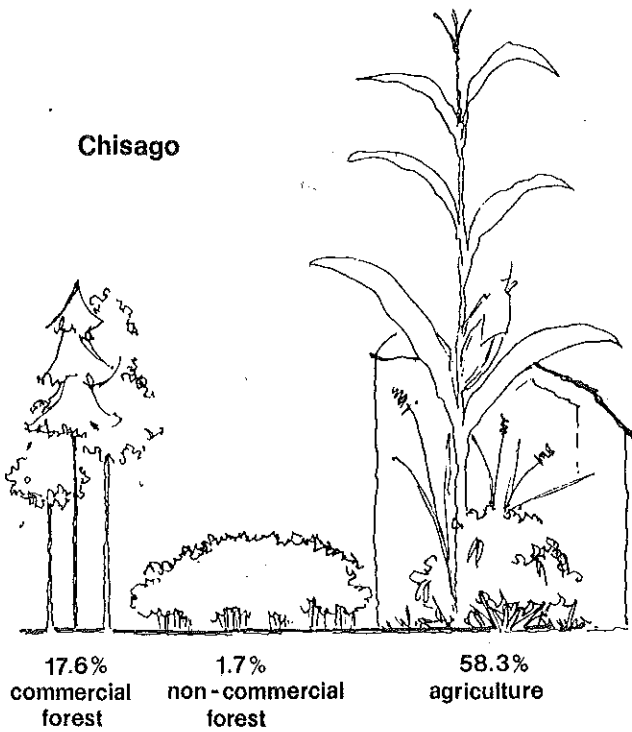
	crops	livestock	government	total
Carlton	1,275	6,502	280	8,057
Chisago	5,791	13,785	214	19,790
Pine	2,970	20,534	608	24,112
Washington	11,804	13,288	259	25,351

source: Minnesota Agriculture Statistics - 1979

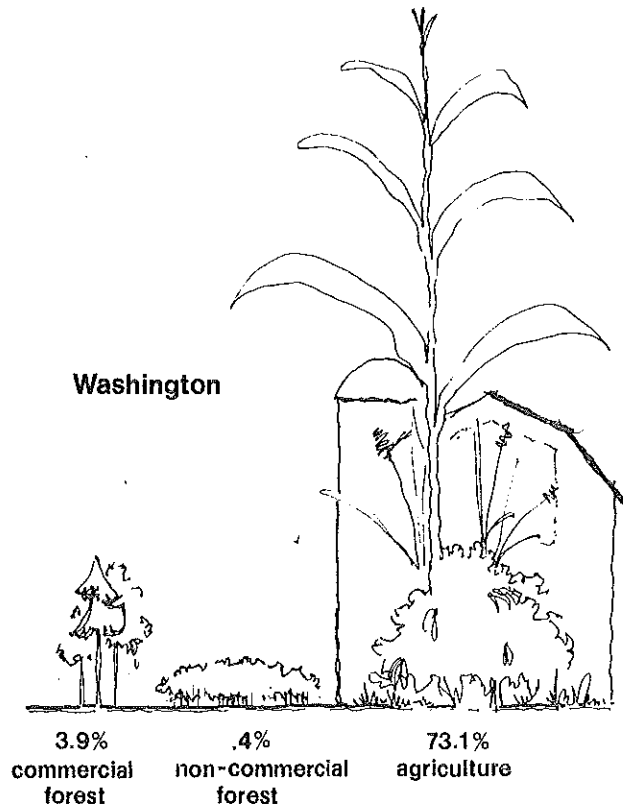
LAND USE BY COUNTY

(urban land excluded)

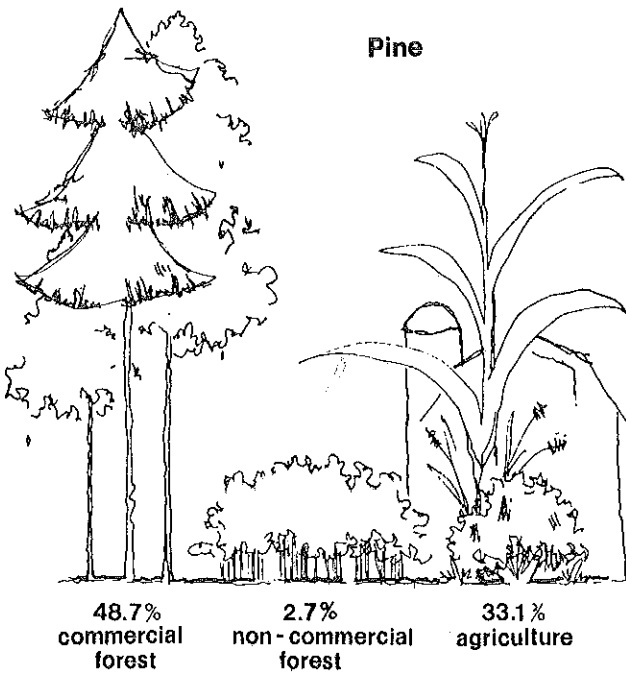
Chisago



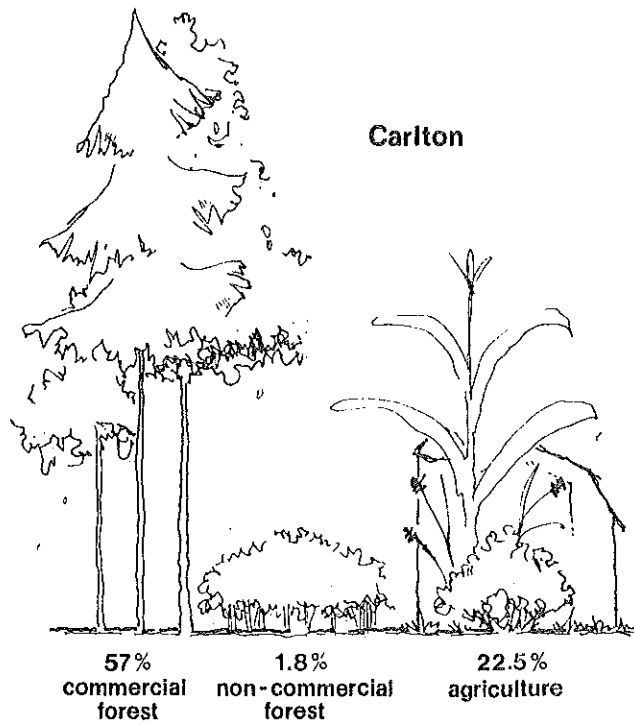
Washington



Pine



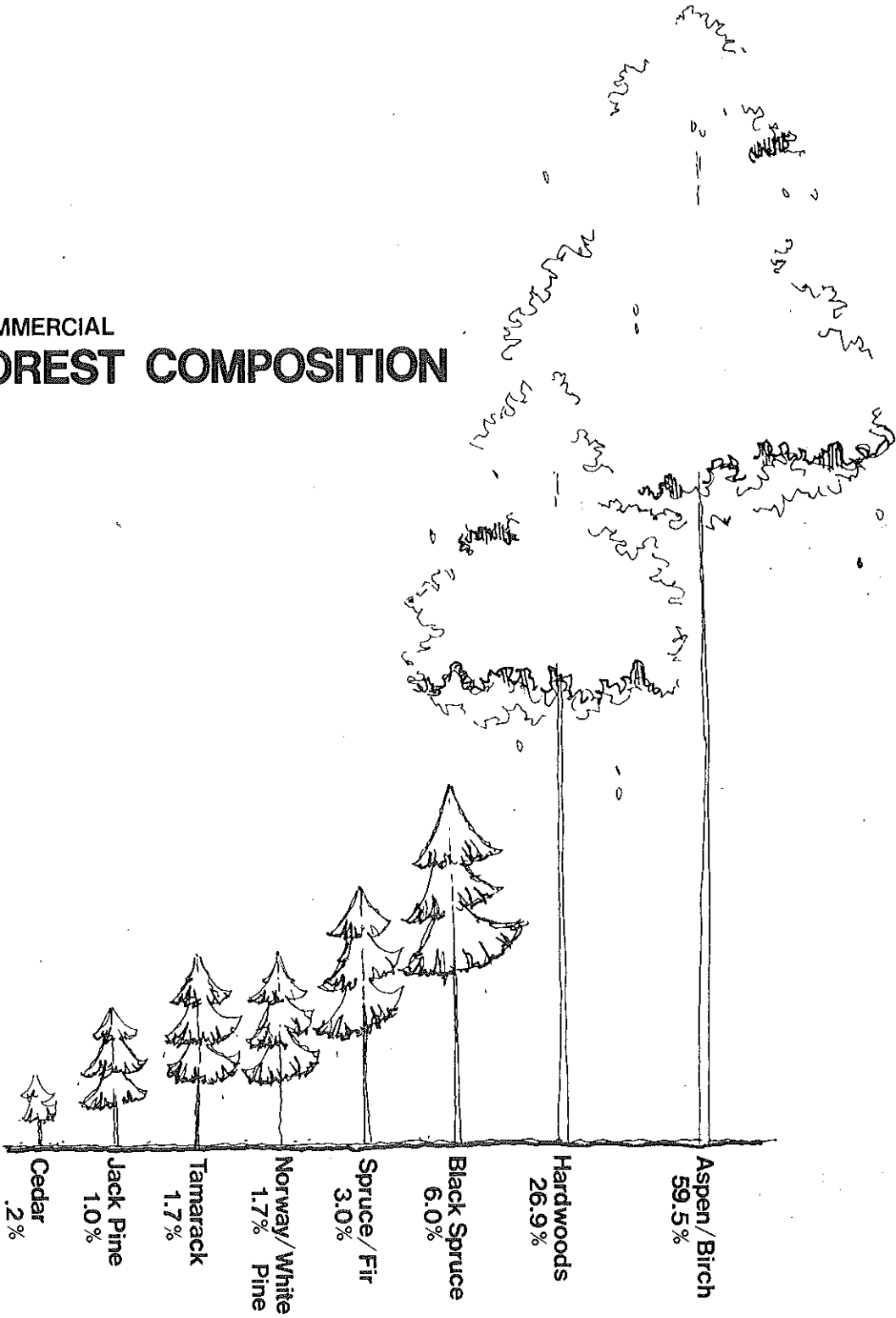
Carlton



source: Mn/DNR Forestry Division 1980

FIGURE 3

COMMERCIAL FOREST COMPOSITION



source: Mn/DNR Forestry Division

FIGURE 4

Accessibility

When the Legislature authorized the Minnesota-Wisconsin Boundary Trail in 1973, it recognized the trail's accessibility to the many people from the Twin Cities and Duluth areas. The trail will not serve solely residents of the Twin Cities and Duluth. Its value may also be found in its successful integration into local communities and its connection to local and regional recreational facilities. For these reasons, careful planning and development of trail accesses are essential to serve the user and to mitigate undesirable effects on local communities. In general, access points are to be located in towns, in areas where trail uses change, in areas within state and local management units and in areas where existing recreation facilities can be used and expanded. The proper location of trail access areas may discourage unauthorized parking and entering of the trail right-of-way.

The trail will be highly accessible by private car, public transportation such as intercity buses and Amtrak railway (see Public Transportation, map 10). At appropriate road intersections, bicyclists may enter the trail, and access for other users is provided by local trail systems. The trail is never more than 30 miles from Interstate 35, and local roads provide sufficient access to the trail. Greyhound buses, which stop at most communities along the trail, offer from one to three round trips per day. An express bus makes four round trips daily between the Twin Cities and Duluth. A bicycle may be brought on the bus and boxed free of charge as long as the luggage does not exceed three pieces, including the bicycle. A daily bus also operates between the Twin Cities and Taylors Falls, providing direct access to the trail.

The Amtrak train offers one roundtrip daily between the Twin Cities and Duluth and stops in Cambridge and Sandstone. At Sandstone the trail may be entered via Banning State Park or County 61. Bicycles may be transported on the train in the same manner as they are on the bus.

Washington County has an extensive bicycle route system along highway rights-of-way, which would join the proposed trail in several areas. Carlton County, and to some extent Chisago County, have bicycle routes that would join the proposed trail. Grant-in-aid snowmobile trails would join the Minnesota-Wisconsin Boundary Trail in all four counties. In addition, the DNR's objective is to connect all nearby management unit trails with the Minnesota-Wisconsin Boundary Trail and develop new spurs and connections where they are needed.

Portions of the trail will be accessible to the elderly and physically disabled. Especially where the trail is developed on abandoned railroad rights-of-way, use by the physically disabled can be accommodated.

In Section VI of the plan, a description of an overall Minnesota-Wisconsin Boundary Trail System illustrates how all uses could be accommodated continuously between the Twin Cities and Duluth (see also Overall Trail System, map 15).

Tourism and Recreation

The Minnesota-Wisconsin Boundary Trail is located within two major tourism areas of the state: the Arrowhead Region and the Metroland Region (see figure 5). Carlton,

ECONOMIC DEVELOPMENT/TOURISM REGIONS

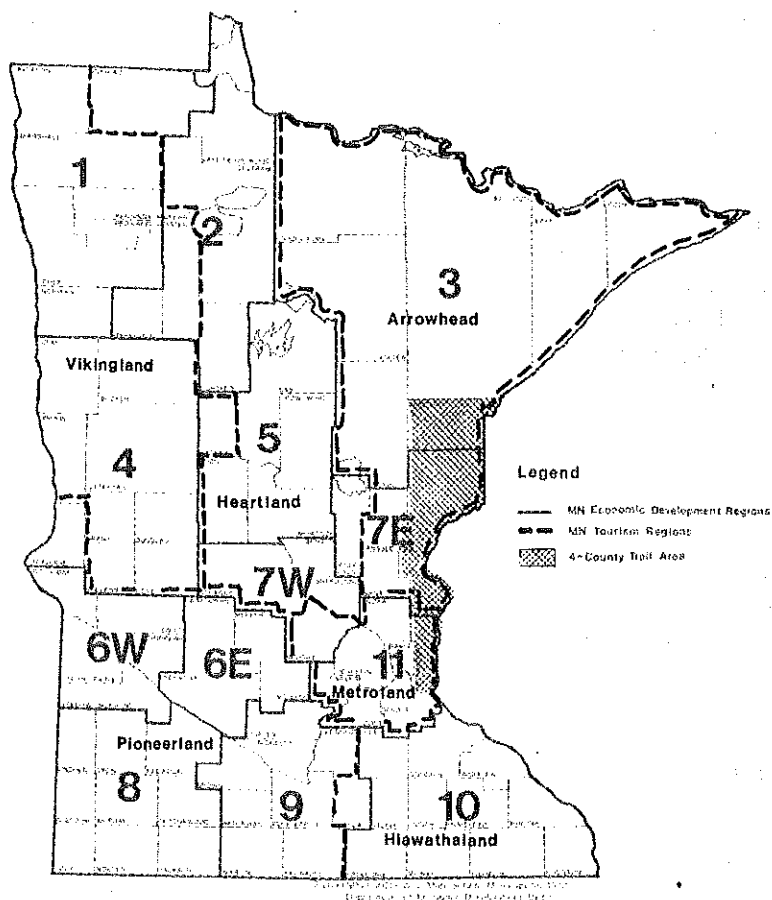


FIGURE 5

Pine and Chisago counties, and Duluth, make up the southeastern 10 percent of the Arrowhead Region. Some of the data used here show the picture of the entire region rather than just the situation in the three counties and Duluth. Washington County is part of the seven-county Metroland Region.

The following data were developed by the Minnesota Department of Economic Development and compare tourist travel and lodging industry data of 1978 and 1979. A brief summary of the statewide tourist travel and lodging industry will put the data into perspective.

The tourism industry showed a real growth of 1.7 percent during 1978-79, despite the decreased gasoline supply and rising travel cost.

Highway traffic on selected recreation feeder routes in 1979 was down 5.7 percent for the period of June through August. This corresponds with a drop of 15.9 percent in visits to highway information centers throughout the year.

Minnesota state park attendance for 1979 indicated a decrease of 9.1 percent. Camping requests at the parks were also down 18.6 percent for the same period. The biggest drops were experienced in the Arrowhead, Metroland and Pioneerland tourism regions. In 1980 state parks experienced a 22.4 percent increase in daily visitors compared to 1979 and a 27.5 percent increase in camping guests compared to 1979. A possible conclusion could be that Minnesotans started spending their vacation time closer to home because of the increased cost of travel, though unusual weather conditions during the season could also account for the changes. Historical site visitations dropped 4.3 percent from 1978 to 1979.

Minnesota lodging receipts increased 13.6 percent from 1978 to 1979. Receipts for the full year at Twin Cities lodging establishments were up 12.7 percent, though Duluth produced only a 3.7 percent increase for the same period.

Highway traffic based on annual average daily traffic counts along selected tourist routes in Metroland decreased 3.9 percent from 1978 to 1979. Traffic along Arrowhead's selected tourist routes decreased by 3.3 percent during the same time. Of the five Minnesota highway information centers, Thompson Hill in Duluth is the only one in the Minnesota-Wisconsin Boundary Trail area. Thompson Hill experienced a 14 percent drop in inquiries from 1978 to 1979, but inquiries increased by 7.7% between 1979 and 1980.

Data for state park attendance in the trail area were available through 1980 (see following table 2). During 1979 the larger or most frequented state parks showed a decrease in daily visitors and decreases in the number of camping guests. Wild River State Park, however, was an exception. Two reasons are likely: The park had just opened officially in 1978, and 1979 was its first full season; also, its relative proximity to the Twin Cities could be responsible for the tremendous upswing in daily and camping visits.

The year 1980 showed an increase in day visitors only in Interstate, St. Croix and William O'Brien state parks. Jay Cooke State Park showed a 44.3 percent decrease in day visitations. The number of camping guests increased in all of the parks in 1980; St. Croix State Park ranked highest with an increase of 75.5 percent. Though 1980 still showed a decrease of 7.4 percent of total day visitors, there was a surprising increase of 38.2 percent in camping guests.

Two Minnesota historical sites are listed in the trail area: the Folsom House in Taylors Falls and the North West Co. Fur Post near Pine City. The Folsom House had 9.3 percent fewer visitors in 1979 than in 1978, and the fur post had an increase of 20.1 percent from 1978 to 1979.

TABLE 2

State Park Attendance in Parks along the Minnesota-Wisconsin Boundary Trail

TOURIST CAMP GUESTS

TOTAL DAY VISITORS

STATE PARK

	1978	1979	% Change 78/79	1980	% Change 79/80	1978	1979	% Change 78/79	1980	% Change 79/80
Arrowhead										
Banning	29,580	30,994	4.7	26,572	-14.2	4,505	3,531	-21.6	4,749	34.5
Interstate	421,618	408,684	-3.1	426,717	4.4	17,625	16,782	-4.8	20,908	24.6
Jay Cooke	319,134	294,933	-7.6	164,211	-44.3	24,709	21,568	-12.7	25,433	17.9
Moose Lake	15,721	18,975	20.6	17,378	-8.4	1,065	1,162	9.1	1,333	14.7
St. Croix	250,364	155,399	-37.9	211,011	35.8	77,898	37,227	-52.2	65,324	75.5
St. Croix Wild River*	51,056	175,966	244.6	133,995	-23.9	1,960	14,535	641.5	18,400	26.6

Metroland

William O'Brien	330,470	174,501	-47.2	186,182	6.7	31,247	30,164	-3.5	36,565	21.2
TOTAL	1,417,943	1,259,452	-11.2	1,166,066	-7.4	159,009	124,969	-21.4	172,712	38.2

Sources: Minnesota Department of Economic Development (1978 and 1979)
 Minnesota Department of Natural Resources, Division of Parks & Recreation (1980)

*Opened 1978

Relationship to Other Recreation Areas

The Minnesota-Wisconsin Boundary Trail and West Addition will travel through or be linked with several units of the Minnesota Outdoor Recreation System (see map 12). When completed, the trail will pass through five state parks and three state forests, providing access to trails, day-use and camping facilities, boating and canoeing rivers and historic sites (see table 3). In addition, spur trails or routes will connect the West Addition to one state park, one state recreation area and one state forest, making facilities within those units available to the trail user.

Several state historic sites are located in communities through which the trail will pass. Four major canoe and boating routes are directly accessible along several areas of the trail. The St. Croix, Snake, Kettle and St. Louis rivers provide some of the most scenic and challenging canoeing opportunities in the state. Many other public accesses to fishing lakes and rivers are near the trail. If Duluth and local snowmobile clubs succeed in establishing local trail connections through the city, the Minnesota-Wisconsin Boundary Trail also will join the North Shore State Trail.

The plan for the North Country National Scenic Trail calls for using the proposed Minnesota-Wisconsin Boundary Trail alignment between St. Croix State Forest and Jay Cooke State Park. According to the North Country National Scenic Trail Concept Plan of 1975 (prepared by the former Bureau of Outdoor Recreation, U. S. Department of the Interior), the trail would generally follow alignments already identified by state and local governments. The trail is proposed to join the Appalachian National Scenic Trail; its western terminus is planned to be at Four Bears Memorial Park in North Dakota. The trail is briefly addressed in Section VI.

Several recreational facilities in local public or private ownership are accessible to the trail user. They are primarily along the West Addition, around Moose Lake, in and around the Twin Cities and Duluth (see Other Recreational Facilities, map 11). The Chisago Lakes area and Taylors Falls are popular recreation spots. Carlton County also attracts a fair number of tourists and recreationists; it offers good trout fishing and hunting and is known as Agate Land U.S.A. Jay Cooke State Park has excellent hiking and ski-touring opportunities. Chisago and Carlton counties also offer excellent winter recreation--miles and miles of locally managed grant-in-aid snowmobile trails. The Minnesota-Wisconsin Boundary Trail will join these local trails throughout the four counties and Duluth. Special emphasis will be placed on connecting future trail developments to complement existing facilities. A number of existing trails within state management units such as parks and forests are also available to the user. The majority of these trails already tie in with existing segments of the Minnesota-Wisconsin Boundary Trail or form separate closed loops for uses such as ski-touring. Existing and proposed snowmobile trails within Duluth are designed to join the North Shore State Trail to create additional opportunities for snowmobiling. The Minnesota Department of Transportation's bikeway program is actively pursuing the development of a statewide network of bicycle routes within existing road rights-of-way. Cooperative planning in the Minnesota-Wisconsin Boundary Trail area will eventually realize long-distance biking opportunities. Washington County and Chisago County already offer ample bicycling opportunities. In particular, Washington County's strong initiative helped to bring about bike routes that connect the Twin Cities with Stillwater, the proposed Minnesota-Wisconsin Boundary Trail (Soo Line Trail), Square Lake Park, Marine-on-St. Croix and William O'Brien State Park. In Chisago County, State 95 has paved shoulders for bicycling into North Branch. These bicycling opportunities will make the proposed Minnesota-Wisconsin Boundary Trail along the St. Croix highly accessible by bicycle. Ample opportunities for bicycling are also available in and around Duluth. Connecting bike routes with the proposed West Addition bicycle trail eventually will provide long-distance biking opportunities between the Twin Cities and Duluth.

TABLE 3

State Parks and Recreation Areas	camping	picnicking	swimming	fishing	public access	boat rental	hiking	x-ski	horse	snowmobile	bicycle	remarks
William O'Brien	●	●	●	●	●	●	12	12				miles of trail
Interstate	●	●		●	●	●	3					
Wild River	●	●		●	●		30	30		1		
St. Croix	●	●	●	●	●	●	127	21	75	75	6	
Banning	●	●		●	●		11	5		4		
Moose Lake	●	●	●	●	●	●	2	3		10		
Jay Cooke	●	●		●			40	30		12		
State Forests												primitive camping only
Chengwatana	●			●			20	20	20	20		
St. Croix	●			●	●		49	19	49	38		all uses permitted as trail conditions allow
Gen. C.C. Andrews				●	●		10	10	10	10		
Nemadji	●	●		●	●		75	75	75	75		

sources: Mn. Dept. of Economic Development
Mn/DNR Forestry & Parks Divisions

Trail Use Demand and Projections

From 1977 through 1979 the DNR Research and Policy Section surveyed Minnesotans about outdoor recreation for the State Comprehensive Outdoor Recreation Plan (SCORP) of 1980. Recreational trail activities were included in the survey. The findings indicate that: snowmobiling will be one of the most frequent winter recreation activities; cross-country skiing will increase substantially; by and large, Minnesotans tend to stay in the state for their winter recreation; residents desire more summer recreation opportunities (especially for bicycling) than winter recreation opportunities; and residents are willing to travel farther for summer recreation than for winter recreation.

Aside from analyzing statewide recreational demands, SCORP developed more specific data that reflect regional differences. SCORP used the eleven development regions of the state to accomplish this task.

The Minnesota-Wisconsin Boundary Trail is located within three of these regions: Region 3, which includes Duluth and Carlton County; Region 7E, which includes Pine and Chisago counties; and Region 11, which includes Washington County. The following tables (4, 5, 6 and 7) illustrate the public desire for additional trail opportunities and show projections of trail use through 1995 for these regions. SCORP's projections of summer and winter trail recreation participation were based on state demographer's regional estimates of the population in each age and sex class for 1975, 1980, 1985, 1990 and 1995.

During 1980-85, nearly every activity shows a decline in participation. In general, these declines reflect the maturing of people born during the post-war baby boom. SCORP further states that Region 3 is an attractor region for recreation. Nearly every summer and winter activity shows more occasions occurring there than can be accounted for by the region's residents.

Because Carlton County and Duluth account for only a very small part of Region 3, the above data may not be a true representation of the immediate trail area.

Future trends for Region 7 E show increases in most trail activities. Demand for more trail opportunities is strong for the majority of uses; bicycling, hunting and snowmobiling rank highest.

The large population of Region 11 is responsible for the large number of occasions compared to any other region. Future trends indicate an increase in cross-country skiing occasions. Snowmobiling occasions will also increase but much more slowly throughout the same time. Although SCORP figures show that bicycling occasions will decrease through 1985, Mn/DOT disputes these figures for the metropolitan area in general and especially as they relate to State 95 in Washington County. Mn/DOT projects that completion of the programmed State 95 bikeway from Square Lake Trail to Marine-on-St. Croix will cause bicycle use in the State 95 corridor to increase 30% over the next three years following completion. Horseback riding occasions show only a slight increase. Hiking occasions will increase at a steady pace.

Bicycling accounted for the highest demand for additional opportunities; in fact, it is the only activity supported by more than 20 percent of the people polled. Cross-country skiing was the most requested winter opportunity.

Section V also illustrates user trends and needs in the immediate trail area. Throughout the planning process the DNR has attempted to meet with user groups so that local and regional needs could be addressed adequately.

TABLE 4

Demand for Trail Opportunities						
Activity	Percent of Population Desiring More Opportunities for Winter and Summer Trail Activities			Expressed Level of Need by Activity 1 = low need 5 = high need		
	Region 3	Region 7E	Region 11	Region 3	Region 7E	Region 11
Cross-Country Skiing	13.1	6.8	11.9	2.9	3.5	2.9
Snowmobiling	13.1	10.6	6.3	3.3	3.1	2.9
Bicycling	15.4	13.7	21.9	3.8	3.7	3.3
Hunting	15.4	11.8	8.5	3.8	3.3	3.2
Hiking	3.4	3.1	8.2	3.2	3.0	3.1
Backpacking	1.1	N.A.	1.5	N.A.	N.A.	3.8
Walking	.6	.6	1.5	N.A.	N.A.	3.7
Horseback Riding	1.7	4.3	1.7	N.A.	2.9	3.2
Trail Biking	1.1	.6	2.2	3.7	N.A.	3.7
Jogging	N.A.	N.A.	1.3	N.A.	N.A.	3.8

SOURCE: DNR SCORP 1980

TABLE 5

Projections of Winter/Summer Trail Activity Occurring in Region 3

Activity	1978	1980	% Change 78-80	1985	% Change 80-85	1990	% Change 85-90	1995	% Change 90-95
Cross-Country Skiing	731,290	706,911	- 3.3	715,225	1.2	799,666	11.8	816,727	2.1
Snowmobiling	1,636,956	1,565,366	- 4.4	1,575,795	0.7	1,636,841	3.9	1,621,202	- 1.0
Bicycling	4,094,146	3,837,897	- 6.3	3,562,164	- 7.2	3,753,941	5.4	3,853,685	2.7
Hiking	404,360	398,482	- 1.5	389,738	- 2.2	390,643	- .2	419,814	7.5
Backpacking	92,170	95,381	3.5	90,200	- 5.4	82,067	- 9.0	74,983	- 8.6
Horseback Riding	65,411	64,108	- 2.0	63,946	- 0.3	60,736	- 5.0	56,404	- 7.1
Trail Biking	252,725	242,068	- 4.2	234,128	- 3.3	245,484	4.9	250,565	2.1

Source: DNR SCORP 1980

TABLE 6

Projections of Winter/Summer Trail Activity Occurring in Region 7E

Activity	1978	1980	% Change 78-80	1985	% Change 80-85	1990	% Change 85-90	1995	% Change 90-95
Cross-Country Skiing	73,853	77,190	4.5	83,087	7.6	92,987	11.9	95,542	2.7
Snowmobiling	565,448	566,719	0.2	618,897	9.2	692,591	11.9	742,894	7.3
Bicycling	1,469,487	1,464,847	- 0.3	1,532,941	4.6	1,720,773	12.3	1,906,347	10.8
Hiking	195,059	200,532	2.8	212,371	5.9	229,971	8.3	247,155	7.5
Backpacking	15,736	16,000	1.5	16,389	2.4	16,596	1.3	16,432	- 1.0
Horseback Riding	67,117	68,196	1.6	73,799	8.2	87,190	18.1	98,050	12.5
Trail Biking	25,154	24,234	- 3.7	25,972	7.2	30,259	16.5	33,662	11.2

Source: DNR SCORP 1980

TABLE 7

Projections of Winter/Summer Trail Activity Occurring in Region II

Activity	1978	1980	% Change 78-80	1985	% Change 80-85	1990	% Change 85-90	1995	% Change 90-95
Cross-Country Skiing	2,415,352	2,449,794	1.4	2,593,233	5.9	2,752,795	6.2	2,895,987	5.2
Snowmobiling	2,200,084	2,300,298	0.1	2,361,924	2.7	2,464,659	4.3	2,572,900	4.0
Bicycling	26,678,223	26,256,513	- 1.6	25,843,884	- 1.6	27,203,102	5.3	28,246,984	3.8
Hiking	1,698,008	1,733,738	2.1	1,811,297	4.5	1,894,799	4.6	1,965,962	3.8
Backpacking	101,588	102,228	0.6	99,967	- 2.2	98,485	- 1.5	96,413	- 2.1
Horseback Riding	226,835	224,377	- 1.1	214,342	- 4.5	213,950	- 0.2	214,521	0.3
Trail Biking	246,668	245,155	- 0.6	231,814	- 5.4	236,051	1.8	245,588	4.0

Source: DNR SCORP 1980



THE TRAIL TODAY

IV THE TRAIL TODAY

Existing Development

The Minnesota-Wisconsin Boundary Trail was originally authorized in 1973 as addressed in Section II of the master plan. Since its authorization approximately 80 miles of trail alignment have been developed, stretching from the Snake River east of Pine City to Nickerson (see plates 7-12 of 19).

In 1974 the DNR Division of Parks and Recreation started construction of the trail at Duquette in Pine County. A trail alignment was developed to the south primarily on abandoned township roads turning east into St. Croix State Forest. This alignment is now known as the Range Line Trail. The DNR decided to build this segment because by using abandoned township roads little construction would be needed and a trail would be available in a short time. In the early 1970s pressure from snowmobilers was significant because this activity was steadily increasing and very few trails were available at the time. In the following four years, up to 1978, most of the existing 80 miles of the trail were developed. Soon after the Range Line Trail was constructed, connections to existing state forest and state park trails were established. Then construction emphasis shifted eastward, and a new trail alignment was constructed primarily through St. Croix State Park, St. Croix State Forest and Pine County land into Nemadji State Forest to Nickerson. This alignment also connected all existing state park and state forest trails. The Range Line Trail, running parallel to the new alignment, is still part of the Minnesota-Wisconsin Boundary Trail and, although of poorer quality than most other portions of the trail, it provides additional trail miles in a loop system. The plan will further address this trail in its development section. In 1977-78, additional miles were added to the Minnesota-Wisconsin Boundary Trail from the Kettle River within St. Croix State Park south to the Snake River within Chengwatana State Forest. In 1978 a bridge was constructed over the Snake River and a trail access established on the south side of the Snake River. As mentioned earlier, pressure from snowmobile groups and clubs brought about the rather expedient construction of the first 80 miles of trail. Snowmobiling still represents the major use of the trail.

Some additional miles of trail were added within the Chengwatana State Forest between 1978 and 1980. A ski-touring and hiking trail was developed south of the Snake River to State 70 in cooperation with the National Park Service. The alignment was established within the 412-foot maximum preservation zone of the St. Croix Wild and Scenic River corridor. North of the Snake River a ski-touring and hiking trail was developed in 1979. It generally followed the snowmobile trail and formed a loop (see plate 7 of 19). In some areas the trails intersect or use the same alignment. In 1978 five bridges were constructed over the major streams within Chengwatana State Forest and St. Croix State Park. Several primitive campsites, picnic areas and Adirondack shelters have also been developed in areas of need.

Existing Use

Although not officially designated for certain uses, the trail is presently used by snowmobilers, hunters, horseback riders, hikers, backpackers and off-road motorcycles. The trail is used for purposes other than snowmobiling and hunting generally only within DNR management units. Snowmobiling has been the primary use on the entire trail between Nickerson and the Snake River. An extensive system of feeder trails within DNR management units and grant-in-aid trails made it possible to reach communities and at the same time snowmobile through many miles of remote

wilderness-like areas. Although the DNR has not yet conducted an official survey of users to obtain adequate use data, the regional trails and waterways coordinator and the managers of state parks and state forests are knowledgeable about use. A large trail center at St. Croix State Park attracts many users each year. According to the park manager, as many as 150 snowmobiles start out from the park on peak weekends in the winter. In addition, approximately the same number of snowmobiles come into the park from Nemadji and St. Croix state forests to the north and, to a lesser extent, from the Chengwatana State Forest to the south.

During September, October and November, the trail--except in state parks--is frequented primarily by hunters.

Within Nemadji State Forest the trail gets limited use by hikers and horseback riders except around Pickerel Lake campground, where use is heavier. The trail in the southern part of Nemadji State Forest passes through numerous wet areas and is most suitable for winter use. A trail segment within Nemadji State Forest is also used by off-road motorcyclists during the summer months. An annual motorcycle enduro race, staged in the forest, uses segments of the Minnesota-Wisconsin Boundary Trail. According to DNR district forestry personnel, the trails also have been discovered by cross-country skiers.

Additional identified summer uses within St. Croix State Forest are backpacking and horseback riding. According to DNR district forestry personnel, backpacking has been on the increase over the last several years. Individual backpackers, as well as organized groups from the Twin Cities, are using the trails for backpacking outings. Horseback riders use the trail and camping facilities in the spring and the fall. They generally come in groups of 20 horses, though group size has been as large as 80 horses.

Horseback riding is also a popular activity on the trail within St. Croix State Park. The large trail center and individual campsites attract horseback riders to the Minnesota-Wisconsin Boundary Trail and other trails in the park. The main season is fall, but there are also horseback riders in the spring. Groups can range from three to four horses at the small sites to 100 horses at the trail center horse camp. Hiking on the trail is primarily done by campers.

Summer use within Chengwatana State Forest is poor. Several wet areas and the "trail closed" sign at the St. Croix State Park boundary may deter the user. The trail is officially closed during the summer because only a winter crossing is provided over the Kettle River. The DNR's wild and scenic river policy does not allow a permanent bridge. Therefore, the trail is less well maintained during the summer months. This issue is further addressed in Section VI, Segment 6.

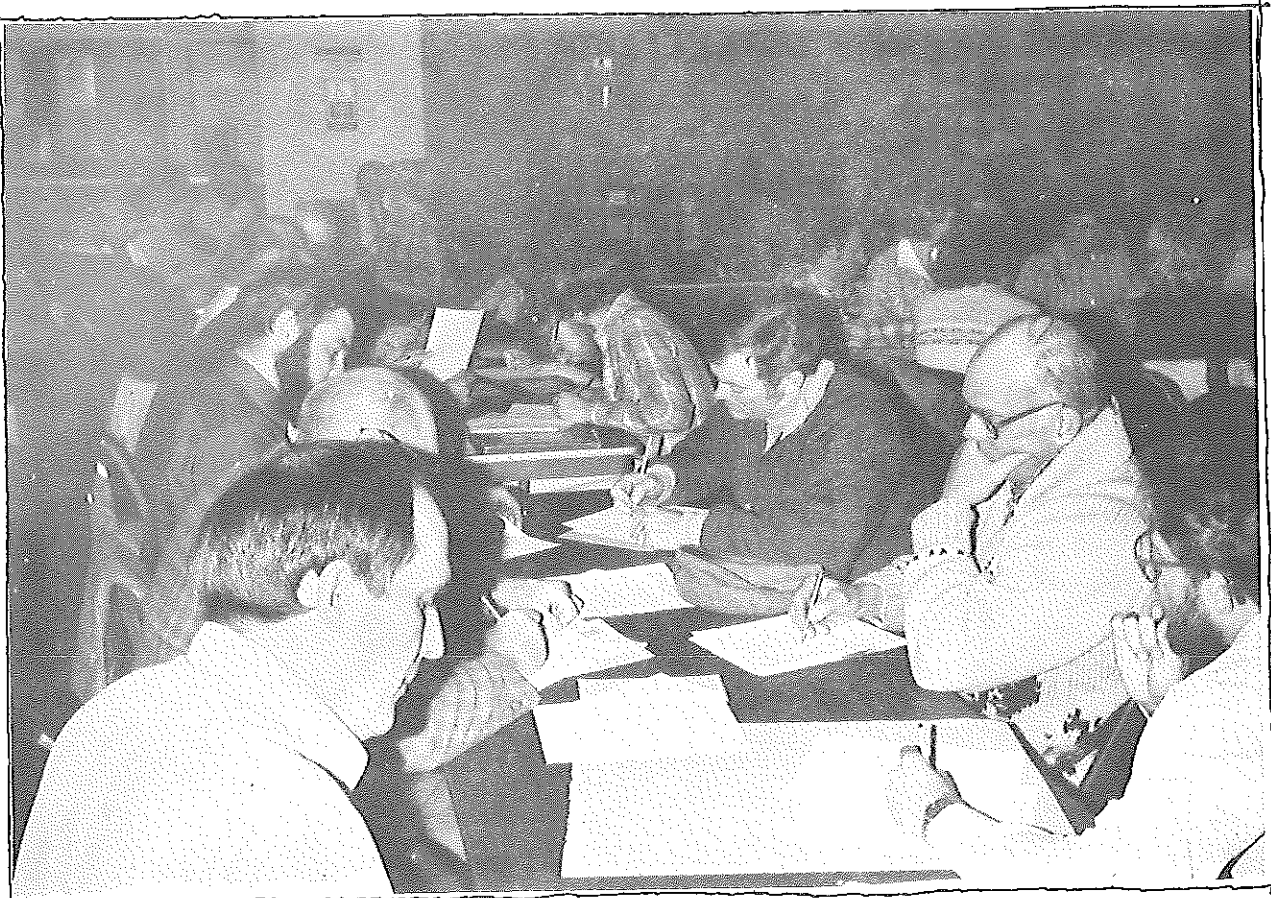
The ski-touring and hiking trail between State 70 and the Snake River is used by hikers and hunters and, to a lesser extent, by skiers. The trail was closed in 1980 because it needs substantial refinement to make a good ski trail.

Maintenance and Management

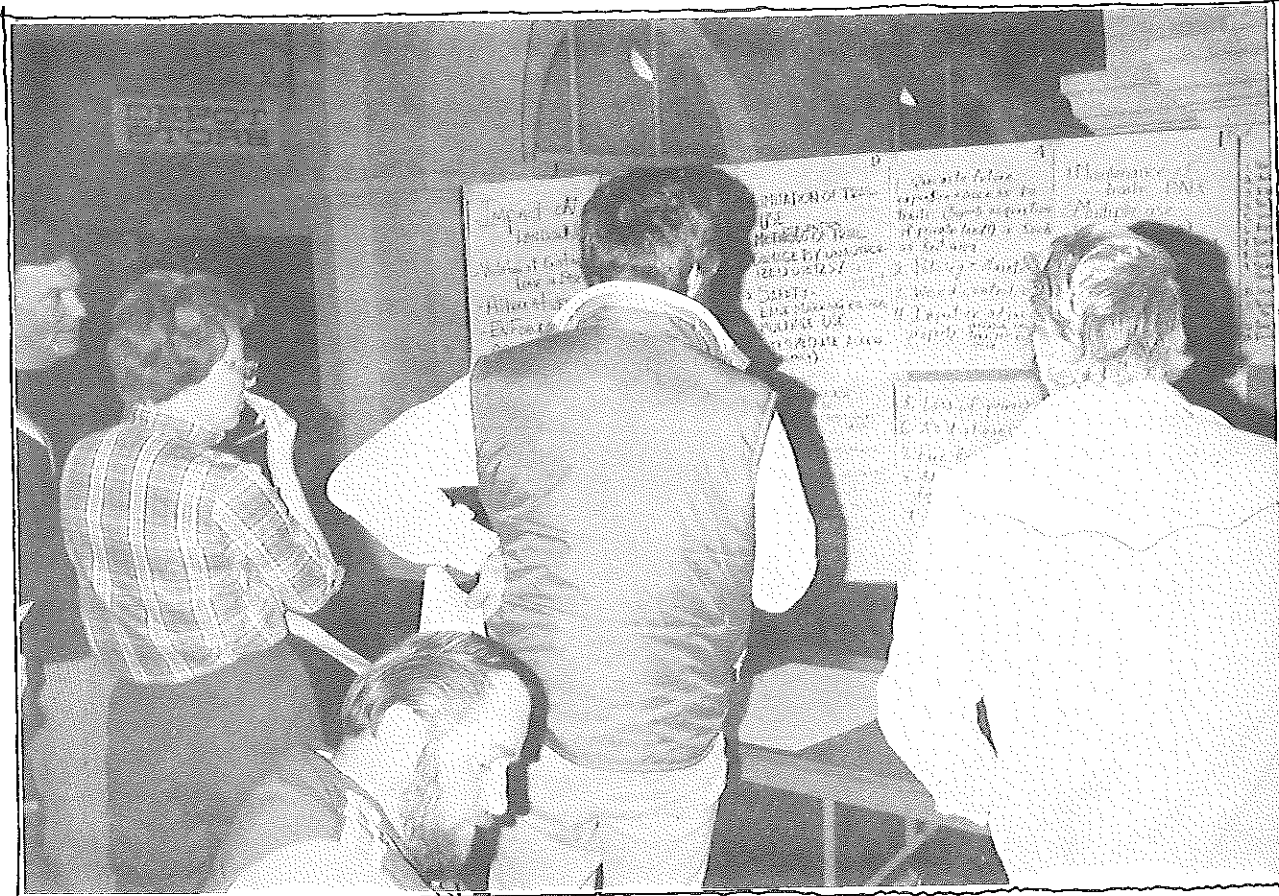
Since the trail's original construction, its alignment has been steadily improved. Swamp crossings have been built, especially in Nemadji and St. Croix state forests. In 1980-81 several areas within St. Croix State Forest also were upgraded for summer use. Over the years, the DNR has improved trail alignment by taking out curves and sharp bends, and improving visibility by minor rerouting of alignment. Because of

unfavorable summer conditions in many areas (primarily wetlands and other low areas) of the trail and the DNR's financial inability to correct all of these conditions at the same time, the trail caters primarily to the snowmobiler. The trail treadway is brushed and leveled out only in the fall of each year to prepare a solid base for winter use. In addition, missing signs are replaced and wind falls are removed to provide adequate safety for the winter user. This is to the disadvantage of the hiker and horseback rider during the remainder of the year. Groups of horseback riders who favor the trail at St. Croix State Forest have for the last few years taken the initiative to clean and clear the trail themselves in the spring.

This initiative indicates that trail users are willing to volunteer their time to help maintain the trail if they are interested and in need of the trail. The plan recommends that the DNR should pursue the opportunity of volunteer help to the greatest extent possible.



PUBLIC INVOLVEMENT



V PUBLIC INVOLVEMENT

Public involvement and participation was given high priority throughout planning for the Minnesota-Wisconsin Boundary Trail and West Addition. Though keeping statewide goals and objectives in mind, the DNR realizes that involvement and input by regional and local citizens is extremely important for the plan to become a reality. The DNR believes that only if regional and local interests and needs are addressed and dealt with properly can the trail benefit local communities and, therefore, gain the appreciation of all interests concerned.

Meetings and Workshops

The following chapter presents a summary of the public meetings the DNR attended or conducted. The development section of the plan (Section VI) addresses and attempts to resolve the problems and issues that have been identified at meetings. The following summary reflects the sequence in which meetings were conducted and attended by the DNR throughout the planning process (see also figure 1).

One of the first major issues to surface as planning for the Minnesota-Wisconsin Boundary Trail commenced in May 1979 was the location of a trail route within the Twin Cities. Two routes had already been investigated at the time: a powerline right-of-way in Northern States Power Co. (NSP) ownership between Arden Hills and Taylors Falls and a potential route via Carlos Avery Wildlife Management Area. (Evaluation of the different alternatives will be discussed further in Section VI of the plan.) The powerline corridor route had spurred controversy as early as the fall of 1973, soon after the Minnesota-Wisconsin Boundary Trail was authorized. At a DNR-conducted public meeting in Shafer in Chisago County, strong opposition to the proposal was expressed.

By April 1979 NSP asked the DNR to make a decision on the use of the powerline right-of-way for a trail--just at the time when preparation of the master plan commenced. NSP also informed the DNR that it would sell the right-of-way to the DNR only if public consent could be reached on the trail proposal. In an attempt to get the requested public consent and also to present alternative routes, the DNR met with the following groups:

- Local units of government.
- County parks and recreation departments.
- Local representatives of Minnesota United Snowmobilers Association.
- Interested members of the public at an information meeting at Forest Lake on June 21, 1979. The DNR presented alternatives for the Minnesota-Wisconsin Boundary Trail and West Addition.

See Section VI for a discussion of the DNR's decision on this subject.

Additional public information meetings also were conducted in Hinckley, Carlton, Moose Lake and Stillwater between June 1979 and March 1980 to present alternatives for the Minnesota-Wisconsin Boundary Trail and West Addition.

The meetings in Moose Lake and Stillwater were conducted primarily because of the abandonment of two railroad rights-of-way--the Soo Line in Washington County and the Burlington Northern between Moose Lake and Carlton. Both had potential to become segments of the Minnesota-Wisconsin Boundary Trail and West Addition. The DNR conducted the meetings before making a decision to purchase. The DNR was given little time to decide, which is common in the purchase of abandoned railroad rights-of-way.

In the case of the Soo Line in Washington County, the DNR conducted a survey of adjoining landowners after the meeting in Stillwater.

On June 17, 1980, the DNR was asked to attend a meeting in Carlton that was called by local units of government and adjoining landowners along the abandoned railroad right-of-way between Moose Lake and Carlton.

In addition to the aforementioned public information meetings, the DNR conducted several working meetings in areas where new trail alignments had to be established. The meetings were held on an informal basis with small groups of local citizens, including local government officials, trail group representatives and local business people. The primary purpose of the meetings was to explore and discuss alternative locations of the trail alignment, trail uses, and the use of private and public recreation facilities.

Six working meetings were conducted at the following locations and times:

Moose Lake	July 30, 1979
Hinckley	July 31, 1979
Sandstone	August 2, 1979
Carlton	August 23, 1979
Marine-on-St. Croix	September 18, 1979
Taylor Falls	April 30, 1980

The purpose of each meeting and the recommendations made there are described as follows:

In Moose Lake, the DNR met with Moose Lake city officials and representatives of local snowmobile clubs. The purpose of the meeting was to discuss alternative trail alignment locations for bicycling and snowmobiling in exchange for the abandoned railroad right-of-way within Moose Lake city limits. Moose Lake had initially contacted the DNR March 28, 1979, to express its interest in purchasing the railroad right-of-way within the city for commercial purposes. Several additional meetings followed with individuals or the group until an acceptable solution was found and cooperation from the city secured should the city acquire the right-of-way.

The primary purpose of the Hinckley meeting was to explore the feasibility of a trail alignment connecting the Chengwatana State Forest segment of the Minnesota-Wisconsin Boundary Trail with the trail's West Addition. Potential uses discussed were snowmobiling, horseback riding and hiking. Hiking and horseback riding were not seen as practical uses because of extensive wetlands in the area. It was also pointed out that it could be extremely difficult to connect a trail into Hinckley because of the freeway corridor, which limits accessibility via State 48 or by passing under the Grindstone River bridge. This potential trail connection was later dismissed (see Section VI, Segment 9, for further discussion).

The Sandstone meeting was called to explore and discuss alternative trail spurs from the trail's West Addition into Sandstone and Banning State Park. People at the meeting said it would be beneficial to the community to route a spur trail through Sandstone and also beneficial to the trail user because of Sandstone's location on a public transportation corridor (Amtrak and commercial bus lines) and its proximity to Banning State Park. It was also mentioned that municipal Robinson Park along the Kettle River is proposed to tie in with the state park via a hiking trail.

The purpose of the Carlton meeting was to search for trail alignment alternatives in an area north of the Nemadji State Forest boundary to Jay Cooke State Park through the "mud slide area" of the Nemadji River. Ideas and suggestions brought forward at the meeting were instrumental in ultimately finding a trail alignment through the area. One participant from the Soil Conservation Service warned about the extreme instability of the soils in the area and the steep topography along the river valleys. Throughout the process the DNR relied on the expertise of participants in the establishment of the proposed alignment.

The DNR also arranged a meeting in Marine-on-St. Croix to explore a potential trail corridor from the Soo Line Trail's northern terminus to William O'Brien State Park through primarily private land. Participants of the meeting expressed general interest in local ski-touring and hiking trails; however, they did not want a lot of trail users from out of the area. It was noted that landowners in the area, especially along the St. Croix River, at this time do not favor additional public access development of any kind. It is felt that the significant existing public use of the river and associated pressures and problems to local citizens do not predispose local residents to favor a state trail. The Metropolitan Council's Regional Recreation Open Space System Plan (revised November 1980) however does describe a potential trail corridor in the area.

The meeting in Taylor's Falls was attended by 20 people, the largest group in all of the working meetings. Private landowners, area business people and local trail users participated. The purpose of the meeting was to explore and discuss trail alignment alternatives between Taylor's Falls and Wild River State Park as part of the Minnesota-Wisconsin Boundary Trail. Most people at the meeting voiced concern about the St. Croix Shores residential development. The land NSP owns in this specific area is a 100-foot strip between the St. Croix River and the residential development. To develop a trail in this narrow right-of-way could create adverse impacts for the residents; they practically would have the trail in their backyards. The alternatives discussed were these:

- To use the right-of-way of County 16.
- To use the alignment of the Old Government Road.
- To not have a trail in this area.

The potential development of the local Lion's Club Park for a trail access also was discussed. It was suggested that the DNR work closely with the persons who operate and maintain the park.

In the development section of the plan (Section VI), the DNR considers and incorporates recommendations and ideas expressed in these working meetings to the greatest extent possible.

In addition to conducting many public meetings, the DNR also attended several meetings with trail-user groups and numerous local units of government in the course of trail planning.

User Groups

Carlton County snowmobile clubs
Willow River Commercial Club
Duluth and Carlton County
horseback riding clubs

September 17, 1980
March 9, 1981
April 13, 1981

Local Units of Government

Pine County Board of Commissioners	April 1, 1980
Carlton County Board of Commissioners	May 20, 1980
Kettle River Town Board	September 10, 1979
Finlayson Town Board	September 27, 1979
	July 31, 1980
Holyoke Town Board	April 17, 1980
Silverbrook Town Board	May 6, 1980
Wrenshall Town Board	May 19, 1980
Wilma Town Board	May 29, 1980
	August 28, 1980
Franconia Town Board	June 3, 1980
Rusheba Town Board	September 8, 1980
Thomson Town Board	December 1979

Municipalities

Duluth Planning Department	August 1979 and April 13, 1981
Duluth Parks and Recreation Department	June 8, 1981
Sturgeon Lake	December 3, 1979
Washington County Park Commission	January 1980
Lake Elmo Park Commission	September 24, 1980
Oakdale Park Commission	January 6, 1981

The DNR talked to landowners individually to learn whether landowners were interested in purchase agreements, be they leases, easements or outright purchases. These contacts were made primarily in areas where public lands or abandoned railroad rights-of-way were not available.

The Minnesota-Wisconsin Boundary Trail and West Addition are to use several abandoned railroad rights-of-way for their treadways. As part of the planning process for these rights-of-way, the DNR conducted public workshops in the areas of the rights-of-way. Because these rights-of-way are bordered primarily by private land, the DNR believed that public consent was of prime importance. Therefore, the DNR conducted these workshops to identify major issues and concerns of all interest groups relative to development, management and maintenance of the trails. The workshops were conducted at the following locations and times:

Soo Line right-of-way	November 24, 1980, Lake Elmo
	November 25, 1980, Mahtomedi
Moose Lake-Carlton right-of-way	December 2, 1980, Duluth
	December 3, 1980, Moose Lake
Carlton-West Duluth right-of-way	February 18, 1981, Duluth
Wrenshall-state line right-of-way	February 18, 1981, Duluth
Hinckley-Moose Lake right-of-way	February 19, 1981, Sandstone

The major issues and priorities that were identified are presented in the following sections.

Soo Line Right-of-Way

Lake Elmo, November 24

- | | | |
|----------|---|--|
| Group 1: | 1. Compatible uses, multi-use
(snowmobile #1, hiking
horses, skiing, hunting) | 5. No hunting |
| | 2. Maintenance | 6. Access, emergency access |
| | 3. Enforcement | 7. Fencing |
| | 4. Landowner protection | 8. Fire protection |
| | | 9. Support facilities |
| | | 10. Hunting--yes |
| Group 2: | 1. Enforcement, policing | 7. Cost of trail |
| | 2. Access: location, parking | 8. Support facilities:
campsite toilets |
| | 3. Non-motorized use | 9. No night use |
| | 4. No hunting or trapping | 10. Trespass impact on land |
| | 5. Fencing - who pays? | |
| | 6. Land back to adjacent
landowners | |
| Group 3: | 1. Pro-snowmobile | 6. Year-round horses |
| | 2. No motorized vehicles
except snowmobiles | 7. Fencing |
| | 3. No hunting, trapping | 8. Law enforcement |
| | 4. Pro-horses | 9. Pro cross-country skiing |
| | 5. No snowmobiling | 10. Fee for trail use |

Mahtomedi, November 25

- | | |
|----------------------------|----------------------|
| 1. No hunting | 6. Fencing |
| 2. No motorized use | 7. Snowmobiling--yes |
| 3. Enforcement | 8. Multi-use |
| 4. No night use | 9. Maintenance |
| 5. Provide adequate access | 10. Limited access |

The above issues were identified at the two meetings by the following interest groups:

General public, general user	46	Hiker	4
Landowner	44	Skier	1
Snowmobiler	76	Local government official	9
Biker	4	Conservation group	4
Horseback rider	36		

A general discussion followed at the Mahtomedi workshop after issues and priorities were established. At the Lake Elmo workshop discussion and lobbying was done within each group as priorities were established because of the large number of participants. The discussion at the Mahtomedi workshop centered around the possible trail uses and their compatibility--snowmobiling versus ski-touring and bicycling versus horseback riding. Snowmobiling and ski-touring were perceived as incompatible uses on a narrow right-of-way because snowmobile noise, speed and power are irritants or dangers to the skier. Snowmobile noise was also perceived as a nuisance to adjoining landowners, and a curfew on trail use was suggested. It was suggested that bicycling and horseback riding could be compatible within the same right-of-way if two treadways could be developed. Enforcement, fencing, access and hunting were also discussed as important issues. The cost and intensity of enforcement of trail rules and regulations were seen

as important. Providing adequate access was suggested as a deterrent to trespassing. Fencing, in which the landowner would pay half the cost (Minnesota Statutes, Chapter 344), was seen as an additional burden on adjoining landowners. It was also strongly recommended that hunting within the right-of-way be banned as an unacceptable use.

The following is an account of desirable and undesirable activities on the proposed trail, as identified by the participants.

Activity	Agree	Undecided	Disagree
Snowmobiling	101	16	110
Ski-touring	160	19	47
Horseback riding	144	28	58
Hiking, backpacking	167	15	43
Jogging	144	33	44
Bicycling	130	32	64
Trail camping	18	38	164
Picnicking	71	38	111
Hunting	5	3	213
Trapping	7	10	203
Wildlife observation	165	16	41
Wildlife management	121	41	55
Night-time use	71	30	119
Other:			
Handicapped use	3		
Future utility line	1		
Odessa (an off-road vehicle)	3		
Motorcycles, dirt bikes	1		7
Four-wheel drives			6
Campfires			1
Access: fire, security, farm	2		
Horse carts	1		
Parking, rest area	4		
Prairie restoration	3		
Return to adjacent landowner	1		

Several interest groups at the workshops wanted to form an advisory task force to further discuss the issues. Several adjoining landowners and potential trail users volunteered their assistance. The DNR selected additional individuals of other major interest groups to further advise the DNR in its planning efforts. A task force meeting took place on February 16, 1981. Of 14 individuals contacted, nine attended the meeting. The following recommendations were made by the task force.

Snowmobiling and Ski-Touring: The group felt that these two uses were not compatible within a railroad right-of-way. The group further agreed that snowmobiling near or through areas of residential development is not desirable, primarily because of noise. Therefore, it was agreed upon to recommend that the Soo Line Trail should be designated for ski-touring between the southern trail terminus in Oakdale

and State 96. The remainder of the trail, between State 96 and Pine Point Park, is predominantly rural and should be open for snowmobiling.

Hunting and Trapping: The task force expressed strong opposition to hunting and trapping on the Soo Line Trail because of its location within the metropolitan area and because of the residential developments located along the right-of-way. (Local ordinances prohibit hunting in many areas.) The group said that hunting and trapping on the right-of-way would present a hazard both to adjoining landowners and to trail users. Therefore, the task force recommended that hunting and trapping be entirely banned on the Soo Line Trail.

Two Treadways and Uses: The group recommended that two separate treadways be developed, where possible. These two treadways should serve the following uses: hiking, horseback riding, bicycling, and snowmobiling or ski-touring.

Fencing was another issue discussed by the group. A request was made that the DNR pay all fencing costs, instead of the 50 percent required by state law. Special legislation would be needed to implement this request.

Moose Lake-Carlton Right-of-Way

Two public workshops were held to discuss the abandoned railroad right-of-way between Moose Lake and Carlton. One meeting was in Duluth and the other was in Moose Lake. At the time of the workshops the DNR had only proposed to purchase the abandoned right-of-way but had noted significant opposition from local units of government and nearby landowners. To learn about the issues of all interest groups regionally and locally, the DNR conducted the two workshops. The following issues were identified in their priority ranking:

Duluth, December 2

1. DNR buy right-of-way
2. Multi- and year-round use
horseback, hiking,
snowmobiling, biking and
skiing)
3. Maintenance
4. No four-wheel drives
5. Support facilities
(proper cleanup)
6. Law enforcement
7. Horse-drawn vehicles allowed
8. Trespass on private land

Moose Lake, December 3

1. Enforcement, policing
2. Negative impact on adjacent
landowners (noise, litter,
trespass, vandalism)
3. Liability
4. DNR to buy right-of-way
5. DNR not to buy right-of-way
6. Misappropriation of funds
7. Cost?
8. Maintenance
9. No four-wheel drives or motorcycles
10. Multi-use trail
11. Fencing
12. Effect on existing trails
(grant-in-aid)

The above issues were identified by the following interest groups:

Adjoining landowners	22	Bicyclists	4
General public (local)	28	Horseback riders	21
Local officials	7	Hikers, campers	3
Local business people	2	Off-road motorcyclist	1
Snowmobilers	11		

The identification of issues was followed by a general discussion. At the Duluth workshop agreement was reached over the DNR's purchase of the right-of-way for several trail uses year-round. The issue of horse-drawn vehicles and their compatibility with bicyclists and snowmobilers was discussed in length. It was felt that these uses are compatible. The DNR was also advised to carefully select sites for support facilities to discourage abuse of these sites. The issue of a license fee for all users was discussed with great interest. Several participants were concerned over the lack of personnel to enforce rules and regulations and made suggestions to authorize local people to make arrests in the case of violations.

At the Moose Lake workshop major concern was expressed over the potential lack of policing, which might result in increases of vandalism, littering and trespassing. Adjoining landowners were also concerned about liability in regard to trespassing and intersections of the trail with private driveways. Local units of government indicated that expenditures for trail development would be luxurious in a time of austerity. Several individuals pointed out the trail's benefit to the local economy.

Trail activity worksheets handed in at both workshops indicated the following likes and dislikes of participants:

Activity	Agree	Undecided	Disagree
Snowmobiling	45	5	47
Ski-touring	42	7	47
Horseback riding	50	6	42
Hiking, backpacking	52	4	42
Jogging	51	5	40
Bicycling	48	4	45
Trail camping	36	6	55
Picnicking	38	7	51
Hunting	12	5	78
Trapping	15	6	76
Wildlife observation	43	9	44
Wildlife management	38	14	43
Night-time use	37	4	56
Other:			
Four-wheel drives	1	0	19
Motorcycle	1	0	12
Dog sledding	1	0	0
Horse driving	9	0	0
Rail bank	3	0	0

Duluth Rights-of-Way

A second workshop was conducted in Duluth relative to the abandoned railroad rights-of-way from Carlton to West Duluth (14 miles) and Wrenshall to the state line (4.5 miles). The DNR had purchased the rights-of-way in the fall of 1980 and was seeking input from all interest groups relative to development and operation of the proposed trail. Participants identified the following issues and their priorities:

Duluth, February 18, 1981

- | | |
|---|-----------------------------------|
| 1. Law enforcement | 6. Impact on adjoining landowners |
| 2. Maintenance | 7. Camping |
| 3. Multi-use | 8. Rest areas |
| 4. Emergency access | 9. Access fee |
| 5. Weed control (against spraying of chemicals) | 10. Fire |

Interest groups identified were:

Horseback riders	9	Hikers	3
Snowmobilers	11	Local landowners	5
Bicyclists	6	Local units of government	5

Most participants favored a multi-use trail but expressed concern over the lack of personnel to enforce trail rules and regulations. Concern was expressed over a lack of maintenance dollars. Another issue raised was that of an emergency access with telephone service. Participants attempted to work out their differences, and the workshop was productive.

Participants in the workshop indicated the following preferences for trail uses along both rights-of-way:

Activity	Agree	Undecided	Disagree
Snowmobiling	29	5	5
Ski-touring	28	6	4
Horseback riding	28	6	5
Hiking, backpacking	34	2	3
Jogging	35	2	1
Bicycling	34	1	4
Trail camping	20	8	10
Picnicking	25	6	8
Hunting	2	1	34
Trapping	1	3	34
Wildlife observation	30	5	4
Wildlife management	27	4	7
Night-time use	24	9	6
Other:			
Four-wheel drives	0	0	5
Motorcycles	0	0	6

Hinckley-Moose Lake Right-of-Way

The purpose of the public workshop in Sandstone February 19, 1981, was to bring out issues and concerns of all interest groups relative to the development and management of the Hinckley-to-Moose Lake railroad right-of-way as a segment of the trail's West Addition. The participants at the workshop did not represent all interest groups; only adjoining landowners and local officials were represented even though the DNR had notified all known interest groups in the area. Because of a lack of representation of all interest groups, the workshop's success was limited. The 37 citizens who participated in the workshop identified and prioritized the following issues:

Sandstone, February 19, 1981

1. No trail, stop the trail
2. State pays fencing
3. Impacts on adjoining landowners (privacy)
4. Liability
5. Trespass
6. No hunting
7. Enforcement
8. Railroad company did not have the deeds to sell the property.

The following trail activity worksheet indicates the preferences of workshop participants:

Activity	Agree	Undecided	Disagree
Snowmobiling	3	1	33
Ski-touring	3	1	32
Horseback riding	1	0	33
Hiking, backpacking	5	1	30
Jogging	4	1	30
Bicycling	4	1	31
Trail camping	1	1	34
Picnicking	2	0	33
Hunting	0	1	34
Trapping	0	0	35
Wildlife observation	4	1	31
Wildlife management	3	1	32
Night-time use	2	2	32

The issues that have been identified in all workshops are addressed in Section VI of the plan, either in the form of established policies or in the special design considerations for respective trail segments.

On April 6, 1981, and April 29, 1981, the DNR attended meetings in Finlayson relative to the railroad right-of-way between Hinckley and Moose Lake. The meetings were called by local officials and citizens, and the DNR was asked to attend and respond to concerns and questions.

Comments received at these meetings prompted the DNR to form a citizens advisory task force to further discuss and help define major issues and explore solutions. A task force was formed to represent all major interest groups. The first meeting took place

on June 18, 1981, in Finlayson. Of the 15 members, seven attended. Snowmobile interests were not represented. The following recommendations evolved:

1. A voluntary trail patrol should be established assisting in the enforcement of rules and regulations (NR 20). Although members of the patrol would not have the power to arrest they could possibly wear a badge for identification and have some authority. Such a patrol may also require some training.
2. It was recommended that snowmobiling not be a designated use for this right-of-way. Snowmobile noise at night was the major concern. To set a curfew on nighttime use was seen as a solution if snowmobiling had to be accommodated and the curfew could be effectively enforced.

A second use that should not be permitted on the right-of-way was hunting. The task force felt that there would be a reluctance of trail users such as bikers and horseback riders to use the trail during hunting season. Unauthorized trespass was also seen as a nuisance to adjoining landowners.

3. The task force also recommended that the proposed trail should have its own identity and be named the Northern Pacific Trail to capitalize on the historic significance of the right-of-way.
4. Concern was also expressed about private driveways and local roads crossing the proposed trail. It was recommended that caution signs be installed at all intersections, including private driveways, to make users aware of vehicular travel.

Conclusion

Throughout the planning process contacts were established with other state and federal agencies to assure that the development of the trail meshed with their recreation and trail programs.

Initial steps have been taken in working with the National Park Service relative to proposing trail alignments within its ownership boundaries along the St. Croix and to developing a joint access facility.

The DNR has worked with the Minnesota Historical Society to assure that all trail planning will be coordinated with the interests and programs of the society.

The Minnesota Department of Transportation has been contacted on several occasions. Initial steps have been taken to establish a trail access at a highway rest area in Washington County. Trail planning efforts also have been coordinated with the Minnesota Department of Transportation's bikeway program to identify projects that would complement both programs in the interest of the public.

Special efforts have been made in this plan to address and incorporate ideas and suggestions made by the public. Important issues, such as trail uses, enforcement, maintenance, fencing and access, which were addressed at the six workshops, are specifically addressed in Section VI.

Draft Plan Review

In November 1981 the draft master plan (approximately 100 copies) was sent to 18 local libraries and to all the local units of government that will be affected by the trail. The draft plan also was sent to several other public agencies that expressed interest in the trail. The review time extended over a period of 30 days to the end of December 1981.

More than 900 interested citizens, including trail users and adjoining landowners, were individually encouraged to respond. They also were told where the plan was available and when and where public meetings would take place. Five public meetings were conducted to discuss the major issues of the master plan. The meetings were held in Duluth, Moose Lake, Hinckley, Taylors Falls and Stillwater.

The following paragraphs will contain a listing of and responses to all major concerns that were raised at the meetings or submitted in writing.

The paragraphs are divided up by meeting location. Responses to government agencies' comments and concerns will follow the meeting responses. The first section, however, deals with those two major concerns that were raised at all meetings.

1. Funding for the construction and maintenance of the trail under the present economic circumstances; and
2. Installment of user fees for all uses.

Funding for the trail's construction, as indicated in the implementation section of the plan (pages 159-168), could be delayed under the state's present economic circumstances. Some of the proposals may come under close examination, and compromises may have to be negotiated. Whatever the decisions and circumstances may be, the plan as it is prepared will provide the needed direction and policies to develop and manage the Minnesota-Wisconsin Boundary Trail and West Addition.

Installment of user fees for all uses is one of the major special topics addressed in the draft statewide DNR Trail Plan. During the preparation of the plan, an in-depth study of the issue was prepared. The plan concluded that a user-fee is a reasonable method of partially funding the Minnesota Statewide Trail System, provided that the following factors are properly considered:

- The user fee can receive enthusiastic support from the user if he or she can be assured that the fee will be ear-marked for the betterment of the activity which he or she enjoys. Dedication of funds should be used to induce public support for a user-fee system.
- A user-fee card that provides separate endorsements for various uses would best meet the goal of generating revenues for the betterment of a recreation trail system.
- Continued monitoring of the snowmobiler, biker, cross-country skier and horseback rider groups in Minnesota is necessary. Resident versus non-resident and daily versus annual statistics should be compared. In this way, better forecasts of revenue can be made.
- The user-fee card or license must be issued near the trail if users are to comply. Related to compliance is the need for strong local support and identity. Although state sponsored, the trail must "belong" to the serviced communities. For some trails, such as state corridor trails, this could be

accomplished with the establishment of local, non-profit corporations. In most cases, however, the user-fee stamp sales and registration would be accomplished through the various county auditors, their designated agents and the DNR License Center.

Duluth -- December 15, 1981

The meeting was attended by approximately 25 people, and four written responses were submitted. The discussion focused primarily on trail Segment 8 (Carlton to West Duluth). Several interest groups were represented.

1. The snowmobilers' main concern was that the plan excluded them from the last seven miles of trail into West Duluth.

The local snowmobile club claims that a trail connection to the Spirit Mountain trails exists in West Duluth, near the terminus of the trail. The plan was revised and snowmobiling will be a designated use as addressed on pages 123-124.

2. A suggestion was made not to develop a minor trail access at Seven Bridges Road. That suggestion was countered by a written request to develop an access there.

The DNR proposes to develop an access there, scaled down from the original proposal, for the following reason: Although snowmobilers and horseback riders are served by local accesses because the accesses are located on a snowmobiling and horseback-riding trail (this was the main reason given for omitting the access), bicyclists and hikers would not be served by the existing local accesses. Some trail users also may prefer to bike or hike seven miles and back instead of the entire 14 miles to Carlton. This would be just the right distance for an afternoon outing. Therefore, an access with five to seven parking places should be developed at Seven Bridges Road. As the plan states on page 122, the Duluth Parks and Recreation Department's support and cooperation will be essential for the development of this access.

3. The local snowmobile club representative pointed out that there is not now a continuous grants-in-aid trail between Barnum and Carlton; a three-mile gap exists between Iverson and Carlton.

At this point the DNR can only encourage and support the local clubs to close the gap with a grants-in-aid trail. (A grants-in-aid trail joins the Minnesota-Wisconsin Boundary Trail between Moose Lake and Nickerson, offering an alternative route.)

Moose Lake -- December 16, 1981

Approximately 25 to 30 citizens attended the meeting and three responses were submitted in writing. The group was made up primarily of trail users, local officials and other interested local citizens. Discussion centered primarily around trail Segments 7 and 9 (Nemadji State Forest to Jay Cooke State Park and the West Addition).

1. A question was raised about the DNR's power of condemnation for the entire project.

The DNR Trails and Waterways Unit does not have power of condemnation on the Minnesota-Wisconsin Boundary Trail and West Addition and does not intend to seek that power. The Trails and Waterways Unit depends in its acquisition efforts for this project on the willingness of the individual landowners. In extreme cases, however, where development of a whole trail segment could be jeopardized by one landowner, the DNR may seek special legislation to condemn right-of-way for the trail.

2. Several individuals inquired about the development costs of the trail on a per-mile basis.

The Implementation section of the plan (pages 161-166) lays out a cost estimate by segment. The construction cost per mile varies greatly and depends on the type of surface and use proposed for the individual segment.

Segments 1, 8 and 9 are proposed for bicycling (among other uses) and a hard surface must be installed. An estimate of \$20,000 is used as an average cost per mile. However, the cost per mile could range between \$13,000 and \$25,000, depending on the type of surface applied. The DNR has not made a final decision on this matter but will make every effort to be cost efficient.

Development cost per trail mile for all other segments, with the exception of Segment 6 (existing trail), will range from \$2,500 to \$3,000, depending on the amount of site preparation necessary.

3. Concern was expressed over the issue of who will maintain the trail and how it will be maintained.

The DNR will be responsible for maintaining the trail and its support facilities. The Maintenance and Operations Section of the plan (pages 156-158) and the DNR's Trail Manual provide direction and policies for appropriate maintenance.

4. An inquiry was made about the "National Scenic North Country Trail," a trail proposed by the federal government as a segment of the National Trail System. The plan addresses the subject sufficiently on pages 132-133.

5. An interesting issue raised by several individuals concerned a potential need to rescue trail users from the more remote segments of the trail, in particular the

area between St. Croix and Jay Cooke state parks (eastern Pine and Carlton counties). It was felt that the potentially high costs of rescue operations should not be borne by the local taxpayer, as it has been in some cases in the past, but that it should be borne by the individuals in need of rescue and the DNR.

The DNR recognizes that there is a remote chance that a trail user may have to be rescued by helicopter or other expensive means. The DNR also recognizes that local sheriffs' departments are responsible as part of their work to aid people in distress, but the cost for such rescue operations should not be borne by the local unit of government alone. However, special funds to reimburse local units of government for expensive trail-related rescue operations are not now appropriated to the trails program. Only through legislative action could reimbursement funds be established.

6. Several individuals asked about: (a) the type of accesses proposed at Willow River and Moose Lake; and (b) the purchase of the Moose Lake to Barnum railroad right-of-way.

Both inquiries are addressed in the plan.

- a. The type of access in both towns would be "major" accesses and would provide facilities shown on the major access typical (figure 10).
- b. The DNR plans to purchase the Moose Lake to Barnum right-of-way in the 82-83 biennium (page 160).

Hinckley -- December 17, 1981

Approximately 15 to 20 people attended the meeting. The group was made up of trail users, adjoining landowners and local officials. Discussion focused primarily on trail Segments 9 and 6 (West Addition, and Snake River to the north boundary of Nemadji State Forest).

1. One of the major issues discussed at this meeting was a potential trail connection between Hinckley (West Addition) and the Minnesota-Wisconsin Boundary Trail.

The plan fully addresses the attempts that were made early in the planning process to establish such a connection (page 131). The proposal failed for the following reasons:

- Lack of cooperation of major private landowners;
- Lack of suitable public land that could be used throughout the seasons; and
- Problems in crossing Interstate 35 in the area.

Because of the enthusiasm expressed at the meeting for a trail connection, especially for snowmobiling, the plan recommends that a grants-in-aid snowmobile trail be established. The establishment of a grants-in-aid trail, however, would require initiative from local snowmobile clubs and approval from Pine County. Although a grants-in-aid snowmobile trail is a temporary solution, it nevertheless would serve the purpose adequately and would be limited to winter use. If significant demand for a year-round trail becomes apparent, the DNR then would make the effort to establish a permanent trail.

2. Horseback riders inquired about proposed riding opportunities south of the existing Snake River access.

A horseback riding trail is proposed from the Chisago County 5 access, which is ten miles south of the existing Snake River access (pages 106-107). The trail also will be used by snowmobilers. In addition, horseback riding trails already exist within Wild River State Park. A gap of approximately eight miles exists between Wild River State Park and the Chisago County 5 trail access. The DNR was unsuccessful in negotiating with several private landowners in the area. Local road rights-of-way will have to suffice until a permanent alignment can be established.

3. A private landowner near Rutledge along the West Addition expressed interest in a land exchange where the right-of-way traverses his land.

The regional trails and waterways coordinator and the trail manager will investigate the situation further and recommend appropriate action.

4. Several individuals wanted to know who besides a DNR conservation officer would have authority to enforce rules and regulations on the trail. The plan makes specific recommendations on pages 148-150.
5. One citizen in particular wanted to know what actions would be needed to allow motorized three-wheel vehicles on the West Addition.

The DNR presently does not provide for this type of use but recognizes that there is a need to deal with this issue. A study is being conducted to assess the need to provide for motorized recreation vehicles. This study will be included in the statewide DNR Trail Plan. In addition the DNR is examining the question of three-wheel vehicles' compatibility on snowmobile trails. Several meetings are scheduled throughout the year and it is hoped that a department policy will be finalized by Christmas 1982.

6. Attendees asked if it was necessary to provide for all uses over the entire 235-mile trail.

The DNR believes that it is only fair to provide the opportunity to travel the entire trail using different modes of transportation. The DNR also realizes that the average trail user may only use certain segments of the trail, depending on certain factors, such as time and skill. Therefore, the plan discusses a variety of uses and routes for the trail (pages 82-86).

Stillwater -- December 21, 1981

The meeting was attended by approximately 50 to 60 people. A good representation of all interest groups was present--each trail user group, adjoining landowners and several local officials. The main subject of the meeting was the Soo Line right-of-way (Segment I). Six written responses to the plan were submitted.

1. The one major issue that was addressed many times during the meeting was that of enforcement along the Soo Line trail. Adjoining landowners in particular felt strongly that the DNR had not kept snowmobiles off the right-of-way.

The DNR recognizes that the right-of-way in its present condition may at times be used by snowmobilers merely because a precedent was set years before the right-of-way became DNR property. This kind of precedent is difficult to eradicate in just one or even two seasons. Because the right-of-way is not yet fully developed and designated as a state trail, the DNR does not have the power to enforce State Trail Rules and Regulations (NR 20) but nevertheless does have the authority to enforce Minnesota Statutes Chapter 84.90 ("Limitation on the Operation of Recreational Motor Vehicles"), which includes snowmobiles. The DNR is presently enforcing this law to the best of its ability, considering lack of manpower and budgetary constraints. The local conservation officer is the DNR official who has the authority of a peace officer on the Soo Line. In addition, the DNR regional trails and waterways coordinator has installed new signs that more explicitly prohibit snowmobiling within the right-of-way. The regional trails and waterways coordinator also will meet with all local law enforcement authorities to work out a strategy on how to best enforce the rules on the trail. Furthermore, the statewide DNR Trail Plan has established perimeters for a landowner's handbook which is meant to aid adjoining landowners in dealing with violations. The plan will further address this issue in its enforcement section.

As soon as the trail is developed and designated and additional enforcement personnel become available as outlined in the master plan, use violations will decrease, as the DNR has experienced many times in the past.

2. A second much-discussed issue was that of allowing snowmobile use on the Soo Line right-of-way, for which the proposed plan does not provide.

Reasons cited for allowing this use were as follows:

- a. Snowmobilers could patrol the trail much as they do the grants-in-aid system.
- b. Snowmobilers contribute most of the funds for trails and therefore should not be excluded from any part of the trail.

Snowmobilers, just like any of the other users, could patrol their own type of use. The point and problem is that snowmobilers presently are not allowed on the trail and will not be allowed on the trail for reasons stated in the plan (pages 93-94). With the present grants-in-aid trail running parallel to the Soo Line, the DNR believes that the snowmobiler is provided for adequately.

It is true that a large amount of snowmobile registration monies funds trails in general. But this may change with proposed legislation to raise snowmobile

registration fees and to dedicate funds to non-state trails. Also, the DNR proposes in its statewide trail plan that user fees be installed for all uses to remedy the present situation.

3. Several positive statements were given relative to the Soo Line trail segment: The Soo Line trail will provide an inexpensive form of recreation for many people, and the prospects of creating a regional trail system would be greatly enhanced by the Soo Line's potential ability to link Pine Point Park with the proposed Lake Elmo Regional Park. It was also mentioned that volunteer patrols on horseback could be very successful on the Soo Line trail segment.
4. It also was mentioned that the major access areas, including the Oakdale access, are too large and elaborate.

Although the plan only shows what a typical major access could look like, it does not necessarily require that all major accesses will be developed as the "typical" shows. The size and type of facilities will depend on the type and number of uses and, to some extent, on the frequency and density of use in the future.

5. One suggestion was made to install barriers at accesses and road intersections that would permit entrance to all users except motorized vehicles, including snowmobiles.

The DNR recognizes that the frequent road intersections on the Soo Line could encourage motorized use of the trail. However, installing barriers would be a very expensive way to keep out unwanted uses. The barriers also would have to be collapsible to allow for emergency access. Therefore, the plan proposes that barriers not be installed initially at every road intersection but only in areas where consistent problems occur (see Section VI, Overall Design Recommendations).

6. The local Sierra Club expressed concern over the stenciling of signs on trees or rocks as proposed in the plan for reason of aesthetics.

The plan suggests this method as a valid alternative. We believe that neither the natural resources would be harmed nor aesthetic values of trail users be violated. A special effort would be made to do the stenciling in a tasteful manner.

The Club was also concerned about the DNR's potential use of herbicides to control noxious weeds.

The DNR generally does not endorse the use of herbicides within trail rights-of-way. However in some instances, especially in agricultural areas, the DNR has to comply with locally enforced weed control measures. The DNR would use the chemical form of weed control only in extreme cases and with discretion and regard to humans and natural resources.

7. One of the written responses to the plan was in regard to dog sledding on the entire Minnesota-Wisconsin Boundary Trail and West Addition rather than the Soo Line segment in particular. The North Star Sled Dog Club expressed concern about dog sledding not being included as one of the designated uses.

To date dog sledding has not been one of the uses the DNR promotes and provides for officially. However, during the preparation of the statewide DNR Trail Plan, dog sledding on DNR trails was one of the issues identified. Dog sledders are presently using snowmobile trails in some areas with no conflicts reported.

The plan recommends that dog sledders use the snowmobile treadways of the Minnesota-Wisconsin Boundary Trail and West Addition. The proposed monitoring of uses on the trail will reveal if conflicts occur. The DNR then can deal with them.

In case of special dog sledding events, such as an annual race, the DNR would have to be contacted ahead of time for special permission. Only then can the DNR make proper arrangements, such as closing the trail segments to other uses during the event.

Taylors Falls -- December 22, 1981

The meeting was attended by approximately 45 people. A good representation of interest groups was present. The discussion centered primarily on trail Segments 3 and 4 (Cedar Bend to Taylors Falls and Taylors Falls to Chisago County 5). In addition, six written responses were submitted.

1. Several individuals questioned the need for the trail and were concerned about the amount of money that will be spent constructing and maintaining it.

The DNR Trails and Waterways Unit follows the mandate of the Legislature (Outdoor Recreation Act of 1975) in preparing a master plan for the Minnesota-Wisconsin Boundary Trail and West Addition. On pages 44-48 (Trail Use, Demand and Projections) the plan attempts to assess the need for the trail by using data from the State Comprehensive Outdoor Recreation Plan (SCORP) of 1980.

Funding for trail development and maintenance will be allocated by the Legislature and the Governor as they see fit. Implementation, as indicated in the plan, may be delayed by the state's present economic situation.

2. Adequate enforcement of rules and regulations was perceived as a problem along the two proposed segments. The area between Taylors Falls and Wild River State Park especially was cited as a much-frequented party spot during the summer months because of its easy accessibility from County 16.

In response to a suggestion offered at the meeting, the plan recommends the following: As soon as the trail is developed in this area, the DNR should make a special effort to enforce the law because of the bad precedent that has been set there over many years. Additional enforcement probably would be essential during the first seasons after the trail is developed. Furthermore, the statewide DNR Trail Plan has established the perimeters for a "landowner's handbook" which is meant to help adjoining landowners to deal with violations of Rules and Regulations. The plan will further address this issue in its enforcement section.

3. It also was mentioned that spring flooding of the St. Croix River could jeopardize the trail year after year, and it was seen as unwise to build the trail so close to the river.

The trail alignment will be developed outside the 100-year flood profile whenever possible. The trail design in this area will be primitive and suited primarily for hiking and ski touring, the latter north of Taylors Falls. Therefore, if the trail becomes inundated during spring floods, it will be less expensive to repair. The DNR would be responsible for repairing and maintaining the trail.

4. Several individuals who live in the Franconia area expressed concern over fires caused by the negligence of trail users.

The DNR does practice extreme caution during dry seasons, when fire danger is highest, by prohibiting camp fires on department-managed lands, including trails (camp fires on DNR land are only permitted within established fire rings). In

addition, no campsites are proposed in the areas of concern because state parks are nearby.

5. Concern was expressed that the trail alignment in some instances could be only 50 feet away from residences, infringing severely on people's rights to privacy.

The DNR will be sensitive towards these areas and locate the trail, whenever possible, away from houses or otherwise mitigate adverse impacts.

6. Snowmobilers in the area felt that snowmobiling should be allowed on the proposed alignment.

This is not now possible within certain segments, physically and because of federal land-use restrictions. In addition, the DNR sponsors an extensive grants-in-aid snowmobile trail program in Chisago County that can be considered an equal trail opportunity.

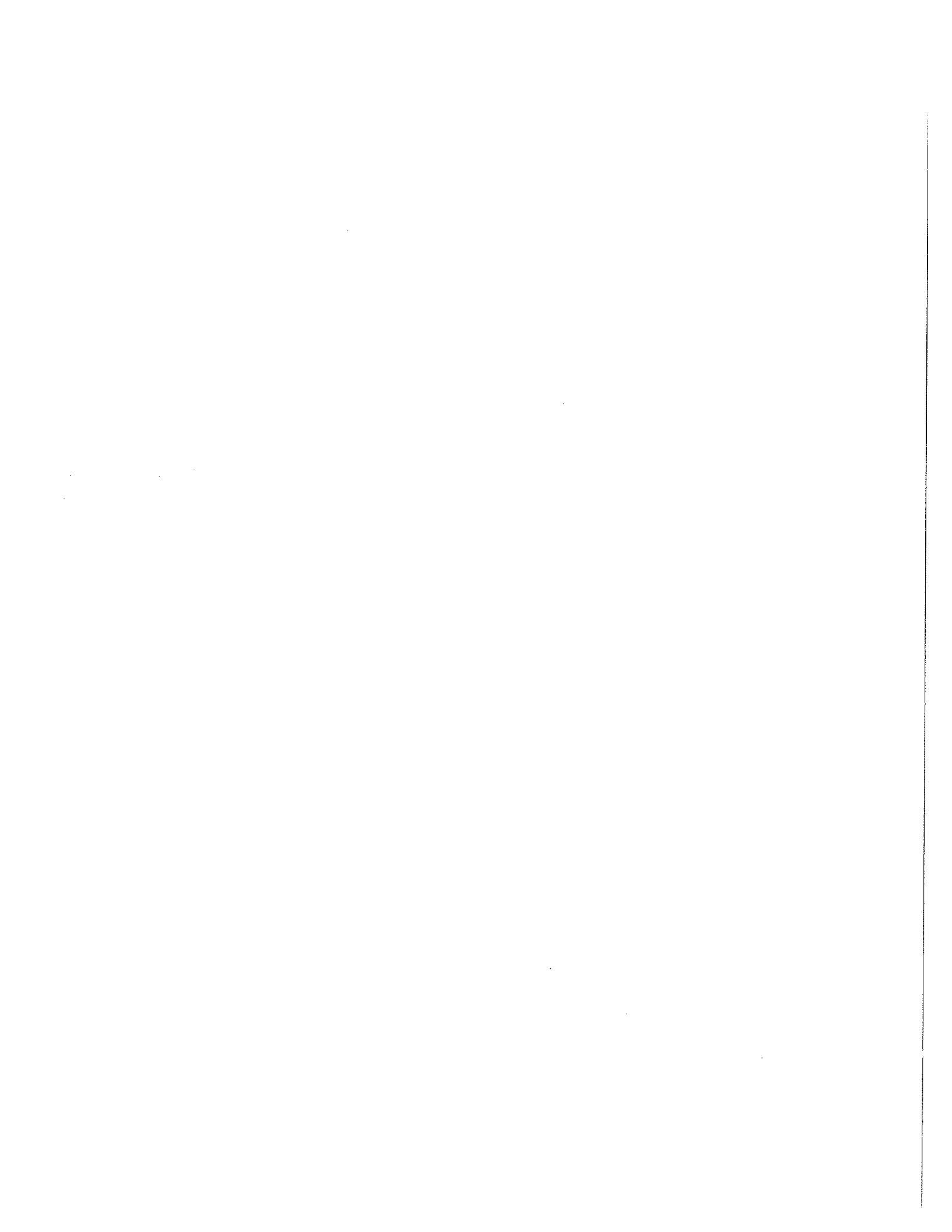
The alignment gap that presently exists between Wild River State Park and Chengwatana State Forest is addressed in the plan on pages 104-105.

Public Agency Review

In November 1981 the master plan was also sent to all affected public agencies to solicit their review and response to the plan. All letters of comment received, together with the Department of Natural Resources' response, can be found in the back of the plan.



THE PLAN



VI THE PLAN

PROPOSED CHANGES TO THE ORIGINAL LEGISLATION

The Minnesota-Wisconsin Boundary Trail was authorized by the Legislature in 1973 to extend between the Twin Cities and Duluth (see Section II). The legislation calls for the southern trail terminus to be in Arden Hills. This master plan, however, proposes a southern terminus at Oakdale. If this proposal is to be effected, the legislation must be changed.

Early in the planning process the DNR researched several alternative trail alignments within the Twin Cities. Three major alternatives emerged (see figure 6). Alternative 1 identifies a corridor primarily through Rice Creek Regional Park Reserve and Carlos Avery Wildlife Management Area. Alternative 2 would use a 50-foot-wide powerline corridor owned by Northern States Power Co. Alternative 3 identifies a northeasterly route toward the St. Croix River that uses the abandoned Soo Line Railroad right-of-way through Grant and Stillwater townships in Washington County and National Park Service land along the St. Croix River in Chisago County.

All three alternatives were intensively studied by the DNR, which considered public land availability, resource quality and resource constraints. The alternatives also were presented on several occasions to the general public and governmental entities (see Section V). The DNR decided to further pursue alternative 3. Table 8 compares the three alternatives and some of their advantages and disadvantages, and justifies the course of action taken.

A fourth alternative was also investigated--the use of Interstate 35 right-of-way for bicycling and possibly snowmobiling. Although some states have successfully developed bicycle routes within freeway rights-of-way, Minnesota law now prohibits such use. The desirability of a trail along Interstate 35 also may be questionable because many trail users may find the freeway noisy and ugly. This alternative, however, deserves further investigation.

In view of the alternatives discussed, the plan recommends to further pursue alternative 3 and therefore recommends a change in the trail legislation of 1973.

In its planning effort for the Minnesota-Wisconsin Boundary Trail, the DNR also proposes the West Addition to the trail. Under the Outdoor Recreation Act (ORA) of 1975 the DNR is authorized to acquire railroad rights-of-way to be added to the state trail system. When Burlington Northern Inc. abandoned its tracks between Hinckley and Moose Lake, between Carlton and West Duluth, and between Wrenshall and the state line in 1975 and between Moose Lake and Carlton in 1980, the DNR saw an opportunity to provide an addition to the Minnesota-Wisconsin Boundary Trail that would provide for off-roadway bicycling and connect the Minnesota-Wisconsin Boundary Trail with Duluth and Wisconsin trails. The Hinckley-to-Moose Lake right-of-way was purchased primarily for its historic significance (see Trail Classification in Section II) and also for its ability to connect three units of the outdoor recreation system. The decision to purchase the rights-of-way was made as early as 1976, but the three rights-of-way were not purchased until 1980. The decision not to acquire the right-of-way between Moose Lake and Carlton was made in March of 1981. (The DNR is attempting to purchase only the short stretch from Moose Lake to Barnum.) This decision was made primarily because of the lack of scenic quality of the right-of-way, existing trail systems that can provide adequate connections, and significant local opposition to the DNR's proposal.

TABLE 8
Comparison of Alternatives

Alternative	Advantages	Disadvantages
<p>I. <u>Arden Hills, Rice Creek Regional Park Reserve, Carlos Avery Wildlife Management Area, Taylors Falls</u></p>	<p>Requires no change in trail legislation.</p> <p>Large tracts of public lands (Carlos Avery Wildlife Management Area and Rice Creek Regional Park Reserve) would be utilized in the establishment of the trail alignment.</p> <p>General public receptiveness towards the proposal.</p> <p>Snowmobile use could be accommodated.</p> <p>Portions of the alignment would be scenic.</p>	<p>Between 16 and 20 miles of trail right-of-way would pass through private land (primarily agricultural). Trail right-of-way acquisition would depend entirely on private landowners' willingness to sell right-of-way to the DNR.</p> <p>The trail right-of-way would have to cross major roads, I-35 and U.S. 8, both twice.</p> <p>The ORA of 1975 restricts secondary units, in this case the state trail, to be located within or traverse State Wildlife Management Areas (ORA would have to be amended).</p> <p>Department of Interior policy declares development of the trail through Carlos Avery Wildlife Management Area an incompatible land use. Lands within Carlos Avery were acquired with federal aid under the Pittman-Robertson Wildlife Restoration Act. (Land exchanges would be required.)</p>
		<p>Significant areas of low land would require strict year-round use.</p>

Alternative	Advantages	Disadvantages
<p>2. <u>NSP powerline corridor Arden Hills to Taylors Falls</u></p>	<p>NSP holds fee title to a 50-foot right-of-way beneath the powerline and is willing to sell to the DNR if local consent can be reached.</p> <p>A continuous trail right-of-way would at once be available between the Twin Cities and Taylors Falls.</p> <p>The right-of-way would accommodate snowmobiling over the entire route.</p>	<p>The straight and relatively flat alignment and the presence of two high-voltage powerlines next to the right-of-way (Forest Lake and Scandia townships) would impair the scenic quality.</p> <p>Significant public opposition to the proposal dates back as far as 1973.</p> <p>The right-of-way crosses major public roads, I-35, U.S. 61, State 97 and U.S. 8.</p> <p>The right-of-way crosses open water and wetlands, restricting summer uses.</p> <p>The 50-foot-wide NSP corridor is physically perceived as a right-of-way only in a few areas, such as woods and residential development. Otherwise, poles and guidewires are the only evidence on the ground. Therefore, a trail would prevent the use of the powerline right-of-way for crops and would have a potential negative impact on farming operations.</p> <p>Powerline poles and guidewires could present a safety hazard to the trail user because the poles are set on center.</p>

Alternative	Advantages	Disadvantages
<p>3. <u>Oakdale (Soo Line),</u> <u>William O'Brien,</u> <u>St. Croix River,</u> <u>Taylor's Falls</u></p>	<p>Availability of the abandoned Soo Line railroad right-of-way in Washington County (10 miles).</p> <p>Significant local support to develop the Soo Line as a recreational trail.</p> <p>Potential to connect with two additional state outdoor recreation systems--William O'Brien and Interstate state parks (criterion under ORA).</p> <p>Opportunity to use National Park Service land along the St. Croix River to develop a trail alignment.</p> <p>Scenic quality of the trail has the potential to be excellent because of its proximity to the St. Croix River, a truly outstanding resource of the state.</p>	<p>Approximately nine miles of trail alignment would pass through private land. Trail right-of-way acquisition would depend entirely on private individuals' willingness to sell right-of-way to the DNR.</p> <p>Topographical constraints and National Park Service policy restrict snowmobiling and horseback riding immediately adjacent to the St. Croix River. Hiking would be the only trail use in some areas.</p> <p>A change in trail legislation is needed.</p>

The plan recommends that the Hinckley-to-Barnum section of the West Addition, though it is addressed in this plan with the Minnesota-Wisconsin Boundary Trail, be managed as a separate trail with its own identity. The section of the West Addition that runs from Carlton to West Duluth, however, should be designated a part of the Minnesota-Wisconsin Boundary Trail because it links the Minnesota-Wisconsin Boundary Trail with Duluth. Though this segment was not authorized under existing legislation, it was acquired under the DNR's authority to purchase abandoned railroad rights-of-way for use as state trails (Minnesota Statutes, Section 84.029).

OVERALL MINNESOTA-WISCONSIN BOUNDARY TRAIL SYSTEM

The DNR was not able to accommodate all uses over the entire length of the trail, approximately 235 miles. To offset any fragmentation of the trail uses, the plan attempts to first identify and elaborate on a Minnesota-Wisconsin Boundary Trail "System" (see Trail System, map 15). Second, the plan will address in detail those trail segments that will be administered solely by the DNR.

The Minnesota-Wisconsin Boundary Trail System extends roughly over the east-central part of the state between the Twin Cities and Duluth. This trail system will provide for all major trail uses and is made up of trails and routes administered by several governmental entities.

A generalization can be made about trail uses on the DNR-administered part of the system, the Minnesota-Wisconsin Boundary Trail and West Addition. The southern part of the trail from the Twin Cities into Chengwatana State Forest (about 65 miles) is proposed for non-motorized uses and will generally accommodate ski-touring, bicycling, hiking, horseback riding and hunting, as designated. Uses on the northern segment of the trail from Chengwatana State Forest into Jay Cooke State Park will be primarily snowmobiling, hiking, horseback riding and hunting, as designated. Ski-touring will be a secondary use but will be supplemented by loop trails within state parks. The West Addition of the trail, made up of railroad rights-of-way, will provide primarily for bicycling, snowmobiling and hiking and, in designated areas, horseback riding. Ski-touring will be a permitted use but may present a conflict and may not be desirable.

The following paragraphs will describe a route for each use within the Minnesota-Wisconsin Boundary Trail System and also will identify shared access points and facilities.

Hiking and Backpacking

Hiking will be provided for along the entire Minnesota-Wisconsin Boundary Trail and West Addition. In areas such as the potential route between Carnelian Junction and the Washington County line (where a trail alignment has not been identified), local roads may have to be used in the interim. Although the opportunity to hike from the Twin Cities to Duluth is given, the trail may not suit all hikers. In certain areas, especially in eastern Pine County, the trail may challenge even the experienced hiker, who will have to cross streams, beaver dams and large lowlands. Because of the length of the trail and its remoteness, the DNR may not be able to make the trail easy for everybody. The DNR, however, will attempt to further upgrade the segments of the trail that are most accessible.

Bicycling

Bicycling within the system will be accommodated by two state agencies, the Department of Transportation and the DNR. The Department of Transportation's bikeway program provides bicycling opportunities within road rights-of-way on paved shoulders or otherwise identified public roads suitable for bicycle riding. The bicycle trail or route within the trail system commences with the DNR's Soo Line right-of-way and continues along Washington County roads, the State 95 bicycle route and along Chisago County 9 via Sunrise to Harris. This route provides easy access to William O'Brien, Interstate and Wild River state parks.

From Harris to Hinckley, "Old Highway 61" traffic lanes must suffice for now (refer to Mn/DOT road maps for correct roadway terminology through Chisago and Pine counties). This stretch of road is rated fair to unsatisfactory for bicycle use depending on traffic volume and road design. Until this roadway can be improved through shoulder extensions it cannot be safely recommended as a bicycle route. However, since the bicycle is a legal road vehicle it can be on all public roadways except those posted controlled access. If in fact the roadway is used by bicycles as part of the entire route prior to any improvement, DNR will make every effort to work with Mn/DOT and the respective road authority (county or municipal) to sign site specific problem areas to caution motorists and bikers alike. In addition, bicyclists may identify other suitable routes with the aid of Mn/DOT's Minnesota Bikeway maps.

Between Hinckley and Barnum, the DNR's West Addition will be designated for bicycling. Banning State Park will be easily accessible from the West Addition via Highway 61 through Sandstone. The Department of Transportation identified this route as having good potential for shoulder pavement, though the road is now rated unsatisfactory for bicycles. In fact, 8-foot-wide paved shoulders were installed along a segment between Sandstone and County 18 in the summer of 1981.

At Moose Lake the bicyclist leaves the railroad right-of-way at the proposed access to travel on local streets through Moose Lake. Beyond Moose Lake the trail is proposed to continue on the abandoned railroad right-of-way to Barnum. Between Barnum and Carlton, County Roads 6, 5, 4 and 3 are suggested for bicycling; they are scenic and are indicated as good bicycle routes by the Department of Transportation's bikeway program.

From Carlton into West Duluth the bicyclist would again ride on the railroad right-of-way of the DNR's West Addition. The trail travels along the north boundary of Jay Cooke State Park and will provide access to the park facilities. Duluth city bike routes will lead the bicyclists into downtown Duluth and beyond.

Horseback Riding

Horseback riding will be provided for in areas along the Minnesota-Wisconsin Boundary Trail and West Addition where adequate access can be established and where topography and soils are suited to a safe, enjoyable experience. Long-distance horseback riding will be provided for on the Soo Line right-of-way, along most of the West Addition right-of-way and between Wild River State Park and the northern boundary of St. Croix State Forest. Additional horseback riding trails will be provided in loop systems within state parks and in state forests and along the railroad right-of-way between Wrenshall and the state line.

Ski-Touring

Ski-touring will be permitted on the entire Minnesota-Wisconsin Boundary Trail and West Addition except between Carnelian Junction and Taylors Falls. A trail route has not been identified between Carnelian Junction and the Washington County line, and the alignment between the county line and Taylors Falls will not be suitable for ski-touring because of limited right-of-way, outcrops, cliffs and steepness of grade.

Skiers may find much of the Minnesota-Wisconsin Boundary Trail and West Addition undesirable because the land is flat (e.g., railroad rights-of-way) and they will have to share much of the trail with snowmobiles. However, the opportunity for ski-touring is given. Areas designated specifically for ski-touring will be on the Soo Line and

between Taylors Falls and the Snake River access east of Pine City. Ski loops will split from the Boundary Trail in Wild River, St. Croix, Banning and Jay Cooke state parks and some day from William O'Brien State Park. At the trail terminus in West Duluth a ski-touring loop is planned to be developed in conjunction with Duluth's Western Waterfront Trail. Another ski-touring loop may exist in connection with Spirit Mountain ski-touring trails at the outskirts of Duluth.

Snowmobiling

Snowmobiling will be provided on the majority of the DNR-administered Minnesota-Wisconsin Boundary Trail and West Addition. But in some areas, primarily in Washington County and parts of Chisago and Carlton counties, snowmobiling will be accommodated by county and DNR-administered grant-in-aid snowmobile trails.

Grant-in-aid snowmobile trails in Washington and Chisago counties will parallel the Minnesota-Wisconsin Boundary Trail and join it at Taylors Falls and the Wild River State Park trail center. Snowmobiling, however, is not permitted in Wild River State Park under the Upper St. Croix Management Plan of 1972. There is a gap in the trail between Sunrise and the proposed snowmobile trail access east of Rush City near County 5. Local snowmobile clubs are planning to develop a trail alignment and are asking for DNR cooperation in locating segments of the trail just within the Wild River State Park boundary. (This issue will be addressed further as part of Segment 4 later in the plan.) The remaining Minnesota-Wisconsin Boundary Trail and West Addition will be designated for snowmobile use with the exception of the area between Moose Lake and Carlton. From Moose Lake to Carlton or Nickerson the trail alignment will again be located on a grant-in-aid snowmobile trail. In Duluth a trail connection with the Spirit Mountain grant-in-aid trails and other local trails will eventually create a route through Duluth to the North Shore State Trail.

Some segments of the above-described Minnesota-Wisconsin Boundary Trail System may be interim solutions; e.g., the use of grant-in-aid snowmobile trails, which are temporary in nature. Other segments may well be permanent solutions; e.g., Department of Transportation bicycle routes as a cooperative effort between state agencies. The DNR's primary intent is to give the trail system identity and make it available for use at the earliest time possible, because the DNR believes that if a trail is used and enjoyed by the public, it will become easier to establish permanent trails in areas where it is not now possible. To help trail users understand how this whole system of trails works, the DNR should publish maps that clearly show the route for each use. Moreover, signs should be posted along the trails to point trail users toward the proper routes.

Weekend and Single-day Routes

The previous paragraphs described a route between the Twin Cities and Duluth for each trail use. The following section will attempt to identify shorter loop routes that many snowmobilers, hikers, skiers, cyclists and other trail users may find enjoyable for a one-day or two-day trip. These routes likely will be popular because of interesting scenery or other features and because they are near cities and are easily accessible by car or public transportation (see Use Scenarios, map 16).

1. The trail south and north of Taylors Falls could be one such segment close to the Twin Cities that would be used heavily, primarily for hiking and ski-touring. There is a direct bus route from the Twin Cities to Taylors Falls. Presently a canoe

shuttle service exists between William O'Brien State Park and Taylors Falls. This shuttle service possibly could accommodate trail users who prefer not to backtrack. The trail alignment that starts north of Taylors Falls at Lion's Club Park would extend approximately 20 miles into Wild River State Park. This trail, with loop trails and appropriate camping facilities in the park, could become an ideal hiking and ski-touring spot. Just recently a trail connection was established between the privately owned Wild Mountain ski area and Wild River State Park trails. The trails in Wild River State Park became quite popular for ski-touring over the last couple of years and could easily become as popular for summer use, especially in combination with the Minnesota-Wisconsin Boundary Trail connection to Taylors Falls and a shuttle service between the Sunrise area and Taylors Falls. Most of the trails in Wild River State Park are already developed, and relatively high development priority is given to the trail between Taylors Falls and the park (see Section VII).

2. Another segment that now receives fair use and that probably will be used even more in the future is the area of St. Croix State Park and St. Croix State Forest--primarily for horseback riding, hiking and backpacking, among other uses. The Boundary Trail stretches 21 miles between the St. Croix State Park trail center and the Graces Lake access in St. Croix State Forest. A variety of loop trails in the park and forest join the Minnesota-Wisconsin Boundary Trail. Adequate support facilities, such as camping areas and horsemen's areas, are also available. Although public transportation is not available, cars easily can be shuttled to either of the access points. This segment can provide a near-wilderness experience.
3. Another weekend route that could provide a near-wilderness experience exists in Nemadji State Forest. There, a 16-mile loop trail incorporating the Minnesota-Wisconsin Boundary Trail and other, shorter loops offers beautiful scenery. Because of its length, it would be ideal for a weekend of backpacking or horseback riding. An express bus operates on Fridays and Sundays on State 23 between the Twin Cities and Duluth. Flag stops are available along the route, making it possible to reach the trail by public transportation.
4. The citizens of Duluth will be offered an excellent opportunity to enjoy a combination of trail uses right at their front door. The proposed 14-mile trail between Carlton and West Duluth will join several local trail systems for hiking, ski-touring, bicycling and snowmobiling. Jay Cooke State Park offers primarily ski-touring and hiking opportunities. Though the Spirit Mountain complex caters primarily to downhill skiing, it also accommodates ski-touring and snowmobiling, and Duluth's proposed Western Waterfront Trail will provide ski-touring, bicycling and hiking. These individual trails or systems will be linked by the Minnesota-Wisconsin Boundary Trail. Daily bus service is available between Carlton and West Duluth for those who do not like to backtrack. The DNR anticipates that use of this system will increase once the Minnesota-Wisconsin Boundary Trail is fully developed. The development of this trail segment will be a priority (see Section VII).
5. The use of a portion of the West Addition's alignment in combination with Banning State Park trails and General C. C. Andrews State Forest trails could become a popular weekend experience, especially for horseback riders. The proposed West Addition will link the trail systems in the state park and state forest and create a 30-mile loop trail.

6. A weekend bicycle loop of approximately 130 miles for the experienced bicyclists could become popular once the West Addition between Hinckley and Barnum and the Carlton-to-West Duluth trail are developed. The route will offer a combination of off-road bicycling and on-road bicycling amid beautiful scenery. On-road bicycling would have to be along State 23 and specific Carlton County roads. As mentioned before, use of State 23 is recommended only for the experienced cyclist. The highway has 12 foot lanes, 4-12 foot gravel shoulders and an Average Daily Traffic (ADT) of 1,350-3,500. Although State 23 has not officially been designated as a bicycle route, Mn/DOT would evaluate the road as "fair" for bicycle travel. Daily bus service is available between Hinckley and Duluth and Amtrak runs daily between Sandstone and Duluth for those who prefer a shorter one-way trip. Development of the Hinckley-to-Barnum trail will be a high priority.
7. Two bicycle routes are almost completed within the Twin Cities metropolitan area. Several popular one-day trips could involve the use of the Soo Line right-of-way and existing Washington County bicycle routes (Mn/DOT's Minnesota Bikeway maps should be consulted for further detail). Another potentially popular route is a 90-mile loop route that would commence at the Soo Line southern access, follow scenic State 95 along the St. Croix to Taylors Falls, continue to North Branch and come back to the Twin Cities along Highway 61. With the exception of a few miles, the Department of Transportation has paved the shoulders along State 95 and Highway 61. Development of the Soo Line right-of-way as a portion of this loop will be a high priority.
8. Although snowmobiles cannot use the Minnesota-Wisconsin Boundary Trail in the southern counties, many grant-in-aid snowmobile trails cross the Boundary Trail in the northern two-thirds of the Minnesota-Wisconsin Boundary Trail and West Addition. The existing trail systems combined with the West Addition will provide several scenic routes for snowmobiles. Because of their speed, snowmobiles could travel the entire Minnesota-Wisconsin Boundary Trail and West Addition in a weekend outing.

These weekend routes should be promoted with the cooperation of other agencies and local communities. The Minnesota-Wisconsin Boundary Trail and West Addition not only would provide a linear trail between Minnesota's major metropolitan areas but would also cater specifically to local and regional needs and would provide appropriate routes for weekend users. The routes that have been mentioned here are generally the most scenic and interesting parts of the Minnesota-Wisconsin Boundary Trail.

TRAIL DESCRIPTION ACCORDING TO LANDSCAPE REGIONS

The following trail description deals only with the portions of the overall Minnesota-Wisconsin Boundary Trail System that are administered solely by the DNR.

The trail route is depicted here as it travels through the respective landscape regions (see Landscape Regions, map 14). This should aid the discussion of individual trail segments later in this section.

The first two trail segments (25 miles) travel through the Southern Oak Barrens Landscape Region, which is the broad transition zone between the prairie in the west and the deciduous forest to the north and east (see Section III). The trail commences in Oakdale and travels northeast on the abandoned Soo Line railroad right-of-way towards the St. Croix River (segment 1). The trail user can see little of the original oak savannas because agriculture and housing developments have altered the landscape. A yet unidentified route (segment 2), shown on the maps as a half-mile-wide corridor, will some day continue to William O'Brien State Park and beyond to Cedar Bend (Washington County line).

From Cedar Bend the proposed trail travels through the Grantsburg Landscape Region (trail segments 3-5, 51 miles). Within this region the trail closely follows the St. Croix River via the Dalles of the St. Croix at Taylors Falls, through Wild River State Park, and beyond into Chengwatana State Forest. Along this route the trail user can see many beautiful views of the St. Croix River as the trail travels primarily through river bottom forest. Interpretation of the area's historic and geologic resources will be given special emphasis.

From the Snake River trail bridge (segment 6, about 80 miles) the existing trail travels north through the Mille Lacs Landscape Region, which is characterized by mixed hardwoods and pines. Near the turn of the century the intensive logging of white pine altered the original forest. The trail travels through these once-logged lands, which are interspersed with meadows and marshes.

Although the user is generally unable to travel along the Kettle River's banks, occasional glimpses of the river near the state park boundary provide additional orientation and enjoyment. A forest hiking trail, which branches off the Minnesota-Wisconsin Boundary Trail, allows the hiker or skier to be near the river. Upon entering St. Croix State Park, the user crosses the Kettle River near Bid Eddy, where a natural ford is located. Through St. Croix State Park the trail generally parallels the St. Croix River at a distance, traveling through woods. The trail crosses several brooks and creeks as it proceeds northeast by the park's trail center. Ample opportunity exists in the park to enjoy the river environment. Leaving the state park, the trail turns north into St. Croix State Forest and leaves the St. Croix River for good. The terrain in the forest becomes more rolling. As the existing trail proceeds north into Nemadji State Forest, parallel to the state line, it passes through forested lands with scattered expansive bogs and marshes. East of Duquette, which is located on State 23, the trail crosses a continental divide. Topographic changes in the area are slight but nevertheless noticeable. The change in plant communities indicates the sometimes subtle topographic changes. The trail user passes through maple-basswood communities on the uplands and black spruce and balsam fir communities in the low areas. Aspen-birch stands are common throughout the area. The existing alignment terminates at the northern boundary of Nemadji State Forest. The land is nearly wild and little inhabited.

The trail alignment is proposed to continue due north, passing through the town of Holyoke and crossing the Net and Nemadji river valleys. These valleys are steep and scenic; the north-facing slopes and south-facing slopes differ distinctively in vegetation and wildlife.

The trail traverses the North Shore Highlands Landscape Region for the entire width of the Nemadji River watershed (segment 7, about 25 miles). The history and vegetation of this region has been influenced by Lake Superior. The lake used to be the only means to move efficiently from one location to another. Interpretation along the trail therefore will focus not only on outstanding geologic features, but also on historic resources, especially within Jay Cooke State Park. An abandoned railroad right-of-way along the southern edge of Jay Cooke forms the link to Wisconsin's trail system. As the trail enters the state park, intermittent rock outcrops and the impressive St. Louis River gorge give the trail environment yet another dimension.

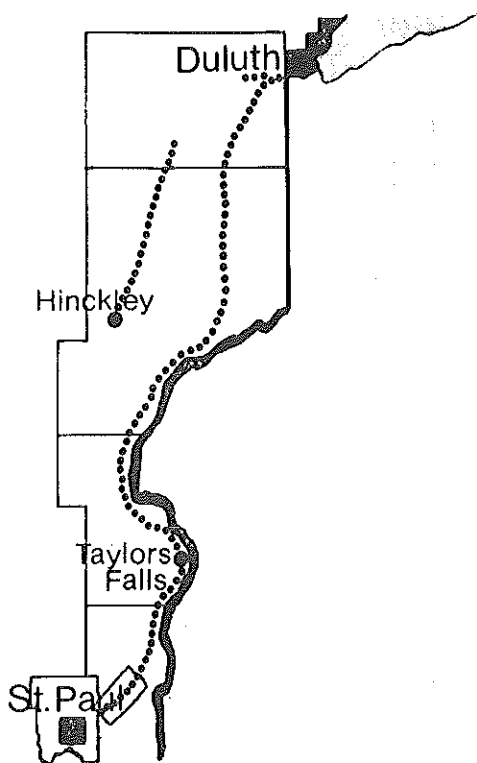
At the north boundary of Jay Cooke State Park near Carlton, the trail will join the West Addition (segments 8 and 9, about 55 miles). The West Addition, which is located entirely within the Mille Lacs Landscape Region, will commence at Hinckley, where a major trail access will be located. The trail continues along the abandoned Burlington Northern railroad right-of-way to Barnum. The right-of-way's historic significance and its vicinity to Banning State Park, General C. C. Andrews State Forest and Moose Lake Recreation Area contribute positively to the trail user's experience. In addition, the tourism-oriented cities of Hinckley and Moose Lake and the trail user eventually may benefit from each other. Between Moose Lake and Carlton the trail will be located on existing local trails and routes. Between Carlton and the West Duluth trail terminus, the abandoned Burlington Northern railroad right-of-way will again serve as trail alignment. The scenic quality of this segment is significant. The right-of-way traverses rock cuts high above Duluth, providing the trail user with magnificent views of the St. Louis River bay area, which is dissected by wooded points and islands, the Duluth and Superior bay and harbor, and finally the city of Duluth stretching along the water's edge.

DEVELOPMENT SEGMENTS

Because of the length and complexity of the Minnesota-Wisconsin Boundary Trail and West Addition, the plan divides trail development proposals into segments with logical starting and ending points (see Detail Maps, plates 1-19). Each segment actually is discussed in the form of a "mini-plan." An objective for each trail segment begins each of these subchapters. Second, a satisfaction index indicates how well the objective can be met within the next couple of years (A means well; B, not so well; C, not well at all). Finally, each mini-plan discusses trail alignment, support facilities, predominant uses and specific design considerations aside from the standards of the Trails and Waterways Unit Trail Design Manual. An analysis of major decisions is included, and alternative proposals will be discussed if necessary. DNR trail policies that apply to all trail segments will be addressed within the Recreation Management and Maintenance and Operation subchapters.

Complexity and trail length aside, another reason to address trail development in segments is the infeasibility of developing the entire trail at once. By dividing the trail into segments, the DNR can set priorities and develop the trail in stages, allowing each segment to be phased into the trail system as it becomes ready to use.

SEGMENT I: SOO LINE RAILROAD RIGHT-OF-WAY (see plate I of 19)



Objective

To allow the trail user to observe nearby wetlands and ponds and the wildlife they harbor.

Satisfaction Index

B. Though the trail will offer excellent opportunities for observation, it is nonetheless a flat, predominantly straight abandoned railroad grade.

Alignment

The trail alignment is located on the abandoned Soo Line railroad right-of-way between Interstate 694 in Oakdale and Carnelian Junction in May Township in Washington County. This segment forms the southern terminus of the Minnesota-Wisconsin Boundary Trail.

A trail access site has been identified and is proposed within Oakdale. The proposed access is part of a private gravel pit next to the Interstate 694 right-of-way and is primarily accessible from County 68 (50th Street) in Oakdale. The Oakdale Park Commission supports the choice of the site. This access will be developed as a major trail head. It will include parking and trail wayside facilities (see figure 10).

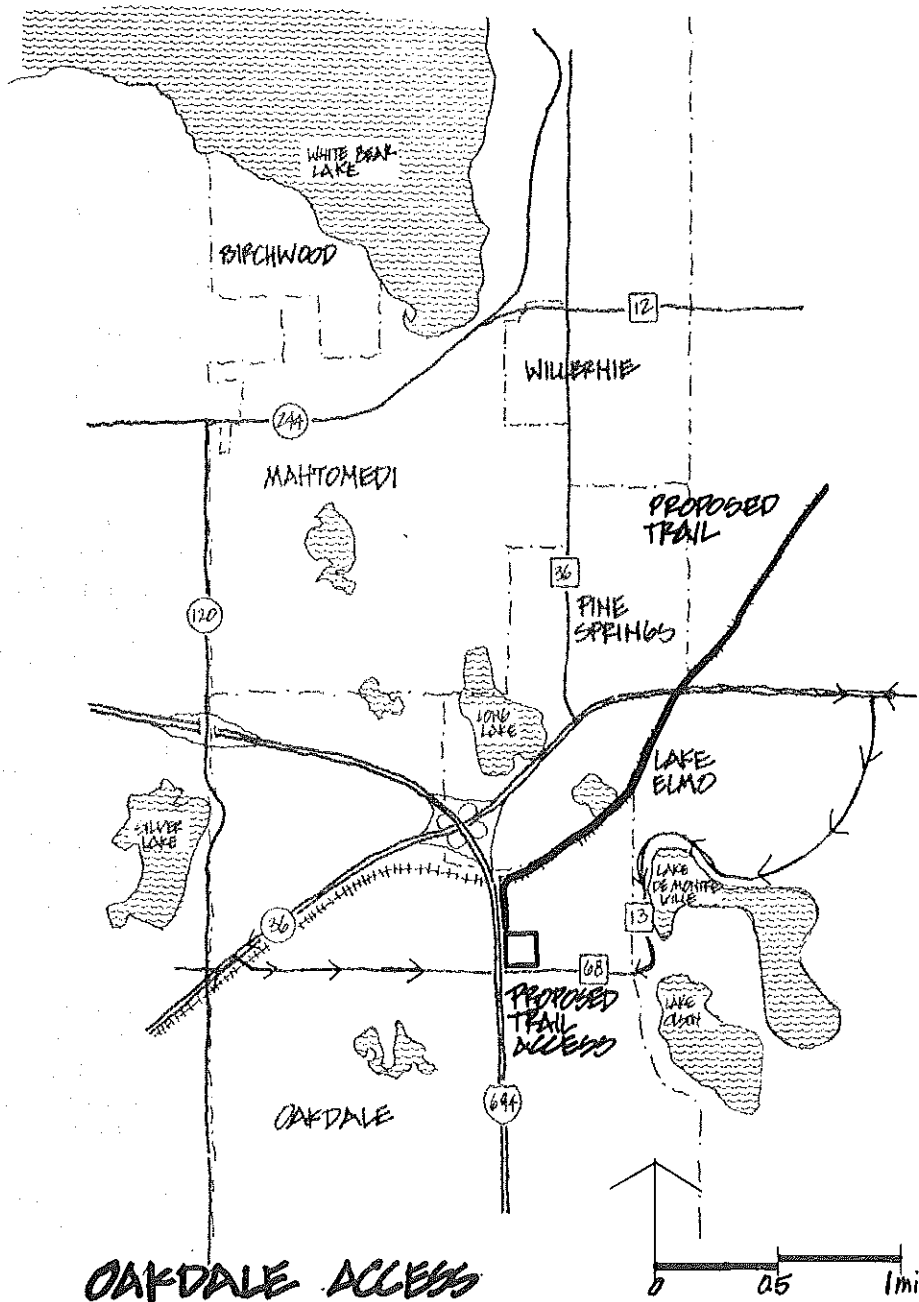
The trail alignment proceeds northeast from there, passes under State 36 and will cross the following major roadways at grade: County 12, State 96, and County Roads 15, 61 and 55. The trail also crosses an active Burlington Northern track at Duluth Junction.

Another major trail access and wayside facility is proposed at the northern end of the railroad right-of-way within Pine Point County Park. The development of this facility is proposed as a joint effort with the Washington County Parks and Recreation Department. This park will become the logical terminus of the trail segment, although the DNR owns an additional 500 feet of right-of-way beyond this point. Pine Point Park is also traversed by a snowmobile and bicycle trail located within the County 55 right-of-way.

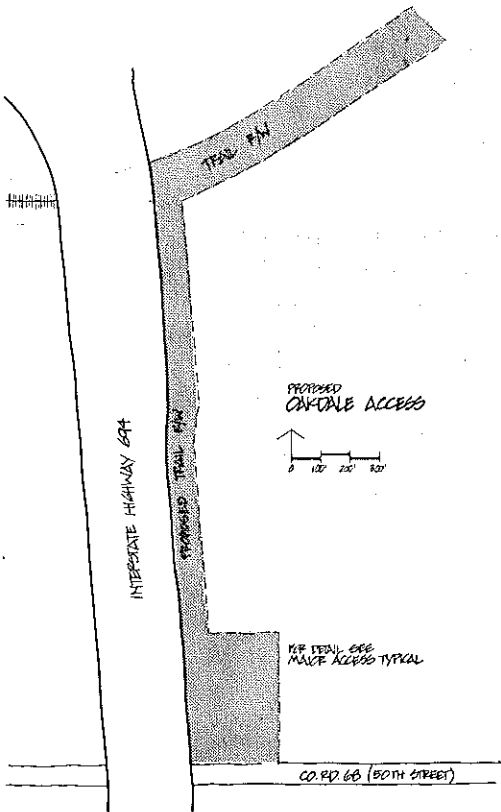
Predominant Uses

Summer: bicycling, hiking, horseback riding (two treadways).

Winter: ski-touring.



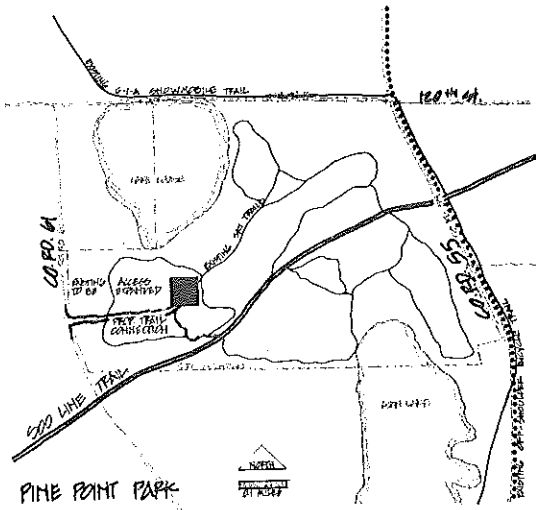
OAKDALE ACCESS



Specific Design Considerations and Associated Problems

Support Facilities: The southern trail head facility in Oakdale is proposed to be directly accessible from County 68 (50th Street) to increase visibility and therefore deter potential misuse of the facility (e.g., beer parties). The facility will be developed to serve the trail users' needs throughout the year.

Although the proposed Oakdale trail access could provide a good access to the trail, an extension of the Minnesota-

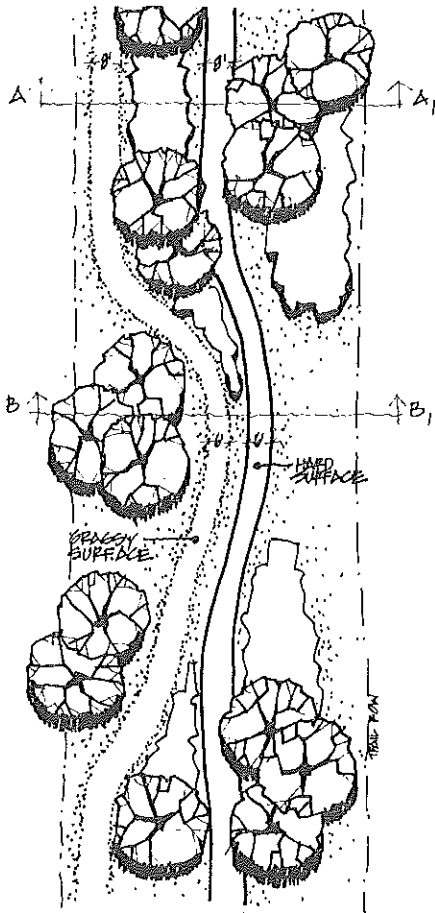


Wisconsin Boundary Trail into the core of the Twin Cities metropolitan area would be desirable. The trail then would be more easily accessible to a great number of people for recreation and commuting, providing additional public space in an area that is in dire need of it.

The trail head facility at the northern end, Pine Point Park, will be designed and developed jointly with the Washington County Parks and Recreation Department. There will be parking, toilet and picnic facilities, and short loop trails within the park.

Although public transportation presently does not provide for direct access to the trail head facilities and the trail, overall accessibility is good for ski-touring and hiking. The trail and its support facilities are already highly accessible by bicycle:

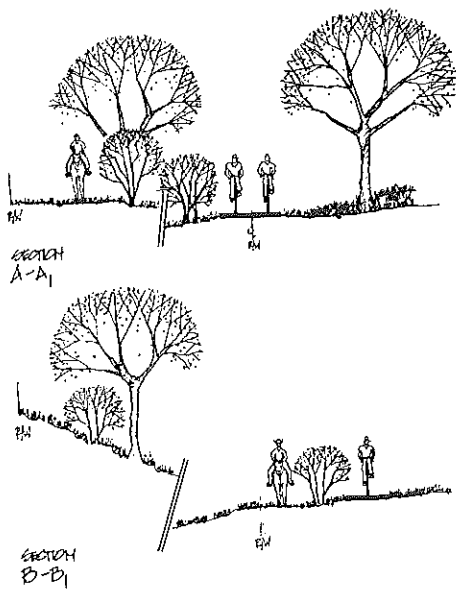
There are a number of designated Department of Transportation bikeways in Washington County that intersect the trail several times, thereby providing loop systems between the Twin Cities metropolitan area and the St. Croix River near Stillwater. Signs will be installed along the trail to point out intersecting bicycle routes, such as County 12 and County 55, and their destinations.



PLAN VIEW

Accessibility for horseback riders probably will be easiest for local users who have access to several private trails in the area. The trail head facilities however will provide for out-of-town horseback riders. For trail users who arrive by car, access will be provided only at the two designated trail head facilities. Parking along trail and road intersections to gain access to the trail will not be permitted because it would create a nuisance and hazard. The DNR and Department of Transportation together with respective local road authorities will act to eliminate such practices (see also Section VI, Overall Design Recommendations).

Treadway: Two treadways will be developed on the 10-mile-long right-of-way. One treadway will consist of a hard surface (most likely limestone or bituminous) primarily for bicycle use. This treadway could vary in width between six and eight feet, depending on the need for additional space to accommodate the second treadway. The change in treadway width should occur gradually for reasons of safety and aesthetics. A vegetation buffer should be established between the two treadways whenever possible. The original railroad track bed is ideally suited for the bicycle treadway because of its already-established base. The second treadway will be designed for horseback riding and ski-touring. This treadway will weave back and forth slightly and make the trail more interesting (see illustration). The second treadway may



also vary in width, depending on conditions within the right-of-way. These design considerations may contribute to a better trail experience. Hiking, walking and jogging may be done on either treadway. Local horseback riders want to use the trail in the winter as well. To avoid conflicts of interest between ski-touring and horseback riding, the bicycle treadway could be used by horseback riders in the wintertime.

Pine Point Park presently maintains a series of short loop trails that join the railroad right-of-way. Close coordination between the two administering agencies should be maintained to avoid a conflict of uses on the various stretches of trail.

Snowmobiling, presently the only motorized use the DNR provides for, will not be a designated use on the trail at this time. The DNR decided against snowmobiling on this trail segment for the following reasons:

1. Snowmobiles will not be allowed on the Minnesota-Wisconsin Boundary Trail segment from the metropolitan area into Chengwatana State Forest because an existing grant-in-aid snowmobile trail runs parallel to the Minnesota-Wisconsin Boundary Trail through Washington and Chisago counties and is generally situated on off-road right-of-ways (see Other Trail Systems, map 13). This route appeared to be a viable alternative for the time being, though the DNR is aware of the annual arrangements local snowmobile clubs must make with private landowners. The DNR, however, believes in the value of the grant-in-aid program and continues to promote it because of its enormous success and accomplishments. If, however, the existing grant-in-aid snowmobile trail cannot be maintained and demand for a snowmobile trail in the area remains high, the DNR will determine how and where a permanent snowmobile trail can be established.
2. Although the trail advisory committee for the Soo Line segment recommended that snowmobiling be permitted between State 96 and Pine Point Park, the DNR believes that this type of use would create an enforcement problem and would not serve the snowmobilers well. Unless snowmobilers would be satisfied with a short straight addition to their existing grant-in-aid system, they would have to develop several miles of new trail alignment to include the right-of-way into their system. It appears that this approach is not now practical. But if local clubs cannot maintain their grant-in-aid trail and the Soo Line right-of-way can help mitigate the problem, the DNR will include snowmobiling as a trail use in the northern five miles of the right-of-way.

3. A case against snowmobile use was also brought forward by landowners who live near the trail. They objected to the noise and speed of snowmobiles. The DNR believes that these objections are valid where trails are located near homes. Consideration is hereby given to adjoining landowners' concerns.

Another issue that was heatedly debated at public meetings and workshops was the issue of permitting hunting and trapping on the Soo Line Trail segment. State Trails Rules and Regulations (NR 20) permit hunting and trapping on state trails, though in the case of railroad rights-of-way this issue should be closely investigated. Hunting and trapping on a narrow (generally 100-foot) railroad right-of-way can pose a safety hazard to trail users and adjoining landowners alike and certainly could invite trespassing on adjoining land. Township ordinances already prohibit the use of firearms in "public places." Therefore, in the case of the Soo Line Trail segment, hunting and trapping will not be permitted within the right-of-way. This subject is further addressed later in this section's Overall Design Recommendations.

Another issue brought up at public meetings and recognized by the DNR was the potential loss of privacy for landowners who live near the trail. Under the resource management program for state trails the DNR can and will provide buffer plantings to mitigate the effect of the trail on privacy.

The Soo Line trail segment and its support facilities will be designed barrier-free to allow use of the trail by people who are physically disabled.

Presently the Soo Line segment passes under State 36 in Pine Springs and passes over State 96 in Grant Township. When the existing bridge deteriorates, the Department of Transportation plans to install a culvert under State 36, which would be constructed specifically for a trail. In fact, the tunnel could be an added attraction for this trail segment. The railroad bridge over State 96 has been removed (Winter 1982), and the trail will eventually cross the road at grade. The DNR and Department of Transportation realize that a potential safety hazard, especially for the trail user, exists with an at-grade crossing. This danger is lessened in that State 96 in this area does have bituminous shoulder extensions and is a designated bicycle route: motorists are already aware of bicyclists. In addition, the steep embankments along the railroad right-of-way will be removed and a gradual approach will be constructed. This measure will improve sight lines for trail user and motorist alike. The DNR also will keep the intersection free of obstructions and install caution and stop signs for the trail user. The Department of Trans-

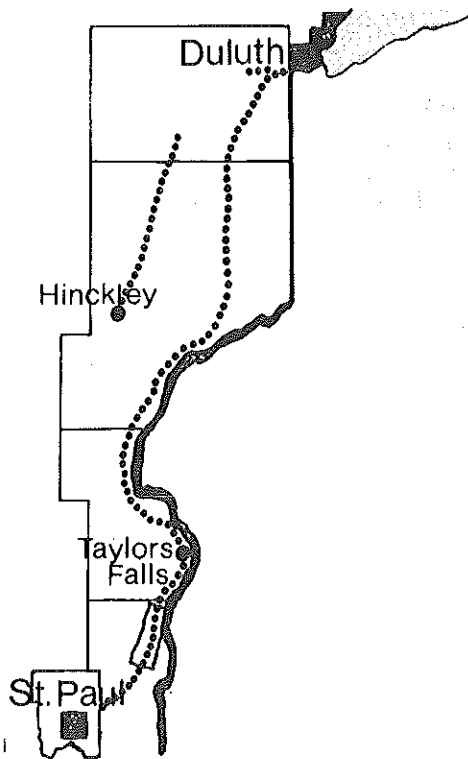
portation has in the past been cooperative in installing caution signs for the motorist as well.

At Duluth Junction, just south of State 96, an active Burlington Northern railroad track crosses the trail. At this time Burlington Northern does not permit an at-grade trail crossing. This policy poses a significant problem to the DNR--not only on the Soo Line segment, but across the state with other railroad companies as well. The DNR has urged and will continue to urge passage of a bill to deal specifically with trail crossings of active railroad tracks. The bill would give the DNR the authority of eminent domain on sections of railroad rights-of-way pursuant to Minnesota Statutes, Section 219.072. Alternative solutions to tunnel under or bridge over the active track are financially unacceptable. There are no local roads in the immediate area which cross over the track. It appears that only the Legislature can resolve this persistent, widespread problem.

The DNR has purchased the Soo Line right-of-way to Carnelian Junction. At this junction the DNR-owned right-of-way meets an active Soo Line track that runs from east to west. The Soo Line right-of-way leaves Pine Point Park, the proposed northern trail access point, at the Stillwater Township line and extends approximately 500 feet into May Township to the north. Because the trail right-of-way ends at an active Soo Line track and because a future trail could be extended along the existing County 55 off-shoulder trail, the DNR sees little or no use for the 500-foot-long, 100-foot-wide right-of-way. The plan therefore recommends that this section of the right-of-way be sold according to Minnesota Statutes, Section 94.09.

Just recently Washington County completed a landfill siting process as required by the 1980 legislative amendments to Minnesota Statutes, Chapter 473. As a result of the siting process, the county identified five sites, of which two are located next to the Soo Line segment (see plate I of 19). The sites are expected to be approved by the Metropolitan Council and the Pollution Control Agency by 1983. The county then will pick a site. The landfill will accept only wastes that come from houses and businesses in the area. The landfill will be run according to Pollution Control Agency standards. If either site along the trail is chosen, the county will be responsible for taking the necessary steps to either temporarily relocate the trail or install screening to mitigate adverse impacts. After the landfill is full (probably by the mid-1990s), the county will again be responsible for restoring the trail and its immediate environment.

SEGMENT 2: CARNELIAN JUNCTION TO THE WASHINGTON-CHISAGO COUNTY LINE (see plate 2 of 19)



For this segment of the trail an alignment has yet to be located. If a right-of-way is to highlight the essential resources of the area, the following objectives must be met:

1. Maximize the trail user's opportunity:
 - to enjoy the hills and swales of a typical moraine landscape and its variety of vegetation and wildlife;
 - to enjoy the still-rural atmosphere of an area so close to St. Paul and Minneapolis; and
 - to enjoy the historic resources of areas like Marine-on-St. Croix and Copas.
2. To provide only for uses that cannot be accommodated on existing trails and bikeways in the area and that are agreeable to nearby landowners.

Satisfaction Index

C. A trail alignment has not been established. Local roads and other public rights-of-way must suffice for now.

Alignment

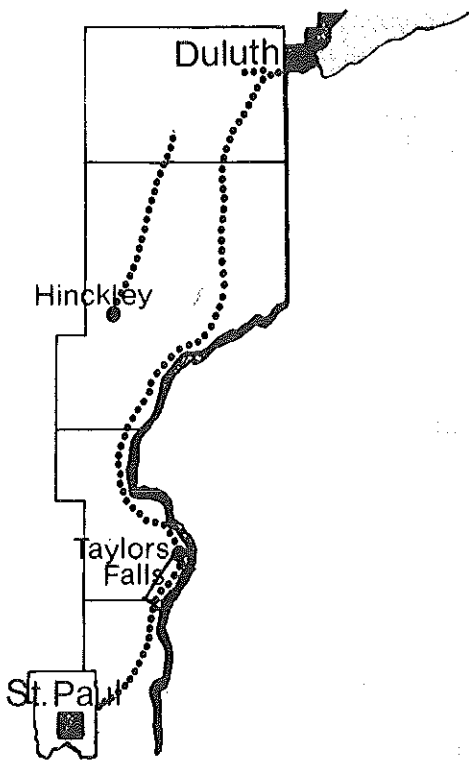
The location of this approximately 10-mile segment of the Minnesota-Wisconsin Boundary Trail has not been determined. Only a general corridor has been proposed. The DNR hopes to provide a separate trail right-of-way that would join the trail system in William O'Brien State Park and extend to the proposed trail access area at the Washington-Chisago county line (Cedar Bend). Existing township or county road rights-of-way and bicycle routes will have to serve the trail user until a separate trail can be established in the areas that are now indicated by a half-mile-wide corridor (see plate 2 of 19). The Metropolitan Council's regional recreation plan also suggests a trail corridor for this area. Local off-road bikeways within road rights-of-way could well be incorporated into a continuous trail. These are County 55, an off-road bikeway from Pine Point Park to its junction with County 7 to the north, and the existing trail within Marine-on-St. Croix, which occupies primarily the State 95 right-of-way and ends in William O'Brien State Park. The master plan for the park, which was approved in July 1981, recommends the trail be extended to the park boundary, where DNR parks jurisdiction ends.

Though bicycle use could be accommodated entirely within road rights-of-way, the DNR would like to pursue the

development of a trail right-of-way for hiking and ski-touring and possibly horseback riding in areas where a suitable off-road facility is not available. Although William O'Brien State Park provides for bicycling, hiking and ski-touring, it does not provide for horseback riding.

Because bicycling can be accommodated primarily along State 95, because snowmobiling can be accommodated on existing grant-in-aid trails, and because there are few long-distance hiking and ski trails in the area, this plan recommends that when the alignment for this trail segment is finally established, it be developed primarily for hikers, skiers and, if increasing demand can be demonstrated, horseback riders. Horseback riding in William O'Brien State Park will be accommodated according to provisions in the park management plan, which was approved in July 1981.

SEGMENT 3: WASHINGTON-CHISAGO COUNTY LINE TO TAYLORS FALLS (see plate 3 of 19)



Objective

To provide a narrow, winding hiking trail that capitalizes primarily on the magnificent scenic views of the St. Croix River and secondarily on the historic districts of Franconia and Taylors Falls.

Satisfaction Index

A. Both alignment alternatives in the Franconia area would provide excellent scenic views. One would afford close-up views of the river; the second, of the entire valley.

Alignment

This 10-mile-long trail segment is proposed to commence just south of the Washington-Chisago county line at Cedar Bend. A trail access and wayside is proposed on the highway rest area site. The long-range plan calls for a connection with a trail to the south within the outlined corridor. The proposed trail access site abuts the State 95 right-of-way to the west and National Park Service land to the east.

The trail alignment will be located primarily on National Park Service land and will parallel the St. Croix River into Interstate State Park and Taylors Falls. The National Park Service owns most of this area as part of the St. Croix National Scenic Riverway. Near Franconia, a town south of Taylors Falls, the plan identifies two alignment alternatives. Alternative 1 would require the cooperation of Franconia to route the trail through the town on one of the public roads to National Park Service land at the northwest end of town. From there the trail would continue to Interstate State Park.

Alignment alternative 2 would ascend the river bottoms south of Franconia through a parcel of privately owned land, then travel on Franconia Township road rights-of-way up to U.S. 8. After crossing the highway, the trail would continue on an abandoned railroad right-of-way that abuts U.S. 8 right-of-way and is owned by the Department of Transportation. This alignment would then continue through Interstate State Park and into Taylors Falls.

Predominant Uses

Summer: hiking.

Winter: ski-touring where existing conditions allow for such use.

Specific Design Considerations and Associated Problems

Support Facilities: The proposed trail access and wayside site just below the Washington-Chisago county line is, as mentioned earlier, owned by the Department of Transportation and was acquired for a highway rest area. According to the department, however, the site is unlikely to be developed soon as a rest area. The Department of Transportation expressed interest in the DNR's proposal to use the site for a trail access day use facility. The Department of Transportation is willing to cooperate but reserves the right to review and approve DNR's development plans for the site. The plan recommends that both agencies work out an agreement prior to any development.

The National Park Service operates and maintains a river access and day-use facility called Camp Croix below the Osceola Bridge (State 243), approximately four miles upstream from the trail access. Although frequent high water limits the access from the road, this facility provides an excellent rest spot after an enjoyable hike along the river. The National Park Service assured its cooperation in making the facility available to trail users.

The trail segment ends in Taylors Falls at the north entrance of Interstate State Park. The park facility is recommended to serve as a trail access. The plan does not recommend a specific alignment through Taylors Falls, but proposes instead access points at the southern city limits--Interstate State Park--and the northern city limits--Lion's Club Park (addressed as part of the following trail segment).

Treadway: Approximately 1 1/2 miles north of the Cedar Bend access the trail passes through an area where land ownership is unclear. A land survey to be performed by the National Park Service is required to determine if the National Park Service indeed does own a strip of land along the backwaters of the St. Croix River or if the land is in private ownership to the water's edge. The private landowner in question now opposes a trail traveling below the cliff he lives on. If the trail alignment could not continue through this area, the DNR would have to explore other avenues, such as crossing over the backwaters to one of the islands or obtaining special legislation.

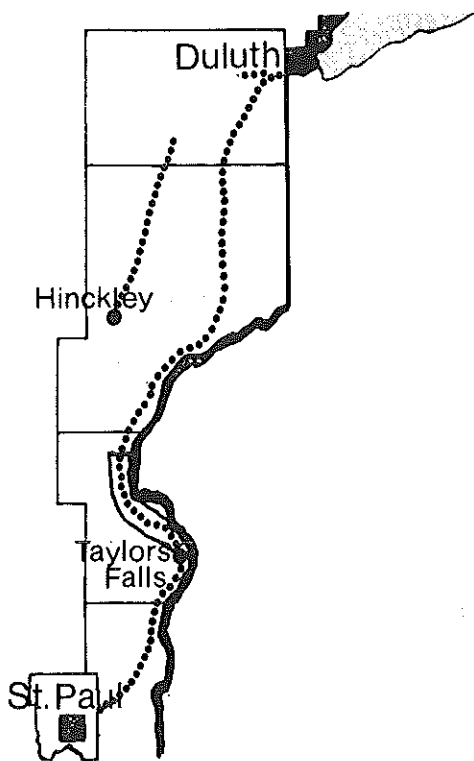
At Franconia, two trail alignments are being considered. The DNR will pursue alternative 1, which uses a local public road through Franconia and continue north on National Park Service land into Interstate State Park. The residents of Franconia, however, have expressed opposition to the trail's passing through their community

(Franconia Town Board meeting, June 3, 1980). Local residents claim that recreational use of the St. Croix River already puts much pressure on the community and that an additional public trail would increase this pressure, adding to vandalism, trespassing and littering. The plan recommends that the DNR work with Franconia to set up a trial period. If problems occur and cannot be worked out, the trail should then be routed in a north-westerly direction along township roads as alternative 2 recommends. In either case the trail will be accessible only to hikers because of its many hills and probably will consist of a narrow treadway. The use of the trail will be limited and should have little or no adverse impact on local residents. Alternative 2, with the cooperation of one private landowner, Franconia Township and the Department of Transportation (the latter expressed cooperation), could become a viable alternative. Although this alternative alignment would not travel along the river and would be less desirable where it travels along road rights-of-way, it would afford the trail users magnificent views of the entire river valley as they hike on the old railroad right-of-way into Taylors Falls. All facilities provided in Interstate State Park will be available to the trail user.

The entire trail segment is recommended for hiking only with the exception of an area at the southern access and in the lowlands by the National Park Service's Camp Croix. In these areas ski-touring loops are recommended. Although most of these loops would be located on lowlands and would be unsuitable for summer use, they nevertheless could provide some skiing. Because of limited National Park Service land ownership in some areas and generally steep slopes along the river, only development of a continuous hiking trail is feasible. Much of this hiking trail will have to be built by hand without heavy equipment to ensure that the river environment and the steep slopes will be protected from erosion and other degradation. The Curtain Falls Trail in Interstate State Park presents a good example for construction of this trail segment. Although the National Park Service will not be able to help pay for the trail, the DNR was assured full cooperation by the agency as indicated in the development plan for the Lower St. Croix National Scenic Riverway.

In the case of alignment alternative 2, hiking will still remain the predominant use. However, a possibility exists in the future to rebuild the old railroad right-of-way along U.S. 8 through Interstate State Park for bicycling and snowmobiling as well. Because of prohibitive costs involved in building bridges across three major ravines, this possibility probably will not be realized soon.

SEGMENT 4: TAYLORS FALLS TO CHISAGO COUNTY 5 (see plates 4-6 of 19)



Objective

To provide the best opportunity possible to enjoy the many historic resources (the Old Military Road, Sunrise, Amador, Nevers Dam and fur trading post sites) and the scenic river environment.

Satisfaction Index

A. The entire alignment will be developed as the final solution, though a few minor adjustments must be made in Taylors Falls and Rusheba Township.

Alignment

This trail segment is approximately 30 miles long and is proposed to begin at the northern city limits of Taylors Falls with the municipal Lion's Club Park as the proposed access and wayside facility. Although the park is operated by Taylors Falls, Northern States Power Co. maintains ownership of the land as it does for all St. Croix River frontage from Taylors Falls to the boundary of Wild River State Park. The proposed alignment proceeds north along the river's edge for approximately two miles. At this point three alignment alternatives have been identified (see plate 4 of 19).

Alignment alternative 1 would continue along the river within a 100-foot right-of-way between the river and St. Croix Shores residential development, a cluster of approximately 15 homes.

Alignment alternative 2 would travel due west to the line between sections 12 and 1 and emerge at County 16 to turn south within its right-of-way. At the junction with County 71, the trail would travel west for one-half mile within the road right-of-way to turn onto a Shafer Township road proceeding north. This township road is located on the original alignment of a historic travel route known as the Old Military (or Government) Road, which was built in 1851-57 and was the first road built between the Twin Cities and Duluth. (It also was known as the Point Douglas-St. Louis River Road.) The trail would travel on this alignment for approximately one mile and then again cross County 16 to travel again along the river's edge.

Alignment alternative 3 would attempt to exchange river right-of-way for a right-of-way next to County 16 in the area of St. Croix Shores residential development.

Once past the residential development by whatever alternative, the alignment continues to meander to and from

the river's edge as it proceeds to the boundary of Wild River State Park. Upon entering the park, the trail will again be located on the clearly defined alignment of the Old Military Road up to the mouth of Deer Creek. A trail bridge would connect the trail with existing park trails. One of the existing park trail alignments will serve as the Minnesota-Wisconsin Boundary Trail (see plate 4 of 19). At the Dry Creek bridge a park trail proceeds to the northwest to provide a connection to the park's trail center, a major access. At the site of old Nevers Dam the trail turns west away from the river. There the trail user has access to the main picnic and camping facilities of the park. From there up to the Sunrise River the state trail will travel along the upland areas of the park, permitting occasional views of the river. At the scenic Sunrise River, which was the bed of the preglacial St. Croix, an existing trail access and day-use facility is available to the trail user. After crossing the Sunrise River, the trail proceeds again along the St. Croix River to its confluence with Goose Creek. The land upstream from Goose Creek is very wet and thus limits trail alignment possibilities to the narrow ice ridge along the St. Croix River. The DNR proposes to build a bridge over Goose Creek, near its mouth. From there the trail alignment proceeds north into Chengwatana State Forest. An existing walk-in campsite at Goose Creek will serve the trail user.

Upon entering Chengwatana State Forest, the trail will be located primarily within the St. Croix River's maximum preservation zone, as defined by the National Park Service. It will cross Rush Creek on an existing trail bridge. A walk-in trail wayside with primitive camping and shelter is proposed in the Rush Creek area. To bypass a parcel of private land, the trail alignment will be routed over Rusheba Township roads. This route will add approximately two miles to the length of the trail segment. Beyond the bypass the trail again proceeds north along the river to a proposed major trail head facility near Chisago County 5.

Predominant Uses

Summer: hiking throughout and horseback riding in designated areas.

Winter: ski-touring.

Specific Design Considerations and Associated Problems

Support Facilities: A trail access and wayside facility is proposed at the municipal Lion's Club Park at the north end of Taylors Falls. This leaves approximately a 1.5-mile trail alignment gap through the city. The plan

recommends that local streets be designated as a route to Lion's Club Park until a permanent route can be identified. The plan also recommends that local units of government, local businesses and trail user organizations, pursue this task, taking advantage of local amenities and resources. The DNR's role possibly could be that of sponsor. Because Lion's Club Park is operated and maintained by the city of Taylors Falls but the land is owned by Northern States Power Co. (NSP), contacts with local residents, units of government, trail users and NSP were made to assess the use of the park as a trail head facility. These efforts revealed that a trail access would be feasible at the park. Agreements for the joint operation of the facility need to be drawn up between the DNR, Taylors Falls and NSP.

Although NSP owns frontage along the St. Croix River up to the Wild River State Park boundary, the right-of-way within the St. Croix Shores residential development is a mere 100 feet between the river and the houses. Residents use the 100-foot right-of-way as a backyard extension with NSP's permission. Anticipating a problem with establishing a trail practically in people's backyards (alternative 1), the DNR met with landowners and other local residents to identify alternative routes. Alternative 2 is the alternative the DNR will pursue. To implement this alternative, the DNR needs the cooperation of several private landowners, the Chisago County Highway Department and Shafer Township. Initial favorable contacts have been made with the respective private landowners, but the Chisago County Highway Department and Shafer Township have not been asked about the use of public road rights-of-way. Alternative 3, which would be located along County 16, was considered undesirable by local residents and would be difficult to effect because of highway right-of-way restrictions. Nevertheless, this alternative should not be ruled out. The proposed reconstruction of County 16 could possibly incorporate a short trail right-of-way around St. Croix Shores development.

After the proposed trail enters Wild River State Park on the Old Military Road alignment it approaches Deer Creek at its confluence with the St. Croix River. A trail bridge must be constructed within the St. Croix River's maximum preservation zone, which was established and is administered by the National Park Service. Although only limited development can take place within this zone, the development of non-motorized trails is permitted. The plan recommends a bridge design of rough timber that blends well into the natural environment. The same design considerations are recommended on other bridge installations, especially when they are within the river's maximum preservation zone (e.g., Goose Creek). Approximately one-half mile north of Deer Creek an existing

park trail leads to the Wild River State Park trail center. This center is now being expanded to better serve horseback riders. Expansion consists primarily of an extended parking area and camping facilities for horseback riders. This trail center will also serve as a major trail head facility. Starting at Dry Creek and terminating at Goose Creek, the indicated state park trail (see plates 4-5 of 19) should be designated as the Minnesota-Wisconsin Boundary Trail alignment. Following this alignment, the trail user will pass by an existing walk-in campsite and come within easy reach of the main day-use and camping areas. There also is a new interpretive center near Dry Creek.

Another trail access and wayside facility within the park is located at the Sunrise River just north of the town of Sunrise. A short distance upriver an existing walk-in campsite at Goose Creek is shared by trail users and canoeists. At Rush Creek within Chengwatana State Forest, the plan proposes the expansion of an existing walk-in wayside and campsite.

Treadway: Because hiking and ski-touring are the predominant uses of the 30-mile-long trail segment, the treadway should be kept narrow to enhance the user's experience. In areas of heavy use, however (e.g., Wild River State Park), the treadway may need to be widened to adequately accommodate two-way traffic and still provide for an enjoyable experience.

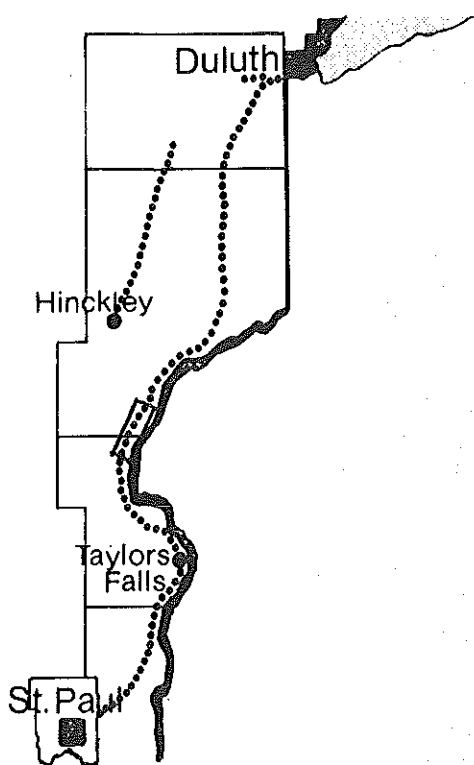
The Minnesota-Wisconsin Boundary Trail alignment within Wild River State Park is, with other park trails, proposed for horseback riding. The DNR Division of Parks and Recreation now is expanding park facilities to cater more specifically to horseback riders. If the need for additional horseback riding trails exceeds the park's capacity, horseback riding opportunities will be extended to the Minnesota-Wisconsin Boundary Trail beyond the park boundaries to the north and to the south.

The use of snowmobiles on this segment of the Minnesota-Wisconsin Boundary Trail is not now recommended. In most areas a second treadway would have to be developed because the proposed alignment lies primarily within the St. Croix River's maximum preservation zone, where motorized trail use is not permitted. The trail also travels the full length of Wild River State Park, a park which has been designated a natural state park and is not open to snowmobiles. Park policy, however, permits snowmobilers to come into the trail center and to cross the St. Croix River near Sunrise to gain access to Wisconsin's trail system. Private landowners to the north of the park in Rusheba Township, who would have to cooperate if a second treadway for snowmobiling were developed, have expressed their resentment to a snow-

mobile trail through their land. For these reasons and because of an existing snowmobile grant-in-aid trail that parallels the Minnesota-Wisconsin Boundary Trail in the area (see plates 4-5 of 19), the plan does not propose a snowmobile trail within this trail segment. However, an alignment gap exists in the grant-in-aid snowmobile trail system between Sunrise and the proposed snowmobile trail access east of Rush City near County 5. Local snowmobile clubs that expressed an interest in establishing the missing link should be granted an easement along Wild River State Park's western boundary between Sunrise and the northern boundary of the park. Through cooperation with the Division of Parks and Recreation, snowmobilers would be provided a compatible trail alignment between the metropolitan area and the Chengwatana State Forest access. If local snowmobile clubs cannot retain the existing grant-in-aid trail and if the demand for a trail in the area remains high, establishment of a permanent trail alignment will be pursued.

As the trail enters Chengwatana State Forest it also travels along the boundary of Camp Sunrise, a summer youth camp. The camp has been active in establishing the trail alignment in the area, primarily on National Park Service land. The camp expressed interest in further assisting in the development of the Minnesota-Wisconsin Boundary Trail in the area. The DNR should take advantage of this offer; the department should encourage and promote development of trails by volunteer groups.

SEGMENT 5: CHISAGO COUNTY 5 TO SNAKE RIVER (see plate 6 of 19)



Objective

To accommodate all uses yet avoid conflicts through the use of separate trail alignments that provide scenic views of the St. Croix River to all users.

Satisfaction Index

A. The alignment achieves the objective and poses few problems. It should stand as the final solution.

Alignment

This approximately 10-mile-long trail segment will commence at a major trail head facility near Chisago County 5. A National Park Service parking lot and boat access is located at a river gaging station that once was the site of a railroad bridge. This facility is proposed to be expanded to serve hikers, skiers, snowmobilers and horseback riders as well. Two separate trail alignments will leave the trail head: one will proceed along the banks of the St. Croix within the maximum preservation zone; the other will run some distance from the river. Only in areas of limited public land ownership will the two alignments merge. The trail passes through the National Park Service's South District Headquarters at State 70. From there, the ski-touring and hiking trail alignment along the river has been developed. Approximately 2 1/2 miles north of State 70 an existing canoe campsite will serve trail users and canoeists. Both trail alignments end at an existing major access and wayside near the Snake River's confluence with the St. Croix.

Predominant Uses

Summer: hiking and horseback riding on separate treadways.

Winter: snowmobiling and ski-touring on separate treadways.

Specific Design Considerations and Associated Problems

Support Facilities: The existing access off County 5 is operated by the National Park Service and consists of a parking lot, a boat access to the St. Croix River and a picnic area. The DNR proposes the expansion of this facility in coordination with the National Park Service and NSP to adequately serve all uses outlined above.

The proposed facility will be located on NSP land just west of the existing facility. NSP has assured its cooper-

ation under the agreement that exists between the DNR and NSP within the Upper St. Croix Resource Management Plan.

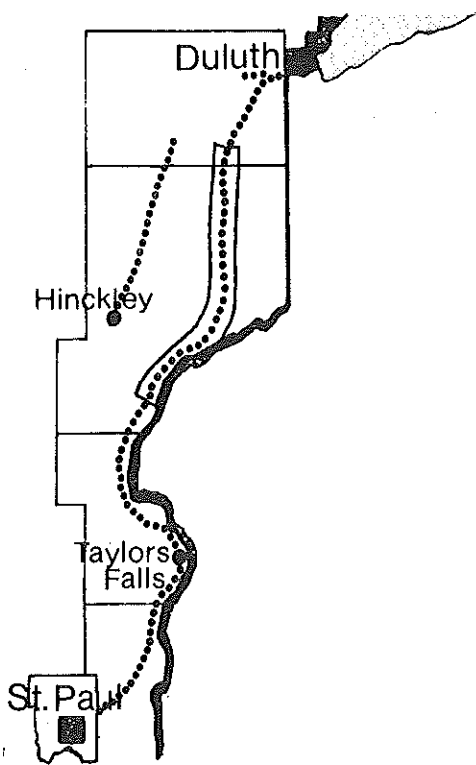
Although the DNR would develop the site, the National Park Service offered to assist in maintaining the facility because National Park Service staff members are located in the area.

Approximately 1 1/2 miles after passing the Chisago-Pine county line, both treadways merge. At this point, a scenic, secluded spot by the river, the plan recommends the development of a small walk-in trail wayside, a campsite and a shelter.

At State 70 both trails pass by the National Park Service's South District Headquarters. Access to the trail is possible through the headquarters' parking lot. The hiking and ski-touring trail is proposed to travel for a short distance on a public road through "St. Croix Retreat," a cluster of cabins, while the snowmobile and horseback-riding trail enters the woods to the west. Two miles down river an existing canoe campsite will serve hikers and skiers.

Treadways: The hiking and ski-touring trail travels within the St. Croix River's maximum preservation zone while horseback riding and snowmobiling occurs on a separate treadway to the west. On several occasions, however, the treadways do merge for a short distance for reasons of topography or lack of public land ownership. The National Park Service assured the DNR of its cooperation in areas where both trail alignments merge onto National Park Service land. From State 70 north, the ski-touring and hiking trail has been developed. However, the trail was closed in 1980 because some bridges and poor trail alignment pose a hazard, especially to the skier. The trail user enjoys an array of scenic views of the St. Croix River with its many islands and still backwaters. The snowmobile and horseback-riding trail travels primarily within the wooded bluffs where the trail user may enjoy intermittent, distant views of the river.

SEGMENT 6: SNAKE RIVER TO NORTH BOUNDARY NEMADJI STATE FOREST (see plates 7-12 of 19)



Objectives

1. To take advantage of the recreational and historic resources of St. Croix State Park, including St. John's Landing, Fleming Logging Road and Yellow Banks.
2. To provide a near-wilderness experience through St. Croix and Nemadji state forests.

Satisfaction Index

1. B. Though the alignment is in place and few adjustments are needed, the alignment does not follow the St. Croix River as closely as would be desirable.
2. B. Though most of the trail is challenging and remote, the alignment follows some township roads in Wilma and New Dosey townships.

Alignment

The entire length of this 80-mile trail segment has been in operation since 1978. Portions of this segment, however, have been available for use as early as 1975. (The existing condition of this segment is discussed in Section IV.) This segment commences at the existing trail head nine miles east of Pine City. Two separate alignments, one for hiking and skiing and the other for snowmobiling and horseback riding, lead up to the Snake River trail bridge, passing by an existing forest campground at the bend of the river. The two treadways continue for another mile; then the ski-touring and hiking trail terminates in a trail loop to the east. From this point on, the Minnesota-Wisconsin Boundary Trail consists primarily of one alignment. There are nonetheless several areas throughout the segment where side trails for hiking and ski-touring or snowmobiling diverge from the main trail to provide additional trail access or to rejoin it at another point. These side trails are generally part of existing trail systems within other DNR management units. At Red Horse Creek an existing trail wayside with three camping units affords camping.

Although the trail generally parallels the Kettle River, trail users do not get to see the river until they reach the St. Croix State Park boundary and then again further north at Big Eddy.

A winter bridge allows snowmobilers to cross the Kettle River. During the remainder of the year, primarily in the summer and fall when water is low, the river can be

forded 50 to 75 yards below Big Eddy. An existing canoe and walk-in campsite on the east bank of the river serves both canoeists and trail users. Throughout St. Croix State Park many miles of park trails are available and directly accessible from the Minnesota-Wisconsin Boundary Trail. The park offers, in comfortable intervals, camping and resting facilities at walk-in campsites, group camps, the main campground and the trail center (see plate 8 of 19). The trail travels through a variety of plant communities, such as marshes, successive hardwood forest and scenic jack pine barrens. Although the treadway is not located within sight of the St. Croix River, park trails diverge from the Minnesota-Wisconsin Boundary Trail and lead to the river. St. Croix State Park may also serve as a major access to the trail.

As the trail crosses State 48 it leaves St. Croix State Park and enters St. Croix State Forest. Here, where the river enters Minnesota, the trail travels primarily through scenic forests speckled with small lakes and marshes and crosses clear brooks and grassy openings. A short distance from the first stream crossing, Bangs Brook, the trail user can set up camp at an existing forest campground. The trail passes by scenic Sutton Lake on its way to the next wayside facility at Rock Lake, a large site situated by the lake and accessible also by forest roads. Approximately 2 1/2 miles northeast of Rock Lake an existing primitive campsite and a primitive horse camp are located along the Tamarack River. These facilities, like many areas in the state forest, are accessible from the Minnesota-Wisconsin Boundary Trail via an intersecting trail. A parking facility at Grace's Lake provides another access to the trail via forest roads. As the trail proceeds north, it crosses the Lower Tamarack River and McDermott Creek; it follows public roads to cross the streams. A trail wayside campsite with an Adirondack shelter is proposed at McDermott Creek. At County 30 (Duxbury Road) the trail user leaves St. Croix State Forest. Located 1 1/2 miles east of the road intersection is Duxbury, which is the only town for many miles around to provide gas and food.

Between St. Croix State Forest and Nemadji State Forest the trail alignment is established primarily on Pine County land, private land and infrequently used township roads. A trail wayside with primitive campsites is proposed in the vicinity of Keene Creek, just inside the Nemadji State Forest boundary. Approximately six miles north on the trail there is an Adirondack shelter. This site is proposed for the addition of primitive campsites. As the trail continues north through forests and marshes on slightly rolling terrain, other trails join it to provide loop systems within the state forest. These trails provide additional access to the Minnesota-Wisconsin Boundary

Trail from Kingsdale at the state line, Nickerson and Duquette. In an area southeast of Nickerson the Minnesota-Wisconsin Boundary Trail crosses a continental divide. In Section 24 in Nickerson Township, the trail crosses the Willow River, which flows in and then out of a large wetland west of the trail and ultimately drains into the Kettle. At the river's source, just a little east of the trail, there is a beautiful spot to rest and enjoy the setting. Two miles north of the Willow River crossing the trail crosses the Net River, which ultimately drains into the Nemadji, part of the Lake Superior basin (see also Interpretation Section of the plan).

Approximately one-half mile north from where the trail takes a sharp turn to the east is the Pickerel Lake forest campground (see plate 12 of 19). This campground should be expanded to accommodate horseback riders. A trail continuing west leads into Nickerson. The original alignment of the Boundary Trail traveled this way and ended in Nickerson. However, the proposed Boundary Trail will use a forest trail that travels northeast and terminates at a trail access and parking lot south of Holyoke (north boundary of Nemadji State Forest).

Predominant Uses

Summer: hiking throughout; hunting, horseback riding and motorcycling in designated areas.

Winter: snowmobiling.

Specific Design Considerations and Associated Problems

Support Facilities: The major trail head facility just south of the Snake River's confluence with the St. Croix River should be expanded to accommodate horseback riders. A horsemen's camping area should be developed with adequate space for hitching horses. From here a horseback riding trail would extend to the south for approximately ten miles and to the north for many miles through St. Croix State Park and St. Croix State Forest.

Most trail support facilities throughout this trail segment have been developed. A few more, however, are needed; these are discussed in the following paragraphs.

An Adirondack shelter is proposed at the Red Horse Creek primitive campground. It would serve snowmobilers and skiers alike. A short spur trail will have to be developed between the ski trail and the snowmobile trail to give skiers access to the site.

A walk-in wayside campsite is proposed in the vicinity of McDermott Creek, just two miles south of the Duxbury

Road. To discourage other than walk-in use of the site, the campsites should not be visible or accessible from the road. It would, however, be desirable to build the site in a scenic area near the creek. An Adirondack shelter should also be built at this location to provide shelter for winter users. Approximately three miles from this proposed camping site is Duxbury, where gas and food and a private campground are available to the trail user. Duxbury is frequented primarily by snowmobilers; it serves as a midway point for fuel and food.

A second walk-in campground should be developed near Keene Creek in the southern part of Nemadji State Forest to serve hikers and backpackers.

Trail accesses are generally kept separate from campsites to keep those who aren't using the trail from bothering campers or damaging campsites. Access points are spaced some distance apart (see figure 7) within this remote trail segment. This remoteness provides the trail user with a special experience. The DNR also believes that except where other recreational activities occur simultaneously, e.g., St. Croix State Park, this trail segment may be used less frequently than other parts of the Minnesota-Wisconsin Boundary Trail.

The site of the existing Adirondack shelter in the southern part of Nemadji State Forest should be expanded to include primitive campsites.

The existing access and camping facility at Pickerel Lake in Nemadji State Forest has eight campsites, which are located on the lake. A horsemen's area is proposed in the vicinity. From this facility horseback riders will be able to ride a loop system of approximately 16 miles.

Treadway: From the Snake River trail access, two separate treadways have been developed--one for hiking and ski-touring and one for horseback riding and snowmobiling. After crossing the Snake River bridge, the treadways follow similar routes but frequently intersect until the ski-touring and hiking trail turns east and ends in a loop trail. From there, one treadway serves primarily horseback riders, hikers and snowmobilers (though skiers may use it). Two state forest snowmobile trails, which provide access from Pine City and Hinckley, merge with the Minnesota-Wisconsin Boundary Trail within Chengwatana State Forest. These feeder trails, which are intended for snowmobiles, are not suitable for summer use because they pass through extensive marsh areas.

A hiking trail branches off the main trail to follow the Kettle River up to the St. Croix State Park boundary. Within the park the trail crosses the Kettle River. Ac-

According to DNR's State Wild and Scenic Rivers Rules and Regulations (NR 2300), signed into law in July of 1976, a permanent trail bridge cannot be constructed over the Kettle River. Now a temporary bridge is installed every fall to accommodate snowmobiles. Summer use of this part of the trail is presumably infrequent. This could be due to a lack of publicity, lack of trail identity and a lack of adequate trail maintenance during summer months. Because a permanent bridge cannot be constructed at Big Eddy, a natural ford 50 to 75 yards below Big Eddy should be used to cross the river. The trail will lead to and from the ford. Signs will warn the user of the hazard. In addition, any trail brochures or maps will point out the ford to alert people who are planning a trip. Trail users should also be advised to check with the DNR about the flow of the river during the spring, summer and fall. Perhaps a river gage could be installed at the ford to indicate water depth.

Portions of the Minnesota-Wisconsin Boundary Trail within St. Croix State Park are located on park roads. Although the use of park roads for snowmobiling is appropriate and even desirable, it hampers summer trail users who must compete with cars. Numerous requests from trail users, especially horseback riders, contributed to the following decision: A separate off-road trail alignment will be established for all designated uses except snowmobiling. The alignment should parallel the road and should not exceed 6 feet in width. If possible, a vegetation buffer should exist between the road and the new alignment. Streams should be crossed on the road, however, to avoid the construction of new bridges. Snowmobile use will remain on roadways.

The trail enters St. Croix State Forest after crossing State 48. Primary trail uses continue to be snowmobiling, hiking and horseback riding. Hunting, which is not allowed in state parks, may be done in state forests. The Range Line Trail, which until now was considered part of the Minnesota-Wisconsin Boundary Trail, branches off the main trail within the forest. This trail parallels the Minnesota-Wisconsin Boundary Trail between St. Croix State Forest and Duquette, a small town located on State 23 (see plates 10-12 of 19). It was established as the first segment of the Minnesota-Wisconsin Boundary Trail, primarily on township roads (see Section IV). Because of the superior quality of the present Minnesota-Wisconsin Boundary Trail alignment and because maintenance of two parallel alignments with the same uses would further burden the DNR's limited maintenance budget, the following decision was made: The Range Line Trail will become a local trail, preferably a grant-in-aid snowmobile trail that would join other grant-in-aid trails and provide additional access to and from Moose Lake and Nickerson.

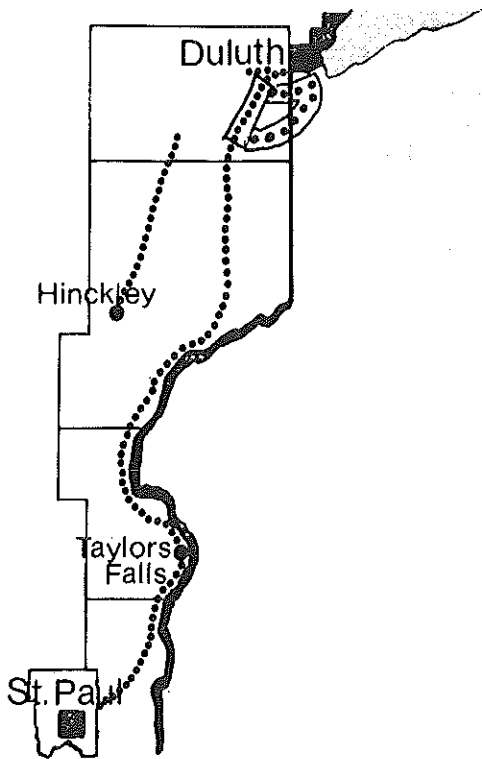
Although horseback riders can use the Minnesota-Wisconsin Boundary Trail up to the St. Croix State Forest boundary at Duxbury Road, the proposed terminus will be at the Tamarack River horse camp with the option to use the trail up to the proposed McDermott Creek Wayside (see figure 7) even though the site would not be designed for horseback riders. If the DNR learns through trail-use monitoring that there is significant demand for horseback riding, the 20 miles of Boundary Trail, through Nemadji State Forest (which are not suitable now), will be developed for that use. On the above-mentioned 20 miles of trail, snowmobile use will be predominant. Hiking will be the only designated use in the summer; hikers now must find ways to cross marshes and beaver dams. The DNR believes that the remoteness of this portion of the trail will lure only the more experienced hiker, backpacker or hunter. If need can be demonstrated, the DNR will attempt to improve the trail to better provide for summer use by the average user.

Presently, portions of the Minnesota-Wisconsin Boundary Trail within Nemadji State Forest are used for off-road motorcycling. Although off-road motorcycling is a use the DNR now does not provide for on its state trails, state forest policy permits such use on forest lands. According to DNR forestry personnel, Minnesota Motorcycle Association members are the primary users of the trail. The use of the trail for this activity is light to moderate and is not now perceived to be a problem. In addition, an annual off-road motorcycle race has been held in Nemadji State Forest. The plan recommends that off-road motorcycling in this specific area of the Minnesota-Wisconsin Boundary Trail be permitted to continue, but its impact on natural resources should be watched.

As was mentioned earlier, the Minnesota-Wisconsin Boundary Trail between Duxbury Road and section 36 in Park Township (see plate 12 of 19, intersecting forest trail turning due west) is not now suitable for horseback riding. However, the plan proposes to designate the remaining trail portion up to the Pickerel Lake forest campground for horseback riding. Through the use of connecting forest trails, a 16-mile loop trail will be available.

The Minnesota-Wisconsin Boundary Trail's existing alignment ends near Nickerson. Since legislation requires the trail to end in Jay Cooke State Park, the DNR had to find a new trail alignment traveling north. The plan discusses this new trail alignment as part of segment 7. To connect this new alignment with the existing trail in Nemadji State Forest, the existing forest trail between Nickerson and the northern boundary of Nemadji State Forest will be designated as Minnesota-Wisconsin Boundary Trail.

SEGMENT 7: NORTH BOUNDARY NEMADJI STATE FOREST TO JAY COOKE STATE PARK (see plates 13-15 of 19)



Objective

To capitalize on the geologic significance of the area (the beach line and bed of Glacial Lake Duluth and rock outcrops of the Thomson Formation) and historic resources.

Satisfaction Index

B. Neither of two alternatives is completely satisfactory. The first requires the use of township and county roads. The second, which would be located on a railroad right-of-way, might not portray some of the geologic formations as well as the first alternative would.

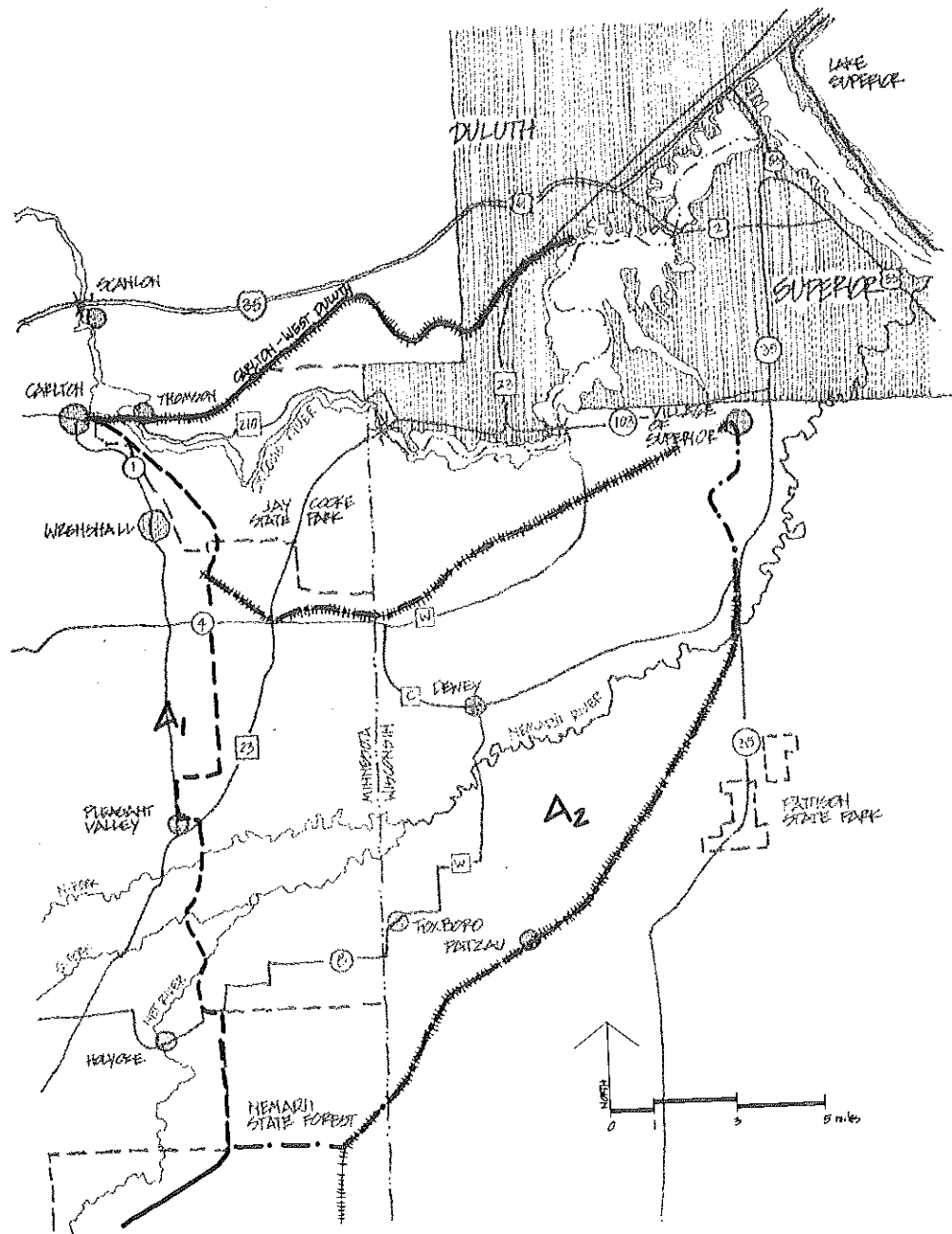
Alignment

The alignment of this segment could follow one of two alternatives. Both alternatives commence at the existing access at the northern boundary of Nemadji State Forest and join a grant-in-aid snowmobile trail south of Jay Cooke State Park. Alternative 1 would be approximately 21 miles long; alternative 2 would be about 42 miles long.

From the existing access, alternative 1 would travel on little-used township roads to Holyoke (see plate 13 of 19), passing by a proposed trail wayside with walk-in camping and a shelter near the Net River. From there, there are three slightly different alternatives using local road rights-of-way to get to the Net River crossing. From the Net River valley and beyond, the trail climbs up and down the steep river valleys of the South and North Forks of the Nemadji River and other tributaries of the Nemadji River. The area is forested, supports a notable wildlife population and offers a variety of scenic views across and into the river valleys. The trail would cross State 23 at Pleasant Valley, an area of scattered residential development along the highway. To cross the active Soo Line tracks, the trail would travel within the County 1 right-of-way for approximately one mile. This proposal will serve as an interim solution until other means of crossing active railroad rights-of-way can be found. The trail then turns east onto a Wrenshall Township road and north again along section lines and then again on township roads. A walk-in wayside with camping is proposed at Mud Creek. At the intersection with Carlton County 18, the trail alignment meets the proposed spur trail into Wisconsin, an abandoned railroad right-of-way. At this intersection the plan recommends a small access within the railroad right-of-way. The trail continues from there on an interim alignment, a grant-in-aid snowmobile trail, into Jay

Cooke State Park. Within the park the trail will connect with the West Addition of the Minnesota-Wisconsin Boundary Trail, specifically, the railroad right-of-way between Carlton and West Duluth.

Alignment alternative 2 (see accompanying map) would travel east for 2 1/2 miles on an existing state forest road to meet the Soo Line railroad right-of-way that is being considered for abandonment between Danbury, Wisconsin, and Superior, Wisconsin. After approximately one mile this right-of-way leaves Minnesota and enters Douglas County, Wisconsin. From there it continues to a point



south of the village of Superior, where an existing local trail crosses the railroad right-of-way to join the existing trail on the abandoned railroad right-of-way between Superior, Wisconsin, and the state line (the trail will continue to Wrenshall). From the proposed access at the right-of-way's western terminus near Wrenshall, the trail would then continue into Jay Cooke State Park, as in alternative 1. A trail wayside at the state line is proposed. For the remainder of the alignment Douglas County would be responsible for providing adequate way-sides and accesses.

Predominant Uses

	Alternative 1	Alternative 2
Summer:	hiking; horseback riding, except through Nemadji and Net river areas.	hiking; horseback riding with Wisconsin's cooperation.
Winter:	snowmobiling.	snowmobiling.

Specific Design Considerations and Associated Problems

Depending on the choice of alternatives, this trail segment could be extremely difficult to develop and to maintain. Alternative 1 would require the purchase of much private land, the use of some undesirable county road rights-of-way (which would be acceptable only as a temporary solution) and the crossing of some extremely steep slopes with fragile soils.

A walk-in trail wayside is proposed at the Net River just south of Holyoke providing campsites and a shelter.

Although the use of township roads for trails is generally acceptable, especially on roads with light traffic, as is the case with alternative 1, the use of county road rights-of-way should be avoided and can serve only as a temporary solution. Because of the area's remoteness, a special effort should be made to successfully route the trail through the small settlements of Holyoke and Pleasant Valley. The trail could benefit both communities if it were properly developed and maintained. Year-round use of the trail may encourage local businesses to expand and may also attract new businesses.

North of Holyoke the alignment is proposed to travel through several private land holdings before it crosses the Net River. Favorable locations for crossing over the Net River and South and North Forks of the Nemadji River have been identified. Because of the instability of the clay soils, bridge spans may have to be long and, con-

sequently, expensive to construct. Besides, big bridges would spoil the area's wilderness character and probably accelerate erosion of these fragile soils during and after construction. The north slopes of the valleys are especially difficult to deal with. The lack of undergrowth in the primarily coniferous stands of the north slopes and moist shady conditions allow the soils to slump in certain areas, even to a degree where trees are split in half by the force of the soil movement. During spring runoff and heavy summer rains, whole hillsides may go down the river. These conditions may make it difficult to establish and maintain an acceptable trail, let alone to maintain bridges. If adequate fords can be located, every effort should be made to use fords to avoid the construction of big, expensive bridges and to preserve the wilderness character of the area. It is believed that snowmobiling and hiking, the two designated uses in this area, could be accommodated without bridge construction.

In the aforementioned area, the trail would be located primarily on Carlton County forest land. Further development of the trail requires the continued cooperation of the county.

The DNR also should work closely with local town boards that have offered their cooperation in the development of the trail by permitting the use of certain township roads.

A walk-in trail wayside is proposed on state land at Mud Creek to accommodate primarily hikers and backpackers. Primitive campsites also will be available there.

The proposed access within the railroad right-of-way south of Wrenshall will serve primarily local trail users and will be developed to serve horseback riders as well. Although horseback riding on the trail traveling south may be desirable only as far as the proposed wayside facility at Mud Creek and will not be feasible through the Nemadji River area, the railroad right-of-way traveling east to the state line presents an excellent opportunity for such use. As mentioned before, a trail continues from there, joining Wisconsin's trail system. Although the Wisconsin portion of the trail to Superior is not fully developed, according to the Douglas County Forestry Department, it is designated as a multiple-use trail and therefore should be open for horseback riding also.

A small walk-in wayside facility, for day use only, should be developed at the state line.

At the state line an active railroad track crosses the abandoned railroad right-of-way between Wrenshall and Superior, Wisconsin. A similar situation occurs within Jay Cooke State Park, where the proposed trail needs to cross

an active track in the southern portion of the park. During the 1981 legislative session a bill was prepared to deal with this issue, but it was not introduced. The DNR will back the bill during the 1982 legislature. The bill would give the DNR the authority of eminent domain on sections of railroad rights-of-way pursuant to Minnesota Statutes, Section 219.072. An interim solution for the state line crossing may be the crossing of the active grade via County 4, which is located immediately south of the abandoned grade. An interim solution within Jay Cooke State Park is being investigated.

Within Jay Cooke State Park the trail is already developed and is routed through the western part of the park. In the northwest corner of the park the Minnesota-Wisconsin Boundary Trail meets the West Addition. (The West Addition will be addressed in the following sub-chapters on development segments.) The route through the park travels over alternately very rugged and low-lying terrain unsuitable for horseback riders. Therefore, the trail will be designated only for hiking and snowmobiling. The Minnesota-Wisconsin Boundary Trail alignment is the only snowmobile trail traversing the park from north to south; Jay Cooke State Park trails are designated primarily for ski-touring and hiking.

Alignment alternative 2 would be located primarily in Wisconsin. While the right-of-way between Wrenshall, Minnesota, and Superior, Wisconsin, has been abandoned since 1975, the right-of-way between Danbury, Wisconsin, and Superior is in category I of the abandonment schedule (potentially subject to abandonment). Initial contacts with the Douglas County Forestry Department in Wisconsin revealed that it is interested in acquiring the right-of-way for a multiple-use trail if it is abandoned. Table 9 compares both alignment alternatives for this trail segment.

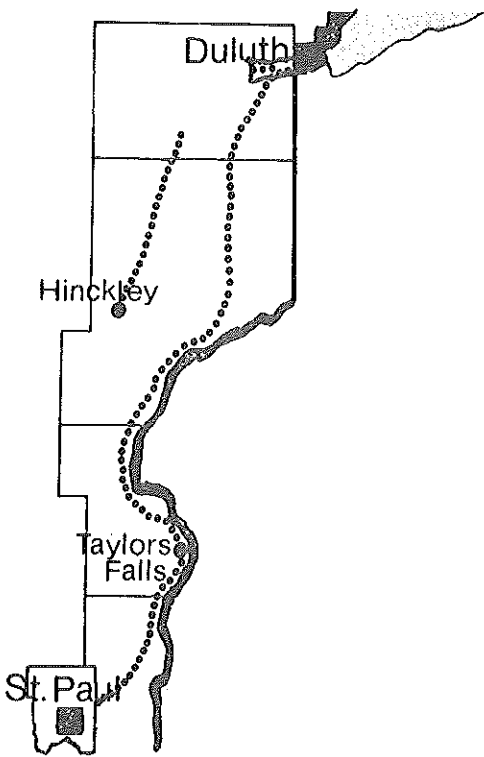
The DNR should pursue the acquisition and development of the railroad right-of-way (alternative 2) because of the advantages presented in Table 9. In addition, a two-state cooperative trail project, especially in the case of the Minnesota-Wisconsin Boundary Trail, appears to be an appropriate undertaking and in the interest of the public. At the same time, this alternative would greatly enhance the accessibility of other trail systems within both states. Predominant uses would most likely be snowmobiling, horseback riding and hiking with a future option for bicycling at least on the Wrenshall-to-Superior right-of-way. Bicycling would depend on public interest, the availability of funds, and the cooperation of Douglas County, Wisconsin.

TABLE 9

Comparison of Alignment Alternatives (segment 7)

A ₁ (Minnesota only)	A ₂ (Minnesota, Wisconsin)
1. Overall length of alignment 21 miles.	Overall length of alignment 42 miles.
2. Land ownership is primarily private, county and township (road right-of-way) and portends a time-consuming acquisition process.	Continuous right-of-way ownership by the railroad would afford an expeditious acquisition process if and when abandonment occurs.
3. Acquisition costs would be comparatively high (there are nine private landowners).	Acquisition costs for Minnesota would be minimal--only approximately one mile of additional acquisition. (Wrenshall-to-state line right-of-way was purchased in the fall of 1980).
4. Successful implementation would depend largely on willingness and cooperation of private individuals and local units of government.	Successful implementation would depend primarily on the actual abandonment of the right-of-way, Douglas County's interests and cooperation, and the railroad's interest in selling to a public agency.
5. The alignment would pass through areas of scenic beauty and cross three large river valleys.	Because of the nature of a railroad right-of-way, the alignment may be less scenic and monotonous at times.
6. Because of fragile soil conditions (so-called mud slide area), steep valleys and difficult river crossings, development and maintenance costs may be high.	Because the right-of-way is already established with only approximately six miles in Minnesota, development and maintenance costs will be comparatively low.

SEGMENT 8: CARLTON-TO-WEST DULUTH RAILROAD RIGHT-OF-WAY (see plate 15 of 19)



Objective

To emphasize interpretation of the geologic features in Jay Cooke State Park and the historic and cultural resources the Duluth area has to offer.

Satisfaction Index

B. The alignment runs for its entire length along an abandoned railroad right-of-way and therefore has the drawbacks inherent to a railroad grade.

Alignment

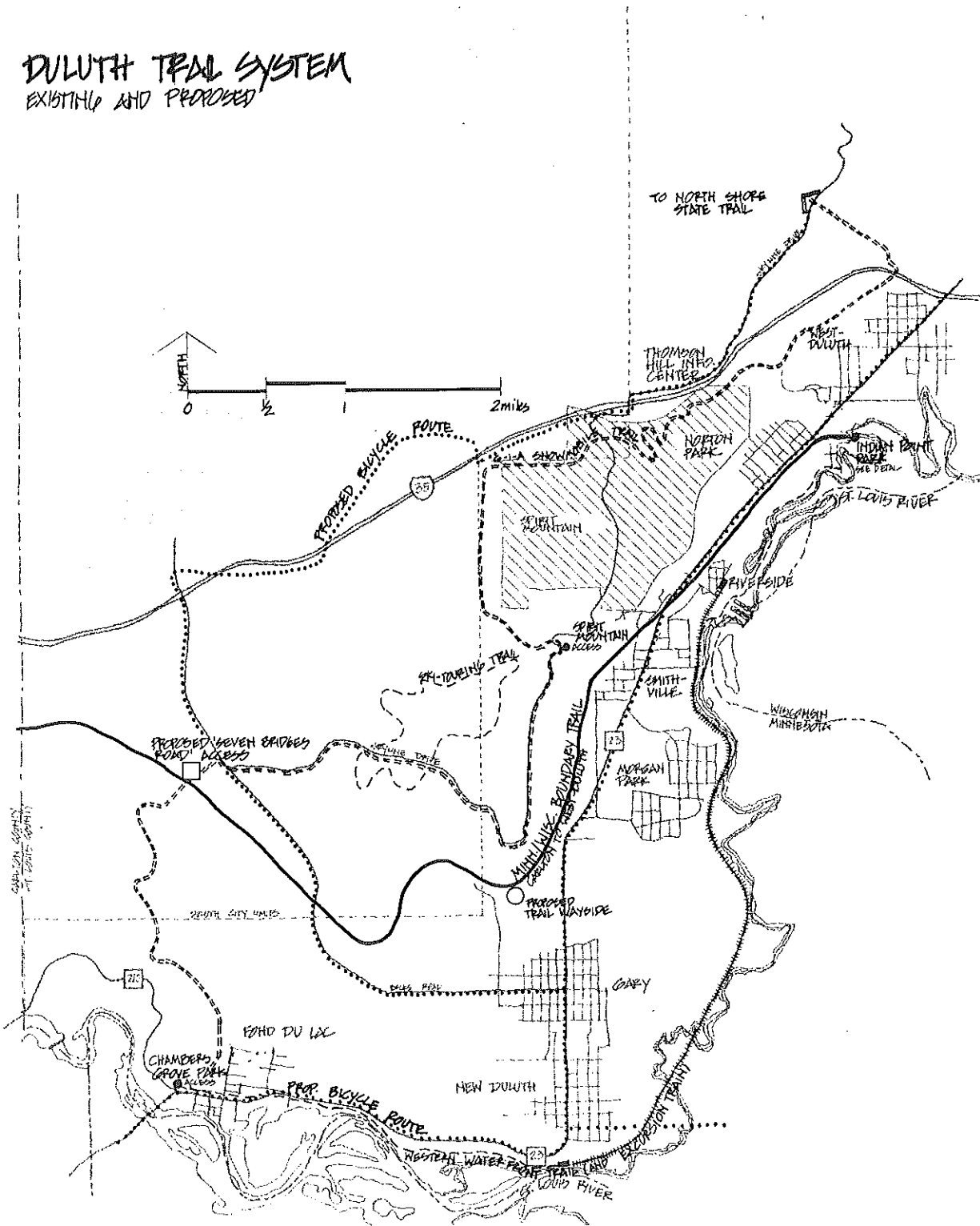
This 14-mile segment of the Minnesota-Wisconsin Boundary Trail's West Addition travels between Carlton and West Duluth and forms the trail link to Duluth and its trail system. The trail right-of-way commences at Carlton just east of County 3, where a small trail access is proposed to serve primarily local trail users. Within a short distance, the trail right-of-way enters Jay Cooke State Park and follows its northern boundary up to the "Brownell" crossing, where the park boundary takes an easterly course. The right-of-way continues to the northeast. An existing trail alignment into the park headquarters and main campground is proposed to serve as an access spur. Approximately two miles east of the park headquarters, near the Forbay Lake power station, a horse staging area (consisting of an access and picnic and camping facilities) is proposed. Another trail access is proposed in the vicinity of Seven Bridges Road, approximately seven miles east of Carlton. A local snowmobile trail, including the Spirit Mountain trails, continues from there north along the outskirts of Duluth. Horseback riders and snowmobilers presently also use the Seven Bridges Road down to Fond du Lac where the Chambers Grove Park access is located. A walk-in wayside is proposed approximately three miles south of the trail's terminus at Bardon's Peak. As the trail approaches Duluth, the area becomes increasingly scenic. The trail passes through rock cuts and offers panoramic views of the city and the harbor. The trail terminates at the city-owned Indian Point Park, where it will join the newly established Western Waterfront Trail, a city trail system for non-motorized uses in combination with a steam-train excursion line.

Predominant Uses

Summer: hiking and bicycling over the entire right-of-way; horseback riding between Carlton and the proposed Seven Bridges Road access.

DULUTH TRAIL SYSTEM

EXISTING AND PROPOSED



Winter: snowmobiling in designated areas.

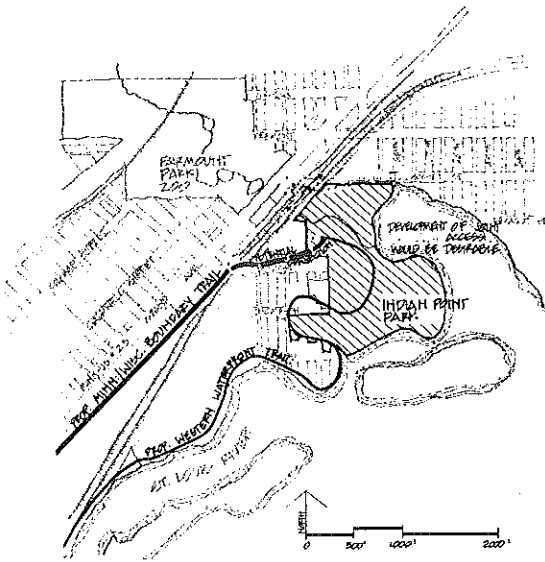
Specific Design Considerations and Associated Problems

Support Facilities: The proposed trail access facility in Carlton will be limited in size and provide access to the trail primarily for local snowmobilers, hikers and bicyclists. The reason for this decision is that existing facilities in Jay Cooke State Park already provide excellent service that can provide for the majority of trail users. Although the DNR has not established initial contacts with the city of Carlton or Burlington Northern, it expects to make a proposal that would involve the use of DNR-owned railroad right-of-way with additional right-of-way from Burlington Northern. Cooperation from the city of Carlton would be needed.

A trail now connects the railroad right-of-way, the park headquarters and associated camping facilities. To accommodate all designated uses, including bicycling, this trail should be improved to serve as a spur.

The proposed horsemen's area and access near Forbay Lake will be accessible via local roads and will be specifically designed for horseback riders. The site was suggested by the Division of Parks and Recreation as the most strategic and suitable of several alternatives investigated. The site had to be located in an area where enforcement of park rules and regulations could be carried out most efficiently. Loop trails and the railroad right-of-way provide ample opportunity for the horseback rider. The newly constructed loop trail at the Brownell crossing, which now ends at a scenic overlook, could in the future be connected to Seven Bridges Road. Present circumstances, however, make such a connection infeasible. Although Seven Bridges Road is closed to all motorized traffic by law, dirt bikes and other off-road vehicles nonetheless use this road frequently. Therefore, a trail connection between the existing horseback riding trail and Seven Bridges Road would provide an almost uncontrollable access for dirt bikers to enter the park, where they may damage the resources. Unless an effective method is found to deter dirt bikers from using Seven Bridges Road, this trail connection cannot be pursued.

A minor access facility is proposed where Seven Bridges Road intersects the trail alignment. This access will be limited to 5 or 7 parking spaces to serve primarily bicyclists and hikers. Accesses for snowmobilers exist already at Fond du Lac and Spirit Mountain. The Duluth Parks and Recreation Department's support and cooperation will be essential for the development of this access.



A trail wayside, for day use only, is proposed right below Bardon's Peak within the DNR-owned railroad right-of-way. In this vicinity trail users can view the panorama of the St. Louis River's multitude of islands and peninsulas.

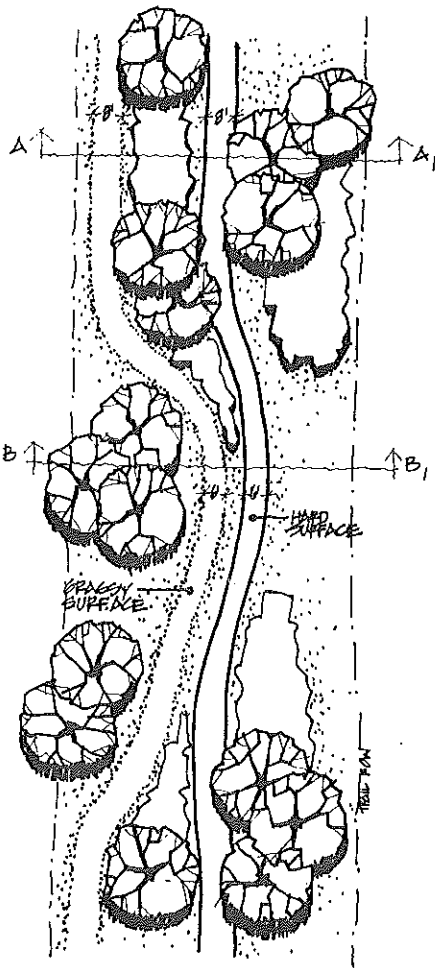
A major access is proposed within Indian Point Park, where the trail ends. This park is owned by Duluth but operated by the University of Minnesota-Duluth (UMD) and provides overnight camping and picnic facilities. The park extends down to the St. Louis River and its wetlands and at the same time is accessible from State 23 via a residential street. Initial contacts with the city's Parks and Recreation Department and UMD revealed that a jointly operated and maintained trail access would be feasible for summer uses. The park is closed during the winter.

Treadway: Two treadways are proposed between Carlton and the proposed Seven Bridges Road access to accommodate horseback riding in addition to bicycling, snowmobiling and hiking. The main treadway will occupy the original track bed and will be made of bituminous, unless a cheaper, equally suitable, surfacing material can be found. The two proposed accesses at Carlton and Seven Bridges Road, however, will not be geared toward providing access for horseback riders. The main access for horseback riders will be specifically designed for that use and established within Jay Cooke State Park.

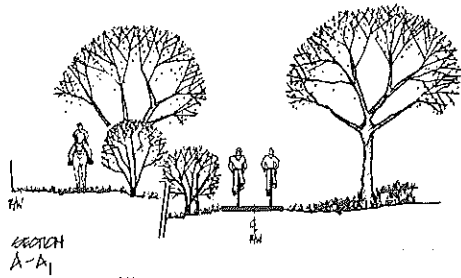
Where physical limitations on the right-of-way do not allow two separate treadways to be built, all users may have to share the main treadway. In those areas, both treadways would merge and gradually be narrowed from 8 feet to 6 feet. If at all possible, vegetation buffers should be established between the two treadways.

From Seven Bridges Road into West Duluth, approximately seven miles, the trail is proposed to have one treadway and serve bicycling, hiking and snowmobiling. The right-of-way narrows considerably through the several existing rock cuts and does not allow the development of a second treadway.

The original draft plan did not propose snowmobiling on the last seven miles of the Minnesota-Wisconsin Boundary Trail into West Duluth, because Indian Point Park is closed in the winter and the proposed Western Waterfront Trail prohibits all motorized uses including snowmobiling. However, information received during the public review of the draft plan revealed that a local snowmobile trail exists now that connects the communities of Riverside, Smithville and Morgan Park with the Spirit Mountain trail system. It also intersects with the Minnesota-Wisconsin Boundary Trail in the area. Therefore, the DNR decided



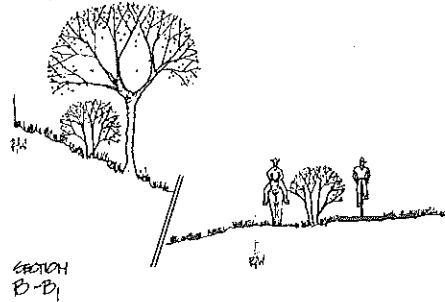
PLAN VIEW



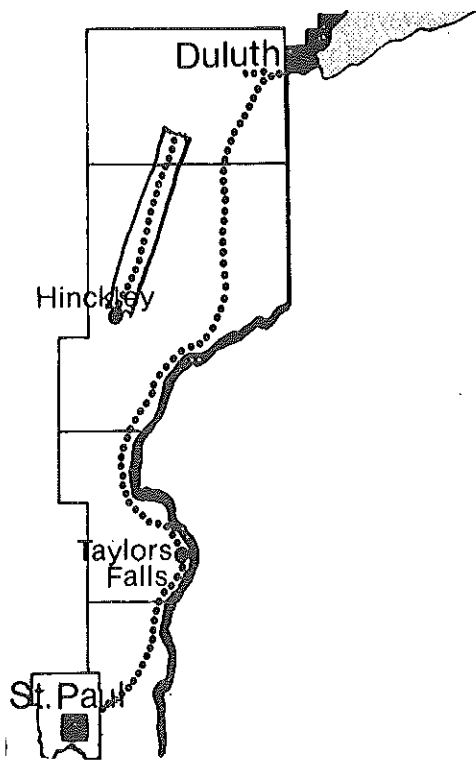
to allow snowmobiling on the proposed Minnesota-Wisconsin Boundary Trail to the point of connection with the existing local trail. The DNR, however, will not provide a snowmobile access facility in the area because it believes that existing snowmobile trail accesses at Spirit Mountain and Chambers Grove Park (Fond du Lac) are sufficient.

This trail segment and its main support facilities will be designed barrier-free to allow persons with physical disabilities to use the trail.

The plan further recommends that this segment of the West Addition become a part of the Minnesota-Wisconsin Boundary Trail, which then would have its terminus in Duluth rather than Jay Cooke State Park.



SEGMENT 9: WEST ADDITION--HINCKLEY-TO-BARNUM RAILROAD RIGHT-OF-WAY (see plates 16-19 of 19)



Objective

To capitalize on the historic significance of the railroad, the towns and other areas along this trail segment--places like Hinckley, Finlayson, Banning townsite and quarry, Skunk Lake and others.

Satisfaction Index

B. The alignment follows an abandoned railroad right-of-way, which is flat and straight.

Alignment

This trail segment is located for most of its length of 35 miles on an abandoned Burlington Northern right-of-way. It commences at Hinckley. A major access would be located in Hinckley. Two options are being considered. The right-of-way is for the most part straight and elevated above the surrounding land, which is made up of lowlands, farms and forest. At historic Banning Junction, six miles north of Hinckley, a spur bicycle route is proposed to lead via Sandstone into Banning State Park, where the proposed trail center and other existing park facilities will provide for the trail users' needs. Four miles north of Banning Junction another spur trail into Banning State Park is proposed for the snowmobiler and horseback rider. This spur would use existing township roads and would cross Interstate 35 on State 23 (also State 18 and County 61) before entering the park. Both spurs are proposed to form loops--the bicycle route to join the railroad right-of-way again in Finlayson via State 18 and the snowmobile and horseback riding trail to join the right-of-way again at Rutledge. A privately owned campground just south of Rutledge could serve users who prefer not to travel via Sandstone and Banning State Park. A day-use trail wayside is proposed next to the historic Northern Pacific railroad depot at Finlayson, which is run by the Pine County Historical Society.

Traveling north from Rutledge, the trail alignment closely follows old Highway 61 to Moose Lake. For much of the distance rows of pine trees line the east side of the right-of-way, visually separating the trail from the road and creating a desirable buffer. At Willow River an existing access within General C. C. Andrews State Forest and a nearby forest campground will serve the trail user and provide access to existing state forest loop trails meant for various uses.

About six miles north of Willow River, just south of the Pine-Carlton county line, three privately owned campgrounds and resorts are accessible to the trail user. A major access facility is proposed at the southern limits of Moose Lake.

From this access the snowmobile route would turn east and then enter Moose Lake Recreation Area to continue around the east side of Moosehead Lake and join the abandoned railroad right-of-way (Moose Lake-Barnum) at the northern limits of Moose Lake. Bicycling would be provided along road rights-of-way through the city with a link to the Moose Lake Recreation Area. Aside from Moose Lake Recreation Area facilities, there is also a municipal park and campground at the northwestern tip of Moosehead Lake. From the northern city limits, the trail would continue approximately four miles to Barnum on the abandoned Burlington Northern railroad right-of-way, which abuts Highway 61. Here a proposed minor access would serve primarily local trail users. Camp Wanakiwin, a youth hostel and girls' summer camp, is located on nearby Hanging Horn Lake and is accessible from Barnum and Moose Lake.

Beyond Barnum, connecting trail routes to Carlton would consist of a bicycle route on county roads to Carlton and grant-in-aid snowmobile trails to Carlton (see Section VI, Overall Minnesota-Wisconsin Boundary Trail System, and plates 19, 14-15 of 19).

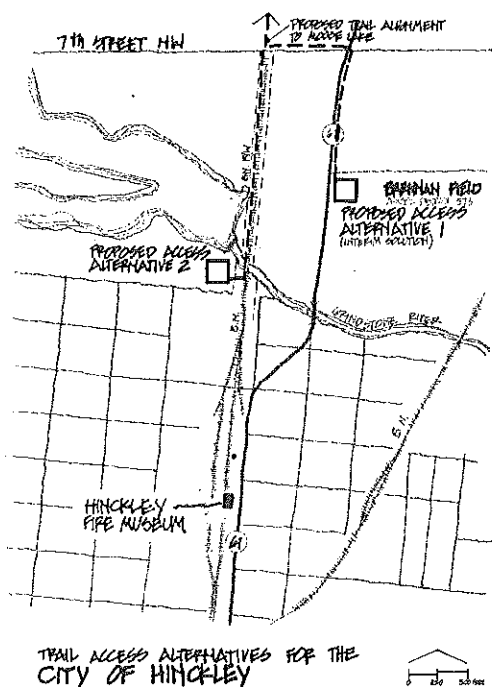
Predominant Uses

Summer: bicycling and hiking throughout. Horseback riding loop trail within the railroad right-of-way via Banning State Park to Rutledge and beyond into General C. C. Andrews State Forest--a 30-mile trail system; main access would be provided at the proposed Banning State Park trail center.

Winter: snowmobiling.

Specific Design Considerations and Associated Problems

Support Facilities: Two trail head facilities are being considered in Hinckley. Access alternative I would be at Brennan Field, a sport facility owned by the Hinckley Independent School District. The district has expressed willingness to cooperate with the DNR so that an access facility could be provided as soon as possible to assure adequate parking areas. The Brennan Field parking facility, which now is filled only during the football season, could accommodate snowmobilers in the winter and bicyclists and hikers in the summer. However, the trail



user would have to travel approximately one mile on city roads to reach the trail.

Access alternative 2 would be located immediately south of the Grindstone River railroad bridge. Burlington Northern has agreed to lease part of its right-of-way to the DNR to bring the trail farther into the city. The access should be built on state land next to the bridge (alternative 2), if at all possible.

The DNR believes that every effort should be made to extend a trail right-of-way to the historic Hinckley Railroad Depot. The depot houses a museum and has a regular program that tells about the Great Hinckley Fire of 1894. Neither alternative 1 nor 2 are seen as permanent. The long-range plan calls for a permanent major access at Hinckley.

The spur trails into Sandstone and Banning State Park will allow the trail user to enjoy Sandstone's municipal Robinson Park. One proposal calls for a scenic hiking trail along the Kettle River into Banning State Park. It would pass through old quarries and caves and provide frequent views of the river.

The proposed trail center at Banning (the state park management plan was approved in 1980) will provide access for all designated uses. Existing and proposed campgrounds and other facilities in the park will also cater to the trail users' needs.

A spur trail through Sandstone could be especially important for bikers and hikers who wish to use public transportation to get to the trail. The Amtrak train that runs between Duluth and the Twin Cities stops in Sandstone and could provide increased accessibility to the trail.

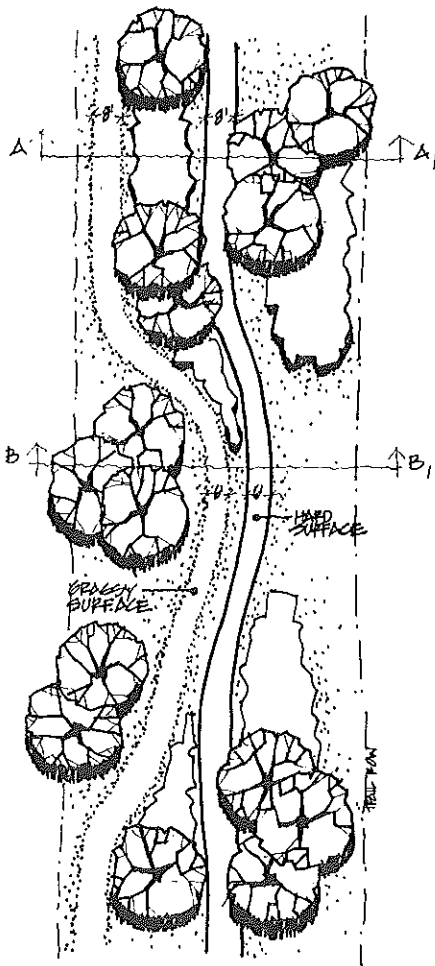
At Finlayson a day-use wayside is proposed at the historic railroad depot, which now houses a small museum and has a caboose on the site. This day-use facility will be developed in close coordination with the Pine County Historical Society and the city of Finlayson. The plan suggests that the existing platform in front of the building be restored and possibly even be extended across the treadway to create a picnic day-use area overlooking a marsh. Possibly a plank walk could join the caboose, which houses historic artifacts of the area.

Because of the strategic location of an existing public access in Willow River, just within the boundary of General C. C. Andrews State Forest, this site could serve the West Addition and the state forest trails at the same time. The site is owned by the DNR, but Willow River recently expressed interest in expanding, operating and

Lake to the northern city limits; from there the trail could continue on the railroad right-of-way. This bypass would be primarily for snowmobiling. Aside from passing through state hospital grounds and several private parcels (arrangements must yet be made), the trail would also join the existing trails within Moose Lake Recreation Area. Unfortunately, the only trail connection to existing trails and park support facilities on the east side of Interstate 35 is the bed and banks of the Portage River. A connection via the State 73 right-of-way, however, could serve as an alternative.

Bicycle traffic will be routed through the city, past a municipal park and campground on the lake. Bicyclists also would have to use the State 73 bicycle route to enter the Moose Lake Recreation Area.

A minor access would be established at Barnum. This access would serve primarily local needs. A youth hostel on Hanging Horn Lake (located halfway between Moose Lake and Barnum and to the east of the railroad right-of-way) is accessible from Moose Lake and Barnum. This youth hostel is open to the general public from October through May but serves as a girls' camp during the summer.

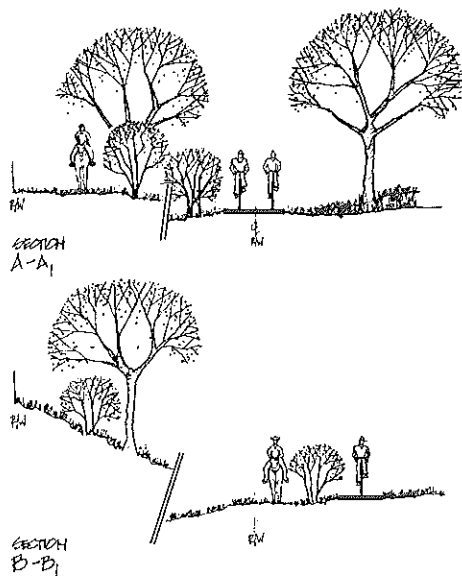


PLAN VIEW

Treadway: The trail alignment will be located on the abandoned railroad right-of-way with the main treadway to be developed on the original grade. The surface will be bituminous unless cheaper materials equally suitable for bicycle riding can be found. Perhaps finely crushed rock will suffice. The general width of the treadway will be 8 feet with 2-foot shoulders. In the area south of Finlayson, where the proposed spur trail into Banning State Park intersects with the trail right-of-way, a second treadway will be established. This second treadway will extend to Willow River and will be developed for horseback riding. It will consist of a 6-foot-wide to 8-foot-wide mowed treadway paralleling the main treadway. In areas where developable space is limited by steep side slopes and bridge crossings, both treadways will be located on the main grade. In such instances both treadway widths will be reduced to a minimum of 6 feet. The change in treadway width should occur gradually for reasons of safety and appearance. If possible, a vegetation buffer should separate both treadways.

Most of this trail segment and its main facilities will be designed barrier-free to allow use of the trail by those who have physical handicaps.

Public road rights-of-way must suffice as spur routes for bicycling into Sandstone, Banning State Park and the Moose Lake Recreation Area. Approximately six miles of



the 10-mile Banning bicycle spur has paved shoulders since fall of 1981, according to the Department of Transportation. The approximately 1.5-mile spur route on State 73 leading to Moose Lake Recreation Area at Moose Lake is a designated bicycle route.

Most of the 11-mile-long spur trail for horseback riding, hiking and snowmobiling through Banning State Park will be developed as a state park trail. A remaining four miles are proposed to be located on local township roads, if the cooperation of local units of government can be assured.

A single treadway between Moose Lake and Barnum will be developed on the abandoned Burlington Northern right-of-way for snowmobiling, bicycling and hiking. This alternative is now proposed since the shoulders of Highway 61 will not be paved to improve the highway's poor condition for bicycle riding. A suitable bicycle route has been identified along county roads between Barnum and Carlton. Snowmobiling trails are already established on local grant-in-aid trails between Moose Lake and Carlton and between Moose Lake and the Nemadji State Forest with the exception of a 3-mile gap between Iverson and Carlton. The DNR encourages the local snowmobile clubs to close the gap with the assistance of the grants-in-aid program.

An issue discussed frequently in public meetings is that of hunting and trapping on this trail segment. State Trails Rules and Regulations (NR 20) permit hunting and trapping on state trails. This issue is further addressed in Overall Trail Design Recommendations later in this section because it pertains to all railroad rights-of-way on the Minnesota-Wisconsin Boundary Trail and West Addition.

Where the trail right-of-way passes through communities, houses sometimes are near the proposed trail. Where there would be a loss of privacy because of the trail, the plan recommends that buffer plantings be established to mitigate adverse impacts.

The plan recommends further that this trail segment have its own identity and not merely be called the West Addition of the Minnesota-Wisconsin Boundary Trail. This recommendation was also made by a citizen advisory task force formed to advise the DNR on development and management issues for this trail segment. There are two reasons this segment should have its own identity. First, the right-of-way has historic significance as a section of the first railroad between the Twin Cities and Duluth. Second, the trail segment is physically detached from the Minnesota-Wisconsin Boundary Trail and could well be a state trail on its own merits. The task force suggested

that the trail be named the Northern Pacific Trail. It could also be named the Hinckley Fire Trail because some of the historic sites recall this incident.

Back in 1979, in the early stages of the planning process, the DNR proposed a trail corridor between Chengwatana State Forest and the railroad right-of-way at Hinckley to link the railroad right-of-way to the Minnesota-Wisconsin Boundary Trail. Several alignment alternatives were investigated, but none appeared to be feasible for the following reasons:

1. Lack of cooperation of major private landowners.
2. The small portion of public land available in the area consists of low-lying land and would not be suitable for trail uses in the summer.
3. When Interstate 35 was established, all existing local roads entering Hinckley from the east were cut off with the exception of State 48, which is fairly heavily traveled and would not be suitable for a trail. Also, directing the trail under the freeway along the banks of the Grindstone River proved infeasible. The banks are too narrow and all but disappear in the spring because of high water. Moreover, vertical clearance is not sufficient to be safe for trail uses.

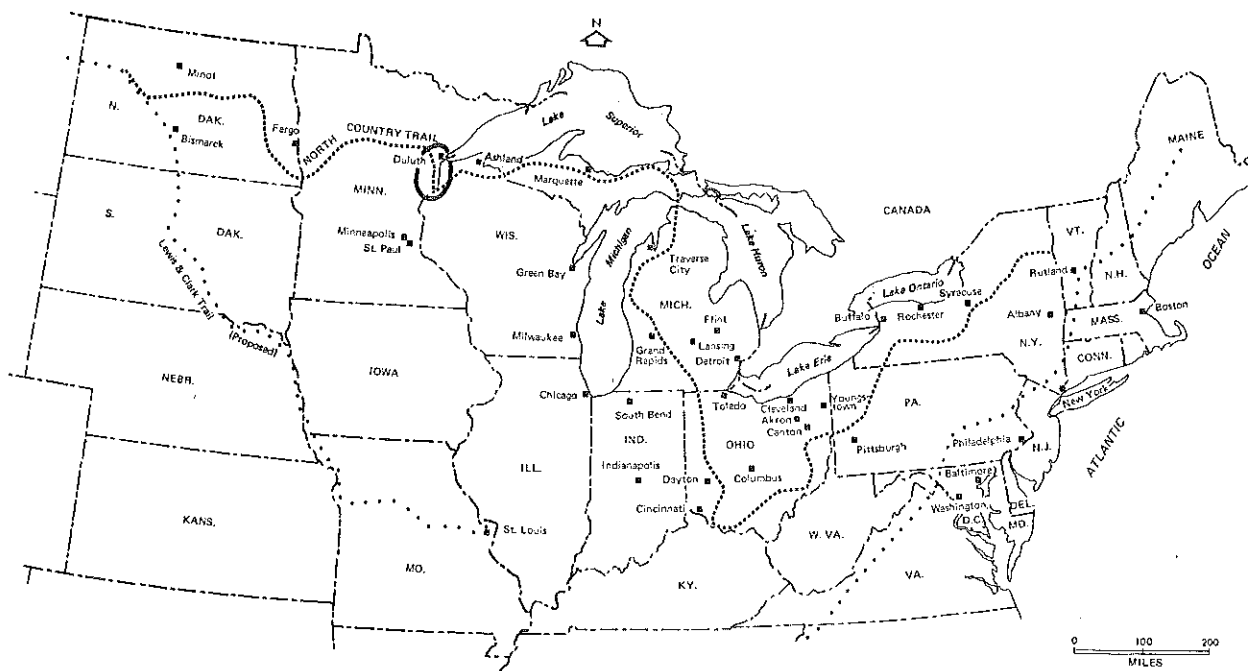
At the draft plan review meeting in Hinckley (December 17, 1981), strong interest was expressed for a connecting trail between Hinckley and the Minnesota-Wisconsin Boundary Trail in Chengwatana State Forest. Because snowmobiling was the primary use desired the DNR urged the local snowmobile clubs to establish a grants-in-aid trail. If significant demand for a permanent trail connection becomes apparent in the future the DNR then would make an effort to accomplish that goal.

NORTH COUNTRY NATIONAL SCENIC TRAIL

The Minnesota-Wisconsin Boundary Trail alignment between St. Croix State Forest and Jay Cooke State Park (development segments 6 and 7) has the potential to accommodate the alignment of the proposed National Scenic North Country Trail, according to the U. S. Department of the Interior.

In 1968, when Congress enacted the National Trails System Act, the North Country Trail was one of 14 named to be studied. The act has been amended several times since then; it was last amended in March 1980 (P.L. 96-199).

Although a connection to the Appalachian Trail is desirable, the legislation authorizing the North Country National Scenic Trail states that it extends from the vicinity of Crown Point eastern New York state through Pennsylvania, Ohio, Michigan, Wisconsin and Minnesota to the vicinity of Lake Sakakawea in North Dakota (see map below).



The potential trail segment in Minnesota extends from near Danbury, Wisconsin, to Breckenridge, Minnesota. The entire length in Minnesota would be 389 miles. Finally, the trail segment of concern to this plan extends between St. Croix State Forest and Jay Cooke State Park.

The establishment and management of the trail is to be carried out by all levels of government and the private sector, the North Country Trail Association and similar organizations as a cooperative effort. The establishment of a National North Country Trail Council and affiliated State Councils has not been decided. It was an example provided in the 1975 study report. Overall administration, guidance and leadership will be provided by the National Park Service. Actual administration of the trail will be carried out by cooperating Federal, State and local agencies and private trail organizations.

The federal act precludes the use of motorized vehicles, including snowmobiles, on all segments of the trail, including the area of concern, the Minnesota-Wisconsin

Boundary Trail from St. Croix State Forest to Jay Cooke State Park. Approximately two-thirds of this trail alignment has been developed for several years now; the predominant use is snowmobiling. Because the treadway passes through some unavoidable low areas, the trail is best suited to winter use. For many snowmobilers the trail is a preferred and well-known facility. To eliminate snowmobile use from this stretch of the Minnesota-Wisconsin Boundary Trail to accommodate the North Country National Scenic Trail would not be in the best interest of Minnesota trail users and, therefore, unacceptable to the DNR. If a compromise cannot be negotiated on this issue, the plan recommends that a separate alignment be developed for the North Country National Scenic Trail.

OVERALL TRAIL DESIGN RECOMMENDATIONS

The following paragraphs outline several overall design solutions for the trail. Many of the recommendations deal with the trail segments on railroad rights-of-way. The recommendations are meant to foster a positive relationship between trail users, affected landowners and communities. Some of these recommendations may help those communities to realize economic benefits from the trail. Other recommendations deal with competing and conflicting uses of the trail and its support facilities.

Some of the following considerations and recommendations were adapted from a design study prepared by the DNR, Trails Planning Section, in February 1981.

Accessibility

Where the trail passes through a community, which occurs primarily where the trail follows a railroad right-of-way, every effort should be made to tie together nearby points of interest and to point out available services to the trail user. To cater to local needs, trails should connect to local school and sport facilities. To accomplish these objectives, the DNR could assist in laying out a plan of action relying, to the greatest extent possible, on local resources. Efforts should be made to direct trail users into the center of a community. Local businesses could be encouraged to tailor their services increasingly toward trail users' needs, thereby realizing economic benefits (as some businesses are doing along the Heartland Trail). The joint use and operation of local recreational facilities should be given strong consideration. With the DNR's financial assistance, facilities could be expanded, improved and jointly operated. Communities can apply for grants from state agencies such as the Department of Energy, Planning and Development (DEPD), which distributes money to towns for trails and other recreational facilities.

Trail users should be made aware of public transportation possibilities to and from communities. Amtrak and buses are available along segments of the trail. (See also Section III, Accessibility.)

Trail maps and related brochures should indicate local points of interest, services and recreational facilities that could be of interest or use to the trail user. Information given at trail centers, accesses and waysides could also greatly enhance the trail user's opportunity to learn about and enjoy local resources.

Private driveways and roads and public roads frequently cross the railroad rights-of-way used for the Minnesota-Wisconsin Boundary Trail and West Addition. While existing and proposed public road crossings can be dealt with through local and state government entities, dealing with the numerous existing and proposed private crossings can be extremely time-consuming because circumstances vary so much and there are so many landowners to deal with. The DNR, therefore, has established several policies that address this issue. (See Natural and Cultural Resource Management later in this section.)

Public road/trail intersections occur frequently, especially along trails established on railroad rights-of-way. Those intersections can invite unauthorized use of the treadway and illegal parking along roadways to access the trail.

In a cooperative effort between the DNR, Mn/DOT and local road authorities, road intersections will be signed appropriately to deter illegal parking.

Unauthorized use of the treadway via public road intersections will be discouraged by proper signing and enforcement of rules and regulations. In specific problem areas where unauthorized use occurs frequently, the DNR will install a collapsible baffle gate and fencing. Such devices would be very costly if installed automatically at each intersection. Therefore, the DNR will install such gates with discretion where absolutely necessary.

Invasion of Privacy of Adjoining Landowners

Invasion of privacy is a potential problem, especially on railroad right-of-way trail segments. It has been discussed at many public meetings and is feared by many adjoining landowners. Admittedly, loss of privacy can occur in areas where houses are close to the right-of-way, as they are in communities such as Thomson, Willow River, Finlayson, Rutledge, Sturgeon Lake and West Duluth. Several methods are offered here to mitigate the problem. Lest trail users approach houses to use telephones, toilets or drinking water, the DNR should install phones at access sites, frequently install signs for available services, and provide drinking water and toilet facilities at many waysides. Another way to mitigate the loss of privacy could be to locate the trail treadway to the far side of the right-of-way, providing generally 80 feet of additional distance between the trail and houses that are located closely along one side of the right-of-way. Dense vegetative buffers could be established to screen nearby houses on both sides of the right-of-way. Some homeowners may take the initiative to erect privacy fences. The plan recommends that the DNR reimburse a portion of the costs.

Land exchange could be an additional solution in areas where the trail right-of-way would dissect farm yards, pastures or fields. Terms for this solution would have to be worked out on an individual basis.

The noise of snowmobiles may be considered another aspect of invasion of privacy. The DNR or local governments could impose nighttime curfews to mitigate this problem. The DNR and affected individuals may be able to reach additional solutions.

Conflicting and Competing Uses

Problems in this category can occur between trail users themselves, trail users and adjoining landowners, or local communities and the DNR.

One of the major conflicts between trail uses has been between ski-touring and snowmobiling. These uses cannot be adequately accommodated on the same treadway or even within a railroad right-of-way. Although ski-touring may be done on snowmobile trails, the experience may be less than satisfactory. To offset this conflict as best as possible, the plan proposes to separate treadways (much more than the 100 feet allowed by a typical railroad right-of-way) or to allow only one of the two uses on a particular stretch.

Both uses differ greatly in their requirements. Snowmobiles travel much faster than cross-country skiers do. A snowmobiler may prefer a long, linear trail while a cross-country skier may prefer a loop trail. Although the opportunity is given to ski the entire Minnesota-Wisconsin Boundary Trail and West Addition, the plan recommends that emphasis should be given to create good loop trails for skiers in nearby DNR management units or local recreation areas. These loop trails should be linked with the Minnesota-Wisconsin Boundary Trail and West Addition and its support facilities whenever it is feasible and compatible to do so.

To a certain extent, horseback riding and hiking, two uses which are proposed on the same treadway, have been seen by some people as conflicting uses. The potential for conflict does exist, especially as use increases. Careful monitoring of trail use through frequent user surveys could help to identify and remedy arising conflicts before they become serious.

Inquiry was made about the use of dogsleds on the Minnesota-Wisconsin Boundary Trail and West Addition. During the preparation of the statewide DNR Trail Plan dogsledding was one of the issues identified. Dogsledders are presently using snowmobile trails to some extent, but no conflicts have been reported. Therefore, dogsleds may use the snowmobile treadways on the Minnesota-Wisconsin Boundary Trail and West Addition. Monitoring of trail use will reveal if and when conflicts occur. The DNR then can deal with them. In case of special dogsledding events, such as an annual race, the DNR has to be contacted ahead of time for special permission. Only then can the DNR make needed arrangements such as closing the trail segment to other uses for the duration of the event.

Hunting and trapping are permitted uses on all existing state trails (State Trails Rules and Regulations NR 20), including those located on abandoned railroad rights-of-way. This subject was discussed at all public workshops and meetings and was considered an issue of major importance because of its effect on at least two major interest groups, trail users and the adjoining landowners. The trail users' and adjoining landowners' main concern was safety. Landowners also felt that trespassing would be invited. After trying to investigate and evaluate all aspects of hunting on the railroad rights-of-way of the Minnesota-Wisconsin Boundary Trail and West Addition, the DNR decided that hunting and trapping should not be allowed--at least initially--for the following reasons.

On other state trails that follow railroad rights-of-way, hunting does not appear to be a major use, but bicycling is. Abandoned railroad rights-of-way seem to be best suited to bicycling. Moreover, if the state spends the considerable sum necessary to develop a bicycle treadway, it would make sense to put it to as good a use as possible. To draw people (families especially) to use these trails, the trails would have to be as safe as possible. By initially allowing hunting and trapping on the trail, other trail users could be deterred from using the trail. Furthermore, most trail activities in Minnesota are most enjoyable during late summer and fall because it is cool, the mosquitoes are gone and the fall colors enhance the experience. Coincidentally, fall is also the time when hunting season opens. If, after several seasons of use monitoring, it appears that trail use is light, hunting should become an additional use.

Another example of competing uses is the DNR's interest in establishing a trail and the adjoining landowners' interest in using the right-of-way for their own purposes--agricultural, commercial or other. If existing leases are carried over from the railroad company, the DNR honors those leases. However, adjoining landowners encroaching illegally onto the trail right-of-way will be prosecuted. In case of a competing commercial interest, such as that in Moose Lake, the DNR has expressed willingness to negotiate to reroute the trail or restrict the width of the trail right-of-way.

Support Facilities

Trail support facilities--accesses, day-use waysides, camping waysides (see figure 8) and shelters (see figure 9)--have been identified and discussed within the subchapters for individual development segments. Figure 7 illustrates the spacing of support facilities along the Minnesota-Wisconsin Boundary Trail. Figure 7 does not include the

SPACING OF TRAIL SUPPORT FACILITIES BY MAJOR TRAIL USE BETWEEN OAKDALE (500-LINE) AND JAY COOKE STATE PARK

TRAIL MILE	EXISTING FACILITIES	SITES	NORTH ↓	MILES BETWEEN FACILITIES				
				TRAIL ACCESS	HIKING CAMPING	HORSEMAN'S AREA	SNOWING SHELTER	SKI-TOURING SHELTER
0	P	OAKDALE		P				
10	EX*	PINE POINT PARK (WASHINGTON COUNTY)		P	10	10		
19	E	WILLIAM O'BRIEN STATE PARK		P				
25	P	CEDAR BEND (WASH./CHENGO CTY. LINE)		P				
25	P	CEDAR BEND (WASH./CHENGO CTY. LINE)		P				
33	E	INTERSTATE STATE PARK (CAMPGROUND)		P	9			
34	E	INTERSTATE STATE PARK (NORTH)		P	2	11		
36	P	LION'S CLUB PARK (TAYLORS FALLS NORTH)		P				
44	E	WILD RIVER STATE PARK, SOUTH		P	9			
45	EX*	WILD RIVER STATE PARK, TRAIL CENTER		P		3		
47	E	WILD RIVER STATE PARK, MAIN CAMPS.		P	9			
54	E	SUNRISE RIVER (WILD RIVER STATE PARK)		P		0		
55	EX*	GOOSE CREEK (WILD RIVER STATE PARK)		P		5		
60	EX*	RUSH CREEK		P	12			
66	P	CHENGO COUNTY ROAD #5		P		10		
70	P	HIGHWAY #70, SOUTH		P				
73	E	HIGHWAY #70, NPS HEADQUARTERS		P	1			
73	E	HIGHWAY #70, NPS HEADQUARTERS		P	3	9		
76	EX*	SNAKE RIVER		P				
79	EX*	RED HORSE CREEK		P				
86	E	BIG EDDY (ST. CROIX STATE PARK)		P	21	7		
97	E	ST. CROIX STATE PARK (TRAIL CENTER)		P		11		
103	E	CROOKED CREEK (ST. CROIX STATE PARK)		P		6		
112	E	ROCK LAKE FOREST CAMPGROUND		P	21			
114	E	TAMARACK RIVER		P		9		
118	E	GRACES LAKE		P				
121	P	MC DERMOTT CREEK (NEAR DUKEBURY)		P		9		
132	P	KEENE CREEK		P		11		
138	EX*	NEMADJI STATE FOREST, SOUTH		P	30	6		
148	EX*	PICKEREL LAKE, FOREST CAMPGROUND		P		10		
154	E	NEMADJI STATE FOREST, NORTH		P	6			
156	P	NET RIVER		P		8		
156	P	NET RIVER		P	15	10		
166	P	MUD CREEK		P				
170	P	WRENTHAM, RAILROAD RW		P		8		
175	E	JAY COOKE STATE PARK (HEADQUARTERS)		P	5			

- EX* EXPAND EXISTING FACILITY
- NOT DESIGNATED FOR SPECIFIC TRAIL USE
- Ⓣ PUBLIC TRANSPORTATION AVAILABLE

FIGURE 7

West Addition because of its location on railroad rights-of-way passing through several communities that provide most of the services needed and that are ideal for accesses. In addition, preferred trail uses on the West Addition will most likely be snowmobiling, bicycling and horseback riding. Snowmobilers and bicyclists in particular move quickly, making fewer facilities necessary.

In the discussions of trail development segments, the terms "minor" and "major" are applied frequently to accesses. Two typicals in figures 10 and 11 outline the specific design differences. Minor accesses are designed primarily for use by local residents.

In general, minor access sites will not be equipped with restroom facilities or drinking water initially. However, if through careful monitoring a demand can be identified, the DNR will provide for these facilities. The day-use waysides proposed along the trail will have restroom facilities but will not provide drinking water initially. Providing for drinking water will again depend on the frequency of use and established need at any particular site.

In areas where the hiking and ski-touring trail along the St. Croix comes upon existing canoe and boating route campsites, the trail users will share the facilities with the canoeists for the time being. These instances occur primarily within Wild River State Park and Chengwatana State Forest. Regular monitoring of trail use again will show if these sites are used beyond capacity. In the case of overuse, separate facilities would be developed for the trail user. All walk-in waysides that cater to ski-touring would have Adirondack shelters.

Trail signs within the developed part of the Minnesota-Wisconsin Boundary Trail (Snake River to Nickerson) presently comply with the DNR Sign Manual. Wooden pressure-treated posts are used with the metal or routed wood signs. Every year many signs are replaced because of vandalism. The metal signs are shot up, bent, and pulled off the posts; even the posts are pulled out of the ground. Because this trail segment passes through remote areas and extensive wetlands, to haul equipment such as posts, signs, and a posthole digger is difficult and sometimes only possible when the ground is frozen. Frozen ground, however, renders the task of setting posts more difficult. This process of signing the trail appears laborious and expensive.

The plan would suggest that the DNR Sign Committee consider allowing more flexibility in signing the trail. The plan suggests that stencils and paint be substituted for posts and metal signs for at least part of the trail. Signs such as reassurance markers, directional signs and caution signs could be painted on trees, rocks or other fixed objects. The plan recommends that this method be tried on the Minnesota-Wisconsin Boundary Trail in Nemadji, St. Croix and Chengwatana state forests outside National Park Service land. A cost comparison reveals that labor costs alone could be reduced by 60 percent; the cost of posts and signs, of course, would be eliminated.

Detailed trail design and construction specifications including items such as treadway cleanup, trail grading, drainage, signing, bridge construction, support facilities, to name a few, are addressed in the DNR's Trail Manual. This manual also outlines the procedures and policies for acquisition, implementation and maintenance of trails in general and shall be applied to the Minnesota-Wisconsin Boundary Trail.

TRAIL CAMPSITE TYPICAL

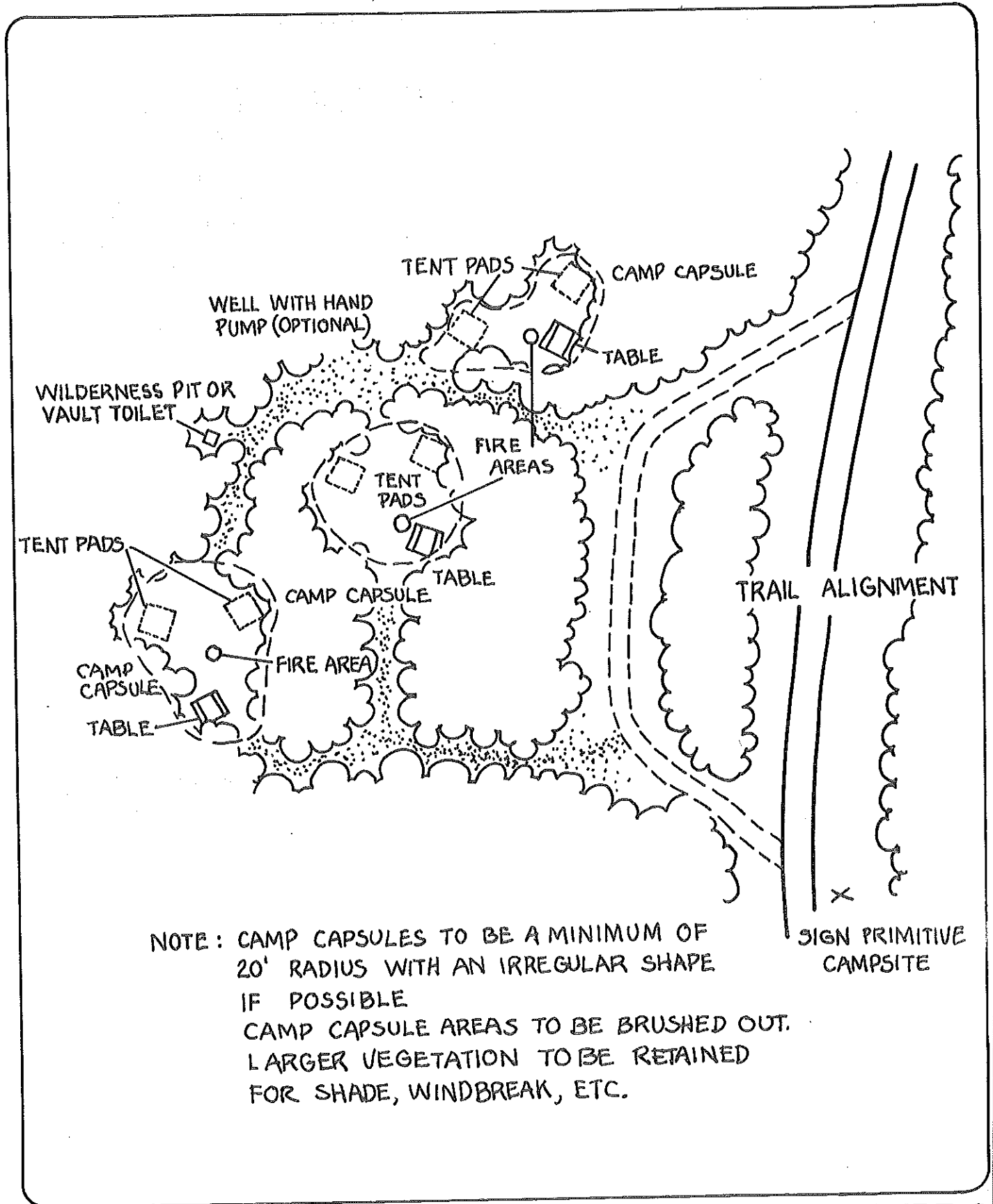


FIGURE 8

TRAIL WAYSIDE SHELTER

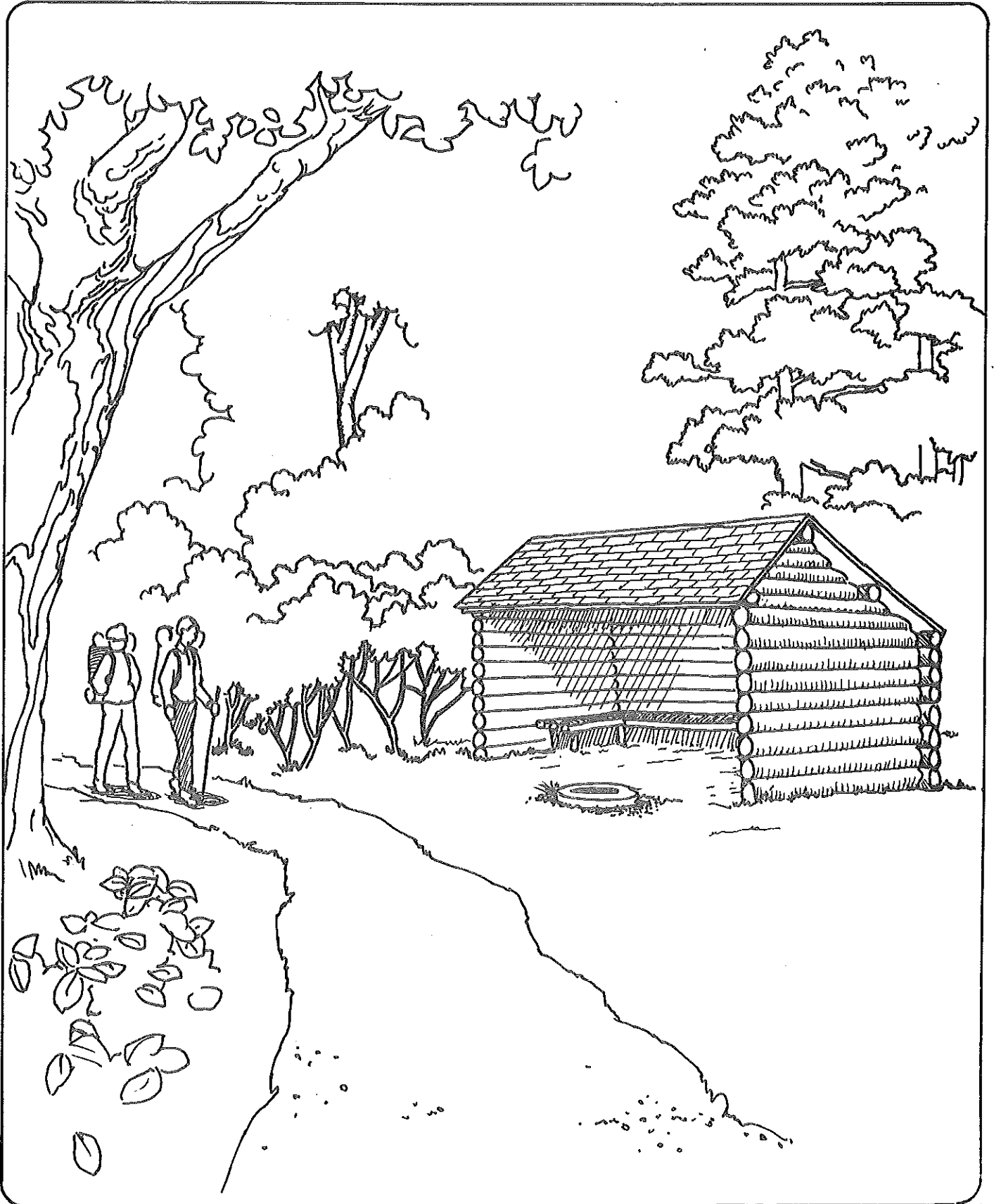


FIGURE 9

MAJOR ACCESS TYPICAL

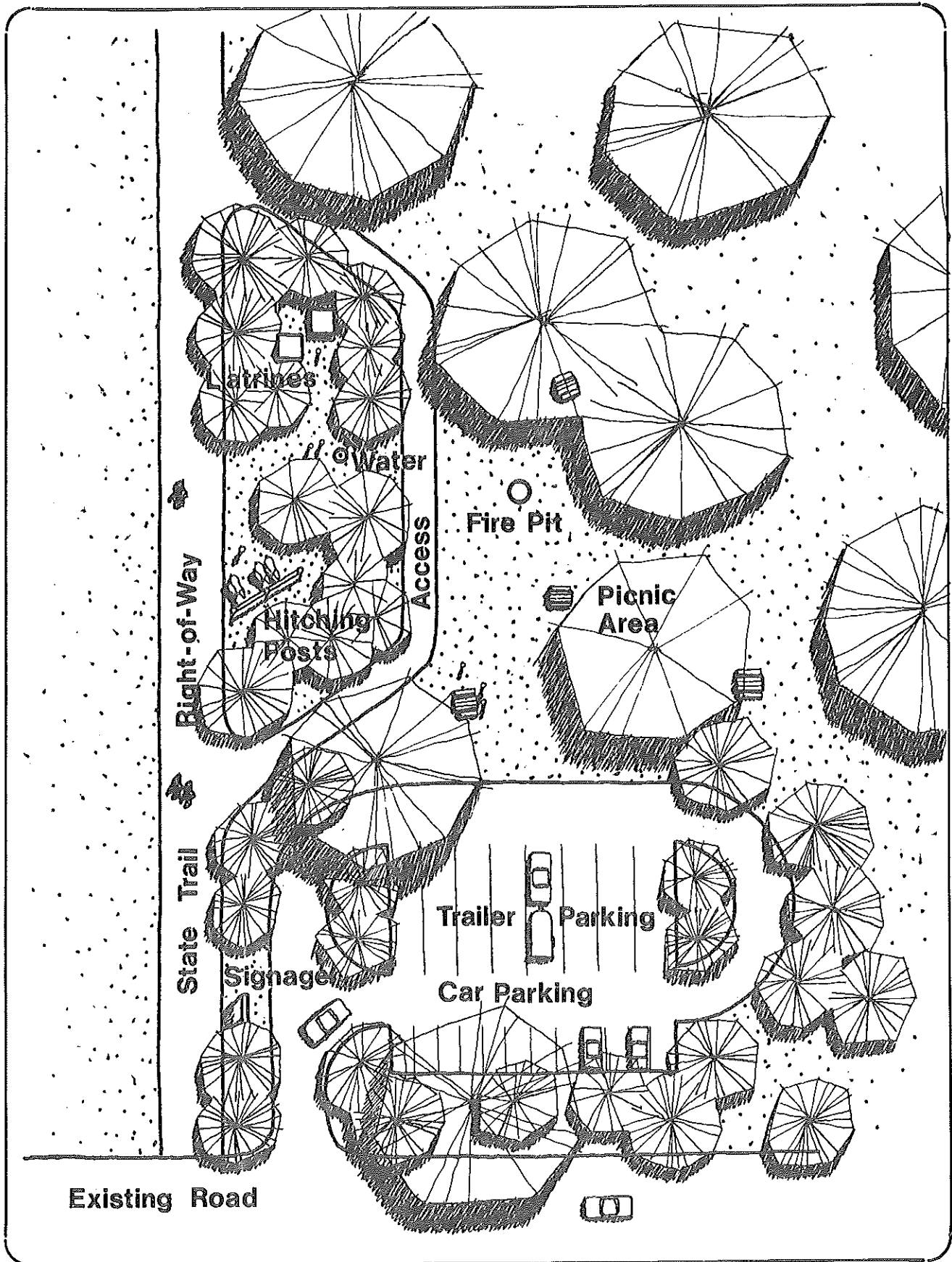


FIGURE 10

MINOR ACCESS TYPICAL

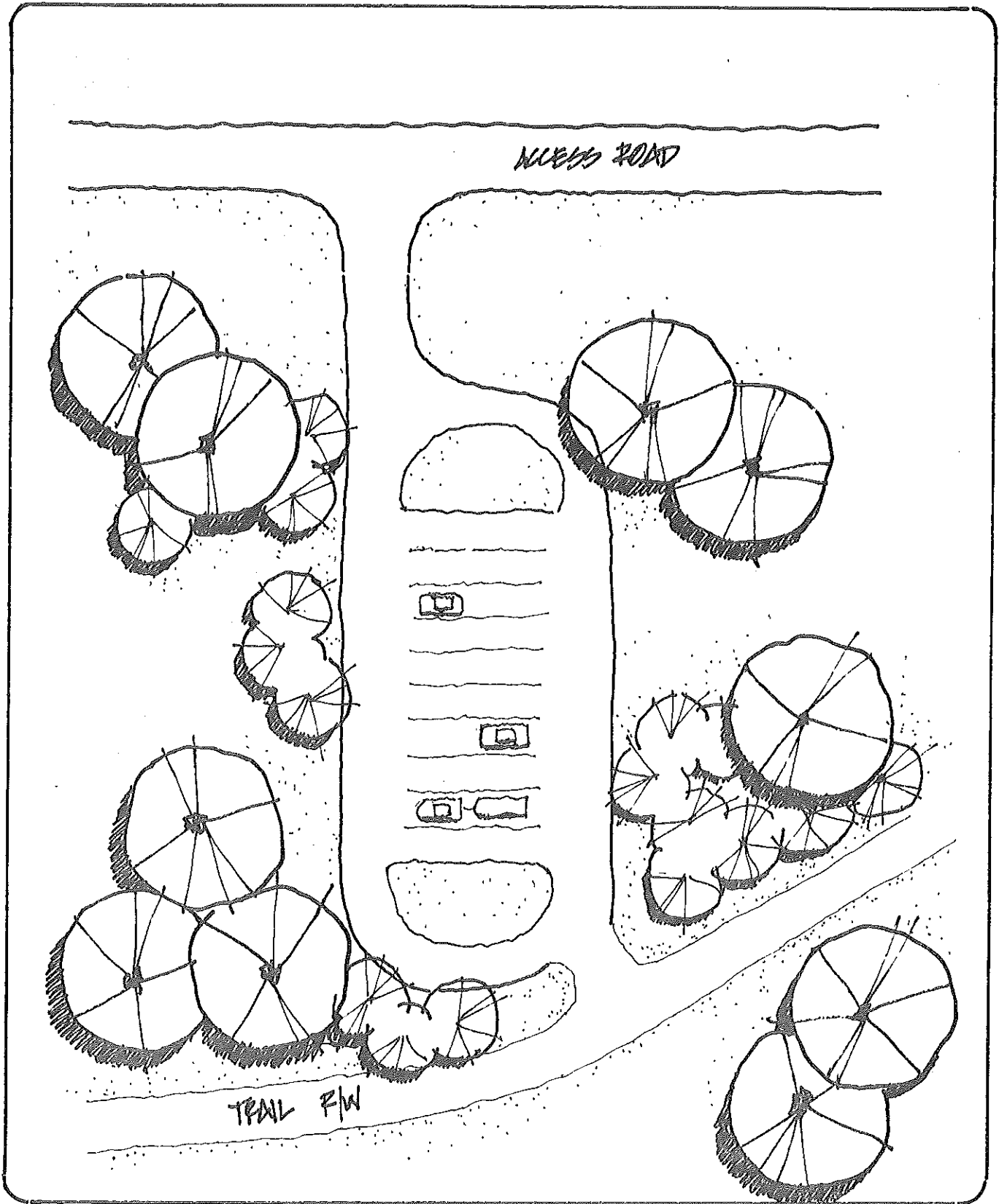


FIGURE 11

NATURAL AND CULTURAL RESOURCE MANAGEMENT

Vegetation

Vegetation management on the Minnesota-Wisconsin Boundary Trail and West Addition will be directed primarily toward trail user safety and enjoyment, the mitigation of the landowners' loss of privacy, soil stabilization and the enhancement of wildlife habitat. The following criteria have been identified to guide vegetation management practices along the trail:

1. Establishment of vegetation buffers will screen unsightly areas; prevent encroachment by adjoining landowners or trespassing by trail users; separate treadways located within one railroad right-of-way; prolong snow cover; protect trail users from bad weather; and define the trail treadway to keep trail users from straying off the trail.
2. Selective cutting should be carried out in areas where scenic overlooks can be created.
3. Plants that provide food and cover for wildlife should be grown.
4. Where soils have been disturbed by trail construction or erosion, cover should be planted. Plants should be chosen for their ability to grow rapidly and produce a mixture of deep and shallow roots to prevent soil erosion. Slopes could be planted, for example, with crown vetch (or other legumes for soil protection and improvement) intermixed with shrub and tree seedlings. Treadways should be seeded with a wildlife seed mixture. To avoid the maintenance costs of mowing, the treadway could be seeded with white clover or another low-growing forb.

Naturally occurring plants should be used. The Landscape Regions, map 14, and Section III of the plan should be consulted before plants are selected. If possible, plants should be obtained from DNR nursery stock.

The DNR is required by law to control noxious weeds within the trail right-of-way. This control is done in two phases. First, weeds are cut or sprayed with herbicide. Second, for long-term weed control, native vegetation is encouraged and supplemented by mechanical seeding and planting. This practice will in time shade out undesirable weeds and improve wildlife habitat. Under state law, the DNR recognizes nine noxious weed species that occur statewide and several others that may be considered noxious in individual counties. Adjacent landowners should notify their local inspector or the regional DNR office if noxious weeds in the trail right-of-way cause a problem. These officials will determine and undertake the appropriate treatment. However, proper vegetation management will in time make mechanical and chemical weed control altogether unnecessary.

Specific policies have been established by the Division of Forestry to ensure that forest management and trail management do not conflict where the Minnesota-Wisconsin Boundary Trail passes through state forest land.

When a timber permit is sold to allow cutting next to or on an established state trail, DNR trail, forestry trail, parks trail or grant-in-aid trail, or when a trail (any part of the right-of-way) is used to gain access to a timber-cutting site, the following regulations will prevail.

1. No cut products will be piled, landed or stored on the established trail.

2. No slash or logging debris will be left on the right-of-way after the cutting of the trees.
3. Logging equipment, buildings or facilities will not be parked, stationed or erected on the trail right-of-way.
4. Trucks and logging equipment are not allowed to use the treadway for access to the timber operation unless such action is approved by the regional trails and waterways coordinator and the area forester and then only when the use of the trail does not jeopardize the safety of the trail users or harm the trail surface.
5. If it is impossible or impractical to conduct a timber sale under the above conditions, the area forester and the regional trails and waterways coordinator will establish a temporary realignment of the trail for the duration of the sale.
6. Any ruts, holes or other damage to the trails caused by the loggers will be repaired by the logging company, as directed by the area forester, before the sale is closed.
7. The establishment of a temporary alignment for the purpose of conducting a timber sale on the normal trail right-of-way will not excuse the logger from items 1, 2 or 6.
8. Safety signs--for example: Danger, Trucks Hauling, Timber Cutting--will be posted at least 200 feet beyond both ends of any segment of the trail where timber is being cut and at least 200 feet on either side of where logging equipment and trucks are using the right-of-way.

Soils

Soil resources should be managed to minimize erosion, compaction and contamination during and after trail construction.

Soil surveys should be conducted before construction to determine the suitability for certain uses. Soil Suitability, map 3, gives a general indication of existing soils and their limitations in the trail area. In addition, detailed soil surveys are also available through the Soil Conservation Service and the University of Minnesota.

If the treadway is to be developed on soils with moderate to severe limitations, all necessary precautions should be taken to protect the soils during and after construction. A good example is the proposed trail alignment through the Nemadji River area, where there are some severe soil limitations because of the steep slopes and the composition of soils. The plan recommends that soil specialists be consulted for this area. There are other severe limitations along the existing trail in Nemadji State Forest. The trail traverses waterlogged soils that make certain stretches nearly impassible during the warm seasons. However, most of these waterlogged treadways can be rehabilitated to provide adequate support for non-motorized trail uses. Although the new process that is being tried is expensive, the plan recommends that the treadway in the areas described earlier (in the discussion of development segments) should be rehabilitated.

In addition, the DNR Division of Forestry has established management policies for extractive operations, be it soils, minerals or other resources. These policies are meant to guide extractive operations should they occur next to a state-administered trail.

When an extractive operation is conducted near an established state trail, DNR trail, forest trail, park trail or grant-in-aid trail, or when any part of the trail right-of-way is used for extractive purposes (and there is that potential on the Soo Line), or to provide access to the extractive operation, the following regulations will prevail:

1. No vegetative debris, waste earthen materials or commercial products will be piled or stored on the right-of-way.
2. No equipment, buildings or facilities will be parked, stationed or erected on the trail right-of-way.
3. Extractive equipment and trucks will not be allowed on the treadway to travel to the operation unless such action is approved by the trails and waterways coordinator and then only when the use of the trail does not jeopardize the safety of the trail users or the condition of the trail surface.
4. Safety signs--for example: Danger, Trucks Hauling, Mining Operations--will be posted at least 200 feet beyond both ends of any segment of a trail where there is an extractive operation and at least 200 feet on either side of where the extractive equipment and trucks are using the trail right-of-way.
5. If it is impossible to carry on an extractive operation under the conditions outlined above, the officer in charge of the operation and the regional trails and waterways coordinator will establish a temporary alignment for the duration of the work.
6. If the extractive operation renders the trail unusable, the firm or government responsible for the operation will help develop a new permanent alignment.
7. Any ruts, holes or other damage to the trails caused by the extractive operation will be repaired by the operator as directed by the Department of Natural Resources officer in charge of the operation.
8. The establishment of a temporary alignment for an extractive operation on the trail right-of-way will not excuse the operator from items 1, 2 or 7.

Surface Water

The proposed trail alignment crosses several significant streams and intermittent creeks. DNR Division of Waters permits may be required to build bridges across some of these water courses. The regional trails and waterways coordinator will be responsible for coordinating bridge construction with the Division of Waters and will comply with their requirements. If the trail or support facilities were planned to be built on flood-prone land or land under shoreland management, the regional trails and waterways coordinator will work with the Division of Waters to assure compliance with the state flood management and shoreland management regulations.

Wildlife

As Section III (Natural Resource Perspective) indicates, wildlife abounds in much of the trail area. In particular, there is a large deer wintering yard that is traversed by the proposed trail and encompasses the North Fork and South Fork of the Nemadji River. According to the DNR area wildlife manager, the south-facing slopes in these valleys should be avoided since deer prefer those areas because of the relative warmth and lack of snow. But because this may not be feasible (if that specific trail alignment

is chosen) since the trail has to cross these rivers in some fashion and the wintering area is very large, the plan recommends that development and management of the trail should include measures to mitigate adverse impacts. Among the measures suggested by the DNR area wildlife manager to improve wildlife habitat were planting the trail treadway in clover and providing small permanent grassy openings that would benefit deer and grouse. These measures would be beneficial also to trail users since grassy openings in heavily forested areas provide visual diversity.

Additional wildlife concentration areas may well exist along other parts of the trail. The plan recommends that as new alignment is being established, DNR area wildlife managers be consulted before the trail alignment is laid out.

According to DNR wildlife specialists, trails may benefit wildlife, notably deer. In the northern part of the state, where the snow cover is often deep, deer frequently use the groomed trails to move from feeding area to feeding area. A detriment of winter use may be that heavy use of the trail and the associated noise, ski-touring included, may disturb feeding habits of deer that already are under stress.

Man-made Resources

With the help of the Minnesota Historical Society, archaeological and historical resources in the trail area have been identified (see Section III). At this time no known archaeological or historical sites would be affected by the proposed trail.

Nonetheless, there is a likelihood that there are archaeological and historical resources near the trail that have not yet been identified. Therefore, the Minnesota Historical Society and the Minnesota Archaeological Survey will be consulted as soon as a specific alignment has been identified and before any on-site work occurs. Construction plans will be submitted to above-mentioned entities for review.

Existing segments of the trail cross several state highways. Proposed segments of the trail also must cross several highways. In the past the DNR has obtained special-use permits from the Minnesota Department of Transportation to cross these state roads. The DNR will continue to comply with all Department of Transportation requirements in crossing highways.

The DNR seeks permission from local governments to use township roads for trail purposes. If the local unit of government denies permission, the DNR may not install signs to direct the trail user, but the road would still be open to public use including uses such as hiking, horseback riding and skiing. However, snowmobile use could be restricted by local ordinance.

The Minnesota-Wisconsin Boundary Trail and West Addition will be located in part on several abandoned railroad rights-of-way. It is the DNR's policy to leave these abandoned grades intact so as not to preclude their consideration as public transportation or utility corridors in the future.

The unauthorized use of rights-of-way by nearby landowners is a particular problem on abandoned railroad rights-of-way, though the problem occurs along other trail rights-of-way as well. The DNR will not tolerate illegal encroachment but will negotiate with individual landowners under some circumstances. The DNR has established policies for management of private crossings and drains and public crossings of trail rights-of-way. It also addresses the installment of cattle passes. These policies are listed on the following pages:

Private Crossings and Drains

Existing:

Persons owning land abutting a state trail who have an existing crossing or drain at the time of purchase by the state from a railroad may continue to use the crossing or drain as long as it is used in such a manner as not to obstruct or impair the use of such trail.¹ The crossings and drains shall be on a lease² basis (unless a recorded agreement with the railroad existed) and shall be maintained and kept in repair by the adjacent owner. If a recorded agreement existed, the state will honor the terms of that agreement.

Public Crossings

Existing:³

Units of government may by resolution request changes in existing easements, including slope and temporary easements. Any construction resulting from said easements will be done in such a manner as to accommodate the recreational use of the trail; e.g., in the case of a bicycle trail, the slope of approaches to a roadway shall not exceed 5 percent. All construction and maintenance, including drainage and erosion control from said easement, will be the responsibility of the grantee. Just consideration of said easements will be based upon an appraisal as prescribed by law.

New:

Persons owning lands abutting a state trail may construct, at their own expense, crossings and drains under, over or across the trail in such a manner as not to obstruct or impair the use of the trail.¹ The crossings and drains shall be on a lease² basis and shall be maintained and kept in repair by the owner.

New:³

Units of government may by resolution be granted easements for new crossings. Factors considered in granting easements will include location, safety and federal 4F-6F involvement. Granted crossings should be off grade, especially in the case of a heavily traveled road. This condition may be waived in special situations. All construction and maintenance, including drainage and erosion control from said easement, will be the responsibility of the grantee. Just consideration of said easements will be based upon an appraisal as prescribed by law.

¹Trail users will retain the right-of-way at these crossings.

²Leases are granted on a 10-year basis with a 90-day reversionary clause and can be renewed.

³Vehicles on public roads will retain the right-of-way at these crossings.

NOTE: Easements for private crossings may be granted through local units of government.

Cattle Passes

Existing:

Persons owning lands bisected by a state trail who have an existing cattle pass at the time of the purchase by the state from a railroad may continue to use the cattle pass as long as it is used in such a manner as not to obstruct or impair the use of the trail. The cattle pass shall be on a lease basis (unless a recorded agreement with the railroad existed) and shall be maintained and kept in repair by the adjacent owner. If a recorded agreement existed, the state will honor the terms of the agreement.

New:

Persons owning grazing lands bisected by a state trail may construct at their own expense cattle passes under, over or across the trail in such a manner as not to obstruct or impair the use of the trail. The cattle pass shall be on a lease basis and shall be maintained and kept in repair by the landowner.

In the case where a major surfacing or rehabilitation project is taking place in the area of the proposed cattle pass and said cattle pass is determined to be of benefit to the state and shall not obstruct or impair the use of said trail, the state will construct the cattle pass in equal shares with the adjoining owner, but the cattle pass shall be maintained and kept in repair by the adjacent owner.

In addition, utility crossings will be granted in compliance to Minnesota State Regulations NR 5100.

RECREATION MANAGEMENT

Enforcement

The acceptance of the trail by local communities and adjoining landowners will depend largely on favorable relations between adjoining landowners and trail users. To achieve this objective the state has established management policies and specific rules and regulations to govern the use of recreational trails (Minnesota State Regulations NR 20).

The DNR implements these rules and regulations by the following approaches:

1. Public education.
2. The establishment of volunteer safety patrols.
3. The enforcement of NR 20 by DNR regional conservation officers.
4. Other supplementary enforcement.

Public Education: Special emphasis should be given to inform the public about rules and regulations on state trails. This is presently done by posting signs on trails to indicate designated uses and by posting NR 20 at all designated trail accesses and waysides. The plan recommends that the present methods should be expanded on and altered. Instead of posting rules and regulations as they are written in strictly legal

language, a trail user's code should be created. This code could be written in a more informal and positive tone that nonetheless points out the most significant rules. Such a trail user code could then be posted at trail support facilities and also be printed on all trail maps and brochures.

Such a code could include but would not be limited to the following directives:

1. Travel only within the trail right-of-way.
2. Use the trail only for its designated uses (list uses).
3. Consider adjacent landowners' rights to privacy; don't be unduly noisy, especially at night.
4. Carry out all your garbage.
5. Light campfires only in designated areas.
6. Leave flowers and plants for others to enjoy.
7. Protect and do not disturb wildlife.

Additional information and education should be available through the trail manager or regional trails coordinator. That person could conduct classroom meetings at different locations before each major trail season. These meetings could be announced through the news media. At those meetings the trail manager would give a general update on the trail's condition and development, elaborate on interesting facts about the trail and investigate the availability of volunteer help during the upcoming season. These meetings could also serve as a good forum to air grievances, to settle conflicts between trail users and adjoining landowners and to address special problems.

An additional tool to enforcement of trails rules and regulations would be the "Landowner's Handbook" identified in the statewide DNR Trail Plan. This handbook will be handed to each adjoining landowner and will include phone numbers of the Trail Manager and Regional Trails & Waterways Coordinator to further aid the adjoining landowner so that violations can be dealt with in a more expeditious manner.

Volunteer Safety Patrols: Volunteers should be authorized to patrol the trail. A recommendation for Volunteer Safety Patrols was also made by local trail advisory committees. These safety patrols would require some training, possibly carried out by local law enforcement officials. For identification the patrol members could wear special T-shirts or badges. The use of volunteer safety patrols may prove to be very effective because of their visibility.

Such patrols are subject to Minnesota Statutes, 1971, Section 629.39, which states:

Every private person who shall have arrested another for the commission of a public offense shall without unnecessary delay take him before a magistrate or deliver him to a peace officer.

DNR Regional Conservation Officers: DNR regional conservation officers, in cooperation with local law enforcement agencies, will be responsible for the enforcement of NR 20. The sheriff's office in each county along the trail will be asked to aid in the control of trail use. Funds to assist county sheriff departments may be available through the DNR.

Other Supplementary Enforcement: Minnesota Statutes, 1978, Section 84.029, as part of the Outdoor Recreation Act, authorizes each DNR employee, "while engaged in his employment in connection with such recreational areas, has and possesses the authority and power of a peace officer when so designated by the commissioner." In addition, Minnesota Statutes, 1978, Section 84.083, Subdivision 1, gives the commissioner of natural resources the authority to delegate his duties to any specific DNR employee.

Staff members in the Trails and Waterways Unit presently do not have the authority or training to enforce rules and regulations on state trails. In accordance with the aforementioned statutes, the plan strongly recommends that regional trails and waterways coordinators and state trail managers receive the training and authority of peace officers so they may enforce rules and regulations on state trails.

Presently certain DNR forestry personnel have the training and authority to enforce the law at recreational facilities within state forests. This authority, however, does not apply to state trails within those units. The plan strongly recommends that their enforcement authority be expanded to include those portions of the Minnesota-Wisconsin Boundary Trail that are located within the respective state forests.

Whenever the trail passes through a state park, park managers may enforce rules and regulations of NR 20 in their role as peace officers (Minnesota Statutes, 1978, Section 85.04, Employees as Peace Officers).

Certain segments of the trail, such as the Soo Line (segment 1) and Taylors Falls to Wild River State Park (part of segment 4) where little land use management occurred during the years prior to DNR ownership or expressed interest incompatible land-use precedences have been set. As soon as the trail is developed in those areas the DNR will have to make a special effort to enforce trail rules and regulations in order to eradicate all uses other than those designated.

The DNR's Policy Directive 22 (interim Operational Order 21) gives DNR employees, while engaged in their employment, the authority to write infractions of the rules and regulations on Conservation Officer Form 145. Such a report constitutes a record of evidence admissible in court. Employees doing this must witness the violation and are advised to understand the constitutional rights of individuals.

Fencing

To further discourage unauthorized trail use, the DNR may temporarily close trails or modify the use of segments that have persistent enforcement or use problems. Fences and natural barriers (rocks and vegetation) may also be installed to deter unauthorized use.

The DNR's fencing policy is as follows:

There are two basic reasons for fencing: first, the protection of adjacent landowners from trespassing and property damage, and second, the enclosure of pasture land adjacent to the trail. If repeated trespassing and property damage by trail users can be proven by the landowner, the state and the landowner will equally share the costs for the construction of a fence.

In the case of permanently pastured land, the fencing policy will follow Minnesota Statutes, 1976, Chapter 344. This law states, in general, that fencing costs will be

shared equally by adjacent property owners. If an existing fence on a common property line is in such a poor state of repair that it requires replacing and if the property owner is unable to do so, the state will negotiate an agreement equitable to both parties for the construction of a new fence. Where an existing fence is improperly placed on state land, the state will relocate the fence on the appropriate boundary--the cost shared equally by the state and the property owner. When construction of such a fence cannot begin because of high water, excessive snow, or land exchange proceedings, the state will supply the necessary fencing materials and the landowner will be responsible for erecting the fence as soon as conditions permit.

If fencing is not covered by a local ordinance, the minimum standards stated in Minnesota Statutes, 1976, Section 344.02, will apply. A fence will be 48 inches high, steel posts will be 12 feet apart and wire will be barbed, smooth or woven, depending on the fence along the other three sides.

Monitoring Trail Use

The monitoring of trail use on the Minnesota-Wisconsin Boundary Trail and West Addition as it presently exists and on each additional segment as it becomes available is of utmost importance. Only through periodic monitoring will the DNR learn how the trail is used, who uses it, where overcrowding occurs, where potential conflicts exist and what the future uses of the trail may be. Only through the accumulation of use data will it be possible to make valid decisions on the management of the trail.

The DNR Bureau of Comprehensive Planning and Programming, Research and Policy Section, developed a monitoring program for state trails in 1980. This program is presently being tested on the Heartland and Luce Line state trails. The monitoring is done in the form of a survey and attempts to determine users' ages, type of use, direction the user is headed, residence of user, hours of use, one-way use or round-trip use, first-time user or repeat user and the time of entry. Other information that could be derived from those surveys is:

1. User demographic information.
2. Number of users by weekday and weekend day by season.
3. Average group size.
4. Average length of trip.
5. User ability.
6. User satisfaction.
7. Conflicts between trail users.
8. Demand for uses (e.g., snowmobiling) that are not accommodated over the entire alignment.
9. Need for additional support facilities.

The monitoring program, although developed in the DNR's St. Paul office, will be implemented by personnel in the field. A trail manager (see Maintenance and Operation) could coordinate efforts along the Minnesota-Wisconsin Boundary Trail and West Addition.

Information and Promotion

As soon as usable segments of the Minnesota-Wisconsin Boundary Trail and West Addition are developed for year-round use, the DNR Trails and Waterways Unit, in cooperation with the DNR Division of Information and Education, should make every effort to publicize the trail. Official designation and feature articles through the news media and dissemination of printed materials to user groups, schools, libraries and other organizations could assist in the promotion of the trail. As use of the trail increases, the trail will promote itself and, with proper management practices, provide superior experiences for trail users.

Because the Minnesota-Wisconsin Boundary Trail and West Addition is 235 miles long, it will be developed in stages and will not provide a continuous alignment for all trail uses. Therefore, promotion of the facility should focus on the Minnesota-Wisconsin Boundary Trail System and associated weekend routes rather than just on those segments that are administered solely by the DNR. (The system is described earlier in this section.) Detailed maps and other pertinent information from the plan could be used in a good trail map or brochure that would describe a detailed route for each use. This map or brochure should also contain excerpts from the DNR's regulations relating to state trails (NR 20) and remind the user of his or her responsibility for proper personal conduct in consideration of other trail users, adjoining landowners and trail resources.

INTERPRETATION

Interpretation is "an educational activity which aims to reveal meanings and relationships through the use of original objects by firsthand experience and by illustrative media rather than simply to communicate factual information," according to Freeman Tilden, an author and authority on the subject.

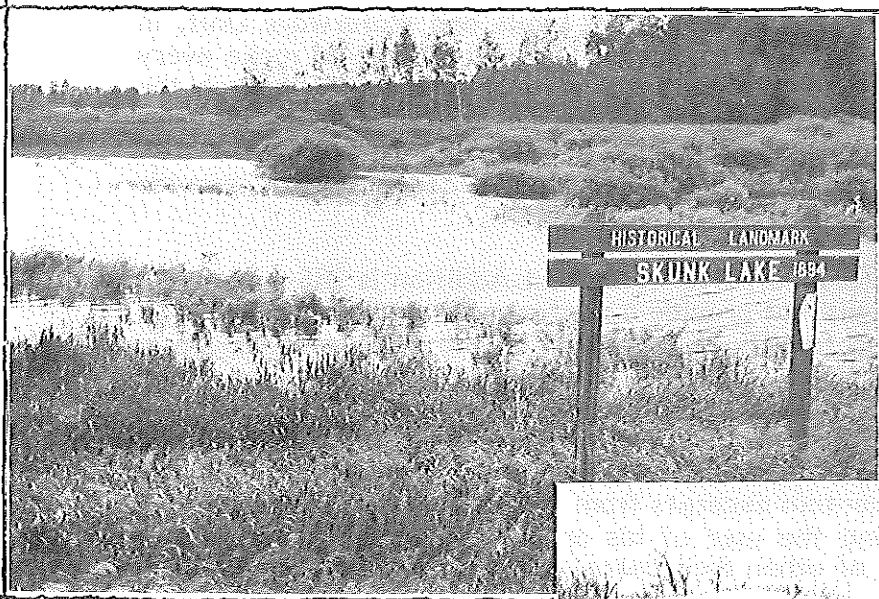
Within this section the plan attempts to lay out a program that could help trail users to further appreciate and become more aware of the trail's cultural and natural heritage.

The following paragraphs will identify and recommend interpretation themes for various parts of the Minnesota-Wisconsin Boundary Trail and West Addition and address several methods to effectively inform a variety of people.

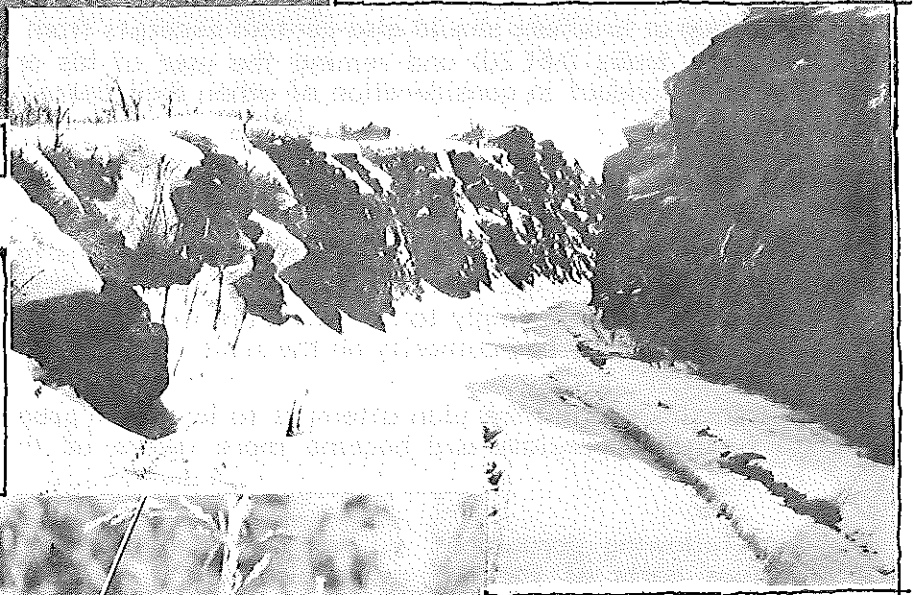
Themes

Because of the length and diversity of the trail, the plan proposes three major interpretation themes: history, vegetation and wildlife, and geology.

Although the themes will overlap, major emphasis will be given to historic resources along the trail within the St. Croix River valley and the Hinckley-to-Barnum railroad right-of-way (West Addition). Interpretation of geologic resources will prevail within the northern segments of the trail, including the Nemadji River area, Jay Cooke State Park and the railroad right-of-way between Carlton and West Duluth. And finally the trail alignment from St. Croix State Forest through Nemadji State Forest will have as its major emphasis the interpretation of vegetation and wildlife.



history



geology



vegetation

History

St. Croix River Valley: Much of the valley's history can be interpreted along the trail right-of-way (see Section III). Just a few sites are mentioned here: Cedar Bend, Marine-on-St. Croix, Franconia, Taylors Falls, Sunrise, portions of the Old Military Road, Nevers Dam, St. John's Landing, the Fleming Logging Road, Yellow Banks, and the St. Croix River itself, which played a most important role during the various stages of settlement in the area and still enjoys a special popularity today.

Hinckley-to-Barnum Railroad Right-of-Way: This railroad right-of-way was a segment of the first railroad between St. Paul and Duluth, which opened in 1870. That the history of the area is clearly tied to the railroad should be emphasized in the interpretation. Communities along the right-of-way owe their existence to the railroad. A few potential interpretation sites are mentioned here (see also Section III): Hinckley, Skunk Lake, Sandstone Junction, Banning townsite and quarry, Rock Dam within Banning State Park, Finlayson with its historic Northern Pacific railroad depot and all the other communities along the right of way.

The DNR's General C. C. Andrews Forest Nursery is located near the railroad right-of-way at Willow River. Although it is a modern forest management operation, it could be of significant interest to the trail user and should be incorporated into the interpretation program. One of the two tree nurseries in the state, it is where thousands of trees are grown for forest management.

Geology

In Jay Cooke State Park, along the Carlton-to-West Duluth railroad right-of-way and in the Nemadji River area, the trail passes through a landscape of distinct geologic features. Interpretation should emphasize those features. (These features are mentioned in Section III.) The most visible and dramatic features are the numerous rock outcrops of the Thomson Formation, which occur throughout Jay Cooke State Park and along the railroad right-of-way to West Duluth. The trail also crosses the former beaches of Glacial Lake Duluth and the Nickerson Moraine near Holyoke, a clearly definable ridge (see plate 13 of 19). Although the continental divide that traverses Nemadji State Forest in a northeasterly direction is not directly visible, it should be interpreted (see Watershed Units, map 4, and development segment 6).

Vegetation and Wildlife

In St. Croix and Nemadji state forests the trail passes through vast forest lands with few signs of civilization. Therefore, plant communities, wildlife and forest management practices appear to be the appropriate theme for interpretation. (Information on plant communities and wildlife has been presented in Section III.) Forest management --clearcuts, new plantings, selective cutting--should be interpreted whenever the trail passes by or through such areas.

Approach

For an interpretive program to be successful, a variety of methods must be used to reach a variety of people. A good interpretive program takes into consideration the various skills, interests, intellectual backgrounds and time commitments of trail users. A good interpretive program may be of great educational value and at the same time contribute to one's relaxation and enjoyment.

In March 1981 the DNR issued "Guidelines for Developing Interpretive Plans for DNR State Trails." These guidelines will be applied in developing an effective interpretation program for the Minnesota-Wisconsin Boundary Trail and West Addition. An addendum to this plan will lay out an interpretive program for the trail according to these guidelines. During preparation of this addendum the DNR will work closely with the Minnesota Historical Society.

What follows is a list of cost-effective interpretation methods that could be applied. They are merely part of a good program. For trail users who have limited time, the following three methods would probably be desirable:

1. A pull-off with signs pointing out specific features.
2. Attractive, informative displays at support facilities.
3. A map or brochure with illustrations of the highlights.

These are some methods that could attract new trail users:

1. Seasonal feature articles through local and regional newspapers and magazines.
2. The trail manager could visit schools and civic organizations with a slide show or movie about the trail.
3. Dissemination of trail information to schools and civic organizations.
4. Encouragement of the educational aspect by arranging seasonal field trips for schools. School classes could be guided by the trail manager, a naturalist or teachers.

As the Minnesota-Wisconsin Boundary Trail and West Addition travels through state parks and communities, the proposed interpretive program could capitalize on existing facilities and possibly expand if necessary. Here are a few existing programs:

1. St. Croix State Park, interpretation of the natural environment of the park with various methods.
2. Wild River State Park, program of valley history and natural resources interpreted through various methods.
3. Taylors Falls and Marine-on-St. Croix, interpretation programs within their historic districts.
4. St. Croix National Scenic Riverway Visitor Contact Station at State 70, interpretive center.

Existing interpretative facilities along the Hinckley-Barnum right-of-way are part of the Minnesota Historical Society program to capture the history of the railroad:

1. Hinckley Fire Museum with a combination audio-visual program.
2. Finlayson Depot with a small display of artifacts related to the railroad.
3. Duluth Historic Railroad Depot with many exhibits.

The plan recommends that the trails interpretive program also capitalize on these facilities and possibly assist in the development of additional interpretive functions. For example, the Finlayson depot's interpretive value could be further enhanced through the cooperative efforts of the state and the local historical society.

Trail interpretation centers are proposed in the following state parks, which are traversed by the trail itself or a spur trail: Jay Cooke, Banning and William O'Brien. As these facilities become established, they could either incorporate or complement an interpretive program for the Minnesota-Wisconsin Boundary Trail and West Addition.

MAINTENANCE AND OPERATION

The psychological effect of good maintenance can be an effective deterrent to vandalism and littering. The DNR welcomes the assistance of volunteer groups who wish to help develop, maintain or protect the trail. Interested groups or organizations should contact the DNR Trails and Waterways Unit in St. Paul.

Maintenance

Maintenance of the trail includes, but is not limited to, trail surface repair, fence installation, upkeep of support facilities, resurfacing of parking areas, inspection of wells, removal of windfalls and winter grooming.

Reference is again made here to the DNR Trails Manual, which addresses in detail the maintenance and operation functions on state trails.

Proper maintenance and operation of the trail does not include just upkeep; it also includes managing cultural and natural resources along the trail, carrying out a monitoring program and responding to concerns of users and nearby landowners. Therefore, consideration should be given to providing adequate funding for additional staff and equipment to carry out the necessary management and operation tasks.

This leads to the subject of personnel and headquarters for the Minnesota-Wisconsin Boundary Trail and West Addition. In the following paragraphs, several alternatives are presented; the plan's recommendations follow.

Personnel

Under alternative I, unit managers of state parks and state forests would maintain the trail within their boundaries much as it has been carried out on the existing alignment of the trail. However, to cover all of the trail maintenance responsibilities, the unit managers would have to maintain the trail beyond their boundaries. All maintenance and operations tasks would be coordinated by the respective regional trails and waterways coordinator. The cooperation of DNR Divisions of Parks and Recreation and Forestry would be essential to carry out this alternative. Below is a suggested breakdown of maintenance segments.

1. Jay Cooke State Park to maintain the trail in the park and the Carlton-to-West Duluth and Wrenshall-to-state line segments.
2. Nemadji State Forest to maintain the trail in the forest and through the Nemadji River area.

3. St. Croix State Forest to maintain alignment north to Nemadji State Forest boundary. This is presently done.
4. St. Croix State Park to maintain the trail in the park.
5. Chengwatana State Forest to maintain the trail in the forest and that part of the alignment within St. Croix State Park that lies south of the Kettle River.
6. Wild River State Park to maintain the trail alignment through the park and to Taylors Falls.
7. Interstate State Park to maintain the alignment that terminates in the park and starts at the Chisago County line.
8. William O'Brien State Park to maintain the Soo Line Trail, which eventually will be connected into the park.

In addition, efforts should be made to recruit volunteer help whenever possible.

Alternative 2 would require the hiring of a trail manager to coordinate all maintenance and operation functions on the Minnesota-Wisconsin Boundary Trail and West Addition. This person could be stationed near Hinckley, a central location along the trail. The manager would have four seasonal assistants who would be assigned to specific segments that would vary in length from 40 to 68 miles. They could be divided up as follows:

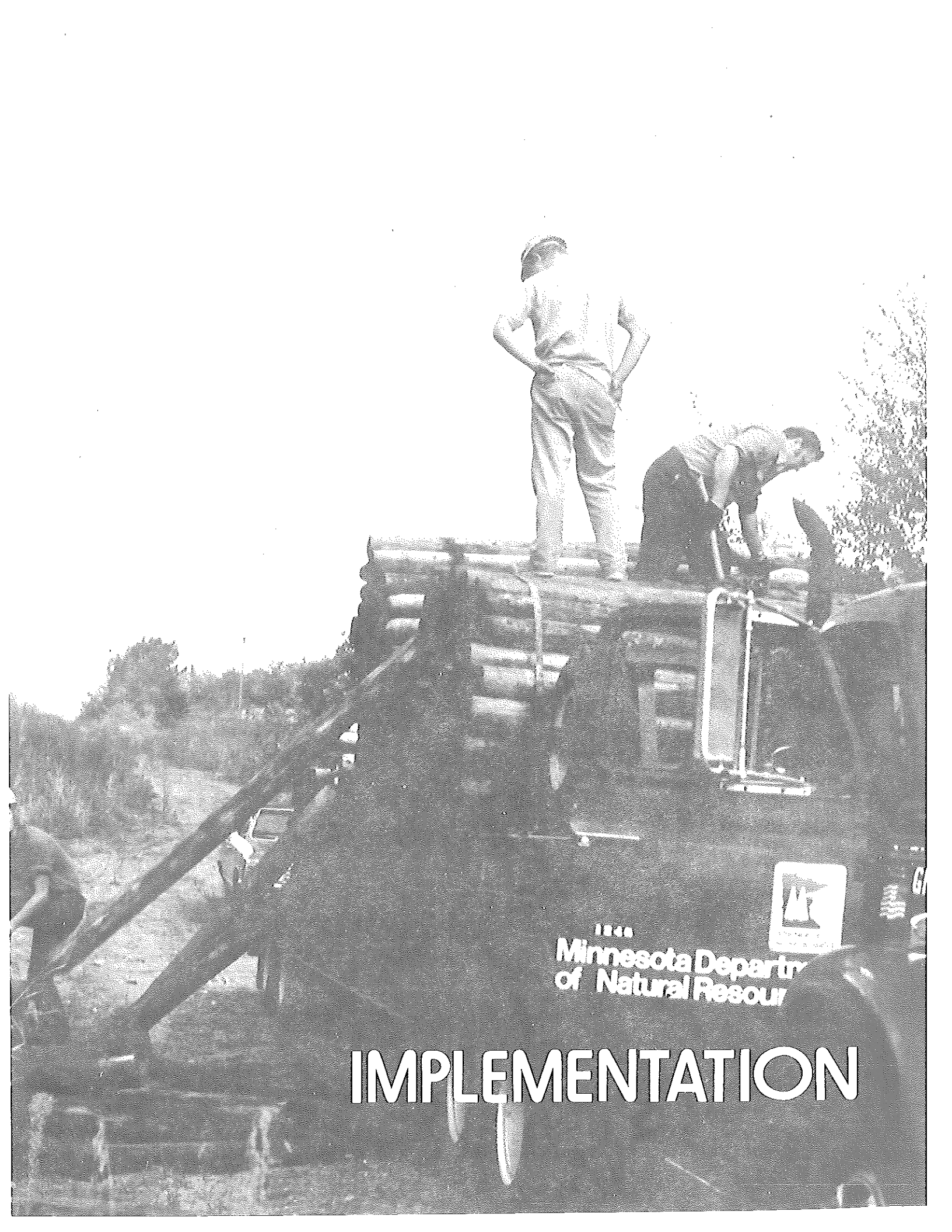
1. Metro area (Soo Line) to Chisago County 5 (east of Rush City); 60 miles.
2. Chisago County 5 to Kettle River and Hinckley to Moose Lake; 53 miles.
3. Kettle River through Nemadji State Forest; 68 miles.
4. Nemadji River area, Jay Cooke State Park, Carlton to West Duluth and Wrenshall to state line; 40 miles.

The trail manager would report to the regional trails and waterways coordinators of the respective DNR regions. This alternative appears luxurious compared to alternative 1. However, it seems to be to the advantage of the public to communicate concerns, ideas and suggestions to one person who, in turn, can then deal with the DNR administration and divisions.

Alternative 3 would be a combination of alternatives 1 and 2. A trail manager or a natural resources recreation specialist would be hired to coordinate maintenance and management on the Minnesota-Wisconsin Boundary Trail and West Addition and on connecting trail systems within other DNR units. Only two assistants to the trail manager would be hired to take care of segments of the trail that are outside DNR management units--approximately 100 miles. This trail manager or recreation specialist would report to the regional trails and waterways coordinator of the respective DNR regions. He also would work closely with DNR unit managers to efficiently accomplish the tasks necessary to operate and maintain the trail system. This person also would be required to do limited administrative work and be knowledgeable about implementation of project proposals. It is suggested that the trail manager be located somewhere along the West Addition, where he or she would be easy to contact and be more visible to landowners and residents of local communities along the West Addition.

The plan recommends alternative 3 over alternatives 1 and 2 for the following reasons.

Alternative 3 would cost less than alternative 2, but the trail manager nonetheless would give more administrative identity to the trail. At the same time, there would be a person directly accountable for the trail whom the public could easily reach. The two assistants could be shifted around to work in areas of immediate need; DNR unit managers may not be able to be as flexible. The trail manager could also get involved in the implementation of the interpretive program, identifying interpretive subjects through contact with citizens and local and regional organizations.



1844
Minnesota Department
of Natural Resources

IMPLEMENTATION

VII IMPLEMENTATION

Coordination and Responsibilities

In order to accomplish the recommendations of this plan it is necessary to know "who is doing what." One of the purposes of this Section is to delineate these responsibilities.

Major actions to be implemented fall in the categories of design development and management. The plan will be implemented in segments as outlined and prioritized in Tables 11 and 12. Segment 3, however, is an exception; there, major steps are trail location and acquisition of right-of-way prior to the above outlined steps.

The following Table (10) delineates these responsibilities.

TABLE 10

TRAILS & WATERWAYS					
Planning	Operations	Field	Admini- stration	Office of Planning	Implementation Steps
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Prepare master plan
<input checked="" type="checkbox"/>		<input type="checkbox"/>			Prepare interpretation plan (1982/83)
<input type="checkbox"/> Joint effort <input type="checkbox"/> spearheaded <input checked="" type="checkbox"/> by Operations	<input checked="" type="checkbox"/>	<input type="checkbox"/>			Prepare site specific implementation plans by segment as prioritized in Tables 11 and 12
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			Locate and acquire trail alignment for Segment 3 and in other areas of need as prioritized in Tables 11 and 12
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			Develop the trail per implementation plans by individual segment
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		Develop promotional action plan with assistance of DNR-I&E and the Tourism Section of the Department of Energy, Planning and Development
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		Promote overall Minnesota-Wisconsin Boundary Trail system
<input type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>		Incorporate trail segments into ongoing information dispersal program
	<input type="checkbox"/>		<input checked="" type="checkbox"/>		Authorize positions and hire appropriate personnel
	<input checked="" type="checkbox"/>	<input type="checkbox"/>			Develop a trail volunteer program
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	Incorporate trail segments into monitoring and user opinion survey program
	<input type="checkbox"/>	<input checked="" type="checkbox"/>			Hold annual/seasonal meetings to ascertain user/landowner satisfaction

Major Role

Supporting Role

Consult as Needed

TABLE II

Acquisition and Development Costs by Biennium

	82/83	84/85	86/87	88/89
Trail Segment Acquisition				
S1	\$ 20,000	\$ 27,500	\$ 247,500	\$
S2			200,000	30,000
S3			6,000	54,000
S4	15,000		242,000	
S5			78,000	
S6	6,000	40,000	62,000	
S7		9,000 (12,000)		28,500 (280,600)
S8		33,300	310,000	
S9	25,000	650,000	117,300 100,000	
Total	\$ 66,000	\$ 750,800	\$ 9,000 \$ 1,156,800	\$ 82,500 \$ 30,000

TABLE 12

Acquisition and Development Costs by Segments

Trail Segment	Acquisition \$	Development \$	Development Priorities by Biennium
<p>S1: <u>Soo Line Railroad Right-of-Way</u> Access/Wayside: Oakdale (major) Pine Point Park (major) (Joint development with Washington County)</p> <p>Treadway: (10 miles) #1 Asphalt surface (bicycling, hiking) #2 Seeded to grass (ski-touring, horseback riding)</p>	20,000	30,000 15,000 200,000 30,000	Blading and shaping of Treadway #1 and establishment of adequate interim parking possibilities during 82/83 Biennium. This would be approximately 16% of total expenditure. The right-of-way is planned to be completed in 84/85 Biennium.
Total S1	20,000	275,000	
<p>S2: <u>Carnelian Junction to Cedar Bend</u> Potential Treadway: One treadway 50' wide (for ski-touring, hiking, possibly horseback riding)</p>	200,000	30,000	Acquisition is recommended to occur in the 86/87 Biennium; development to follow in the 88/89 Biennium.
Total S2	200,000	30,000	
<p>S3: <u>Cedar Bend to Taylors Falls</u> Access/Wayside: Cedar Bend on Mn/DOT Land (major)</p> <p>Treadway: (9 miles) One treadway over rough steep terrain (hiking, ski-touring in some areas.) (A₂ would require additional land acquisition)</p>	(6,000)	30,000 24,000	To be developed in the 86/87 Biennium.
Total S3	(6,000)	54,000	

Trail Segment	Acquisition \$	Development \$	Development Priorities by Biennium
<u>S4: Taylors Falls to Chisago County Road #5</u> Access/Wayside: Lion's Club Park (joint development with the City of Taylors Falls)		30,000	The entire segment to be developed in the 84/85 Biennium.
Camping/Shelter: Expand existing Rush Creek Site		12,000	If feasible, acquisition should be pursued in the 82/83 Biennium.
Bridges: Deer Creek 75' span Goose Creek 100' span		50,000 60,000	
Treadway: (30 miles) One treadway for hiking/ski-touring		90,000	
Alternative 2 requires acquisition of one mile 50' wide right-of-way	15,000		
S4:	Total S4	242,000	
<u>S5: Chisago County Road #5 to Snake River</u> Access/Wayside: Near County Road #5 on land owned by NSP		30,000	This segment to be developed in the 84/85 Biennium
Camping/Shelter: Highway #70 South		12,000	
Treadway: (10 miles) #1 needs to be upgraded for hiking and ski-touring #2 snowmobiling, horseback riding		6,000 30,000	
S5	Total S5	78,000	

Trail Segment	Acquisition \$	Development \$	Development Priorities by Biennium
S6: Snake River to North Boundary of Nemadji State Forest Access/Wayside: Expand the Snake River facility to better accommodate horseback riders		20,000	Rehabilitation work should be carried out in a continuous manner as funds become available for individual projects within other management units.
Camping/Shelter:		12,000	
1. McDermott Creek		10,000	
2. Keene Creek (no shelter)		10,000	
3. Nemadji State Forest South (expand for camping, shelter exists)		10,000	
4. Pickerel Lake Forest Campground (expand to better accommodate horseback riders)		10,000	
Treadway: (80 miles)		20,000	Expansion and development of support facilities should be carried out in the 84/85 Biennium.
3 miles treadway realignment in St. Croix State Park		20,000	
Approximately three miles rehabilitation of wet treadway in Nemadji State Forest			
66' wide easement for app. 3 miles in Pine County	6,000		Acquisition should be pursued immediately.
	Total S6	102,000	

S6

Trail Segment	Acquisition \$			Development \$		Development Priorities by Biennium
	A ₁	A ₂	A ₁	A ₂		
S7: North Boundary Nemadji State Forest to Jay Cooke State Park						
	A ₁	A ₂	A ₁	A ₂	A ₁	A ₂
Access/Wayside:	Wrenshall railroad r/w (minor)	Wrenshall railroad r/w (minor)	10,000	10,000	10,000	10,000
Camping/Shelter:	Net River Mud Creek (no shelter)	n.a. n.a.	12,000			
Wayside (Day Use)	Minn/Wisc. State Line railroad r/w	Minn/Wisc. State Line railroad r/w	5,000	5,000	5,000	5,000
Bridges: (Appendix)	Net River S.F. Nemadji River N.F. Nemadji River	n.a. n.a. n.a.	28,000 31,000 54,000			
Culverts:	Watercourse Section 16 Mud Creek tributary Mud Creek Mud Creek tributary Clear Creek Clear Creek tributary	n.a. n.a. n.a. n.a. n.a. n.a.	4,500 2,800 18,700 3,600 4,500 15,000			
Treadway:	21 miles @ \$4000	9 miles primarily railroad r/w	84,000		13,500	
	5 miles Wrenshall to State Line r/w	1 mile railroad r/w		6,000	7,500	
	4 miles 25' wide r/w	1 mile from Wrenshall into Jay Cooke St.Park		12,000	3,000	
			Total \$7	12,000	9,000	280,600
						28,500

Trail Segment	Acquisition \$	Development \$	Development Priorities by Biennium
S8: <u>Carlton to West-Duluth railroad right-of-way</u> <u>West Addition</u> Access/Wayside:			
1. Carlton (minor)		10,000	Blading and shaping of #1 treadway and decking of bridges in 82/83 Biennium (10% of total treadway development)
2. Seven Bridges Road Duluth (minor) in cooperation with City of Duluth		10,000	
3. West Duluth terminus Indian Point Park (joint effort with City of Duluth Parks Dept.)		10,000	Remaining development to occur in the 84/85 Biennium
Wayside (Day Use)		5,000	
Bridge:		7,000	
Treadway: (14 miles)		280,000	
		21,000	
	Total \$8	343,000	

Trail Segment	Acquisition \$	Development \$	Development Priorities by Biennium
S9: Hinckley to Barnum Access/Waysides:	25,000	30,000	Major development of support facilities and second treadway to occur in the 84/85 Biennium
1. Hinckley (major)		10,000	
2. Willow River (joint effort with City of Willow River)		30,000	
3. Moose Lake (major)		10,000	
4. Barnum (minor)			
Wayside (Day Use)		10,000	
Finlayson		21,300	
300' decking			
Bridge		620,000	Treadway #1 to be fully developed in the 82/83 Biennium providing adequate access (can be temporary)
#1 31 miles asphalt surface (hiking, biking, snowmobiling)		36,000	
#2 12 miles horseback riding			
Treadway:		100,000	Development of Moose Lake to Barnum treadway in 84/85 Biennium
#1 4 miles as above			
Total S9	25,000	867,300	
Grand Total	281,000	2,019,800	
	(\$293,000 if A ₁) for Segment 7	(\$2,300,400 if A ₁) for Segment 7	

Maintenance and Operations

Estimated Costs

60 miles hard surface trail @ \$700/annually	\$42,000
175 miles grass surface trail @ \$200/annually	<u>35,000</u>
Annual total	<u>\$77,000</u>

Above figures include all operation and maintenance functions such as upkeep of support facilities, grooming minor treadway, repair, litter pick-up, etc.

TABLE 13

Interpretation

Estimated Costs

Trail Segment	Display @ \$8,000	Pull off w/ signing @ \$2,000	Biennium			
			84/85	86/87	88/89	90/91
S1	2	2	\$	\$20,000	\$	\$
S2	1	1				10,000
S3	2	1			18,000	
S4	1	6		16,000		
S5	1	3		14,000		
S6	4	10	44,000			
S7	2	2			20,000	
S8	2	3		22,000		
S9	3	6	32,000			
	18	34	<u>\$76,000</u>	<u>\$72,000</u>	<u>\$38,000</u>	<u>\$10,000</u>

Other Costs:

Development of a slide show or more \$3,000
 Printing of brochures, maps, handouts \$10,000 every 2 to 3 years.

TABLE 14

Personnel

Estimated Costs

Alternative 1: No new personnel would be hired. All functions would be handled by existing unit managers and respective Regional Trail Coordinators.
(see page 228)

<u>Alternative 2:</u> (see page 230)	Trail Manager (Natural Resource Specialist)	NR I	NR II
		\$17,000	\$ 20,000
	Four seasonal assistants @ \$14,000	<u>56,000</u>	<u>56,000</u>
	Annual Total	<u>\$73,000</u>	<u>\$ 76,000</u>

<u>Alternative 3:</u> (Recommended Alternative see page 230)	Trail Manager (Natural Resource Specialist)	NR I	NR II
		\$17,000	\$20,000
	Two seasonal assistants @ \$14,000	<u>28,000</u>	<u>28,000</u>
	Annual Total	<u>\$45,000</u>	<u>\$48,000</u>

VIII EVALUATION

The preceding pages have described the actions considered necessary to guide the development and management of the Minnesota-Wisconsin Boundary Trail and West Addition. However, trail conditions, user populations, technology, landowners, land uses, and other management considerations change with time--often in unforeseen ways. Also, unexpected problems may arise in the development of the trail. It is therefore important to periodically review and evaluate the plan. The evaluation will enable managers, legislators, users and other interested parties to determine how effectively and efficiently the trail is being managed. The evaluation will address such questions as whether user needs are being met and whether the second treadway should be extended. Based on the results of the evaluations, changes in the plan's goal, guidelines and actions may be instituted.

Public Input

Public input is an important part of evaluation. Indeed, the public is constantly evaluating the trail and its managers. The users and adjacent landowners are particularly important since these groups are the two most interested in the trail. The evaluation these groups give the trail largely will determine whether the trail is used and well received.

To enable users and landowners to voice their frustrations, problems, insights and general comments, periodic meetings should be held, perhaps once per year. Comment cards and surveys can also be used to solicit comments. By encouraging citizens to voice their concerns, the DNR is acknowledging the importance of continuing citizen input in the management of the trail.

Provisions for Modifications

Managers, users, landowners and other interested parties will eventually propose changes in the trail plan. Proposed changes must be sent to the Trails and Waterways Unit in St. Paul. Proposals will be reviewed by both the trail operations and planning sections. When agreement is reached, the trail planning section will draft the changes for the special assistant to the commissioner assigned to the Trails and Waterways Unit.

The entire plan should be thoroughly reviewed and updated every ten years, starting in 1990, by the Trails and Waterways Unit planning section. Public comments, DNR staff recommendations and trail studies all should be used in these reviews. If major changes are proposed, such as changes in the goal, trail alignment or management, then the same procedures used to develop the plan should be followed: Public meetings, in-house DNR review and State Planning Agency review all should be sought.

BIBLIOGRAPHY

Climate

- Climatography of the United States. Bulletin 60-21. U.S. Department of Commerce, 1972.
- Kuehnast, Earl L., Climate of Minnesota. Publication prepared by the U.S. Department of Commerce, 1959, revised 1972.

Geology

- Bray, Edmund C., Billions of Years in Minnesota: The Geological Story of the State. Science Museum of Minnesota, St. Paul, 1977.
- Morey, G. B., Lower and Middle Precambrian Stratigraphic Nomenclature for East-Central Minnesota (with map). Report of Investigations 21. Minnesota Geological Survey, University of Minnesota, St. Paul, 1978.
- Ojakangas, Richard W., Uranium Potential in Precambrian Rocks of Minnesota. U.S. Energy, Research and Development Administration. AT(05-01)-1652. Grand Junction, Colorado, 1976.
- Sims, P. K., and G. B. Morey, editors, Geology of Minnesota: A Centennial Volume. Minnesota Geological Survey, University of Minnesota, St. Paul, 1972.

Landforms and Soils

- Arneman, H. F., Soils of Minnesota. Agricultural Extension Bulletin 278, University of Minnesota, U.S. Department of Agriculture, 1963.
- The Biocultural System of Minnesota. Minnesota Department of Natural Resources, Interpretive Services Division, 1979.
- Hydrologic Atlas of Minnesota. Bulletin 10, Minnesota Conservation Department, Division of Waters, St. Paul, 1959.
- Minnesota Soil Atlas. Agricultural Experiment Station, University of Minnesota: Miscellaneous Report 148 (1977). Duluth Sheet.
Miscellaneous Report 171 (1980). Stillwater Sheet.

Vegetation

- Curtis, John T., Vegetation of Wisconsin: An Ordination of Plant Communities. University of Wisconsin Press, Madison, 1959, reprinted 1971.
- Fedkenheuer, Alvin, Vegetation of St. Croix State Park. Ph. D. thesis, University of Minnesota, 1975.
- Marschner, Francis J., The Original Vegetation of Minnesota (map) compiled from U.S. General Land Office Survey notes. U.S. Department of Agriculture, Office of Agricultural Economics, 1930. Reprinted by Minnesota Department of Natural Resources, Division of Parks and Recreation, 1978.
- Minnesota Land Management Information System (MLMIS), Minnesota Forest Cover Map. Minnesota Land Management Information Center, State Planning Agency, St. Paul.

Fish and Wildlife

Mammals

- Henderson, Carrol, A Preliminary Review of the Taxonomy, Distribution, Legal Status, and Utilization of Nongame Mammals in Minnesota. Minnesota Department of Natural Resources, Fish and Wildlife Division, St. Paul, 1979.
- Henderson, Carrol, and Julie Reitter, Guide to the Nongame Mammals of Northeast Minnesota, Region 2, 1979.
- Henderson and Reitter, Guide to the Nongame Mammals of East Central Minnesota, Region 3E, 1979.
- Henderson and Reitter, Guide to the Nongame Mammals of Metropolitan Minnesota, Region 6, 1979. Minnesota Department of Natural Resources, Fish and Wildlife Division, St. Paul.
- Longley, William and Charles Wechsler, Minnesota Mammals. Minnesota Department of Natural Resources, Bureau of Information and Education, St. Paul.
- Moyle, John B. (revised), The Uncommon Ones: Minnesota's Rare and Endangered Species. Minnesota Department of Natural Resources, Bureau of Information and Education, St. Paul, 1980.

Reptiles and Amphibians

- Henderson, Carrol, A Preliminary Review of the Occurrence, Distribution, Legal Status and Utilization of Reptiles and Amphibians in Minnesota. Minnesota Department of Natural Resources, Fish and Wildlife Division, St. Paul, 1980.
- Henderson, Guide to the Reptiles and Amphibians of Northeast Minnesota Region 2, 1979.
- Henderson, Guide to the Reptiles and Amphibians of East Central Minnesota Region 3E, 1979.
- Henderson, Guide to the Reptiles and Amphibians of Metropolitan Minnesota Region 6, 1979.

Birds

- Henderson, Carrol, Breeding Birds in Minnesota, 1975-79: Abundance, Distribution and Diversity. Minnesota Department of Natural Resources, Fish and Wildlife Division, St. Paul.

Fish

- A Biological Reconnaissance of the Upper St. Croix River. Minnesota and Wisconsin conservation departments, 1961.
- Commissioner's Order 2062 (designating trout streams). Minnesota Department of Natural Resources, 1980.
- Fisheries Stream Survey Report. Minnesota Conservation Department, Division of Game and Fish, 1962.
- A Management Plan for the Kettle River. Minnesota Department of Natural Resources, 1974.
- Stock Record for Snake River. Minnesota Department of Natural Resources.

Historic Resources

- Aguar, Charles E., Project 80--Minnesota Outdoor Recreation Needs: A Study of the Total Environment. Aguar Jyring Whiteman Moser, Inc., for Minnesota Department of Natural Resources and Minnesota State Planning Agency, 1971.
- Blegen, Theodore C., Minnesota: A History of the State, University of Minnesota Press, Minneapolis, 1963.
- Exhibits at Carlton County Historical Society, Carlton, Minnesota.
- Dunn, James Taylor, The St. Croix: Midwest Border River, Rivers of America Series, Holt, Rinehart and Winston, New York, New York. Reprinted with new introduction and index as History of the St. Croix Valley, Minnesota Historical Society, St. Paul, 1979.
- Minnesota Department of Transportation, Historic Sites (map), 1974.
- Minnesota History, Minnesota Historical Society, St. Paul, spring 1967.
- Exhibits at Pine County Historical Society, Finlayson, Minnesota.

Population and Communities

- Carlton: Minnesota Community Profile, Minnesota Department of Economic Development, 1976.
- Cloquet: Minnesota Community Profile, Minnesota Department of Economic Development, 1979.
- Duluth: Minnesota Community Profile, Minnesota Department of Economic Development, 1980.
- Hinckley: Minnesota Community Profile, Minnesota Department of Economic Development, 1977.
- Moose Lake: Minnesota Community Profile, Minnesota Department of Economic Development, 1978.
- Pine City: Minnesota Community Profile, Minnesota Department of Economic Development, 1978.
- Pine County Overall Economic Development Plan. 1979.
- Population Estimates and Housing Units for Selected Minnesota Cities and Townships, January 1, 1980. Minnesota State Planning Agency, Office of State Demographer, 1980.
- Population Estimates For Minnesota Counties 1979. Minnesota State Planning Agency, Office of State Demographer, 1980.
- Revised Population Projections for Minnesota Counties. Minnesota State Planning Agency, Office of State Demographer, 1979.
- Sandstone: Minnesota Community Profile, Minnesota Department of Economic Development, 1978.

Landownership and Land Use

- Current Employment 1970. United States Department of Commerce, Bureau of Economic Analysis.
- Ford, Doug, "Minnesota Forestry Multipliers," office memo, Minnesota Department of Natural Resources, Forestry Division, May 1, 1979.
- Minnesota Agricultural Statistics 1979. Minnesota Crop and Livestock Reporting Service, U.S. Department of Agriculture and Minnesota Department of Agriculture, St. Paul, June 1979.
- Spencer, John S., Jr., and Arnold J. Ostrom, Timber Resource of Minnesota's Aspen-Birch Unit, 1977. U.S. Department of Agriculture Forest Service Resource Bulletin NC-43. North Central Forest Experiment Station, St. Paul, 1979.

Accessibility

Minnesota Transportation Map. Minnesota Department of Transportation.

Tourism and Recreation

The Economic Distribution of Tourist Travel Expenditures in Minnesota by Regions and Counties 1976. Research Bulletin 6, Minnesota Department of Economic Development, 1975.

Lodging Receipts in Minnesota by State, Regions, Counties and Cities 1976. Research Bulletin 30, Minnesota Department of Economic Development, 1977.

Lodging Receipts in Minnesota by State, Regions, Counties and Cities, 1978. Data Series 50, Minnesota Department of Economic Development, 1979.

Lodging Receipts in Minnesota by State, Regions, Counties and Cities, 1979. Data Series 55, Minnesota Department of Economic Development, 1980.

Minnesota: Statistical Profile. Data Series 58, Minnesota Department of Economic Development, 1980.

The North Country Trail: A Potential Addition to the National Trails System. United States Department of the Interior, Bureau of Outdoor Recreation, 1975.

Retail Sales by Type, by Quarter: State, Regions, Counties and Cities. Data Series 51, Minnesota Department of Economic Development, 1979.

Retail Sales by Type, by Quarter: State, Regions, Counties and Cities. Data Series 56, Minnesota Department of Economic Development, 1980.

State Comprehensive Outdoor Recreation Plan (SCORP). Minnesota Department of Natural Resources, Office of Planning, 1979.

A Summary of the Economic Impact of the Tourist-Travel Industry in Minnesota. Research Bulletin 3, Minnesota Department of Economic Development, 1976.

Tourist-Travel Indicators: Third Quarter Minnesota. Research Bulletin 16, Minnesota Department of Economic Development, 1976.

Tourist-Travel Industry Minnesota 1976. Research Bulletin 21, Minnesota Department of Economic Development, 1977.

Tourist-Travel Industry Minnesota 1977. Research Bulletin 43, Minnesota Department of Economic Development, 1978.

Tourist-Travel Industry Minnesota 1978. Data Series 48, Minnesota Department of Economic Development, 1979.

Tourist-Travel Industry Minnesota 1979. Data Series 54, Minnesota Department of Economic Development 1980.

Upper St. Croix Resource Management Plan. Minnesota Department of Natural Resources and Upper Great Lakes Regional Commission, Technical Assistance Project 10120085.

Other Development Documents

Comprehensive Regional Development Guide: Regional Goals and Policies. Arrowhead Regional Development Commission, Duluth, Minnesota, 1978.

Comprehensive Regional Land Use and Housing Guide Plans. Arrowhead Regional Development Commission, Duluth, Minnesota, 1978.

Management Plan: Nickerson District 2, Area 2, Moose Lake. Minnesota Department of Conservation, Division of Forestry, 1967.

Management Plan: Eaglehead District 3, Area 2, Moose Lake. Minnesota Department of Conservation, Division of Forestry, 1965.

Management Plan: Hinckley District 4, Area 2, Moose Lake. Minnesota Department of Conservation, Division of Forestry, 1965.

Overall Program Design: Fiscal Year 1979. Arrowhead Regional Development Commission, Duluth, Minnesota, 1978.

LETTERS OF COMMENT UPON THE DRAFT MASTER PLAN



United States Department of the Interior

NATIONAL PARK SERVICE

MIDWEST REGION

1709 JACKSON STREET

OMAHA, NEBRASKA 68102-2571

DEC 30 1981

IN REPLY REFER TO:

L5817(MWR-RGT)

1/5/82
to Angela

Mr. Donald M. Carlson
Special Assistant to the Commissioner
Trails and Waterways Unit
Box 52, Centennial Building
St. Paul, Minnesota 55115-1679

Dear Mr. Carlson:

We appreciate the opportunity to review the draft Master Plan for the Minnesota-Wisconsin Boundary Trail and offer the following comments.

We support the development of the Minnesota-Wisconsin Boundary Trail as proposed in the draft plan, particularly the northern portion between the St. Croix State Forest and the Jay Cooke State Park. As noted several times in the draft plan, that portion of the trail has potential to become the route of the North Country National Scenic Trail (NCT) for which we are currently preparing the Comprehensive Management Plan. We appreciate this evidence of Minnesota's support for the NCT.

It should be noted that throughout the plan the name of the North Country National Scenic Trail is given incorrectly as the "National Scenic North Country Trail." This should be corrected on pages 9, 15, 68, and 194.

Other specific comments on the plan are as follows:

1. On pages 2 and 3, the goals and objectives might be revised to reflect that development of the trail will help meet a national objective, i.e., "To complete a segment of the National Trails System."
2. It is helpful to have considered and included information on the accessibility of the trail via public transportation (pages 61-62). This is a major concern to many trail users.
3. On page 68, top, "former" should be inserted before "Bureau of Outdoor Recreation."
4. The inclusion of segments which provide remote, challenging hiking opportunities, such as in eastern Pine County is desirable, as noted on page 106.

RECEIVED

JAN 4 1982

TRAILS & WATERWAYS

5. The discussion of the NCT on pages 194-195 should be revised to state that the NCT extends from the vicinity of Crown Point, New York"

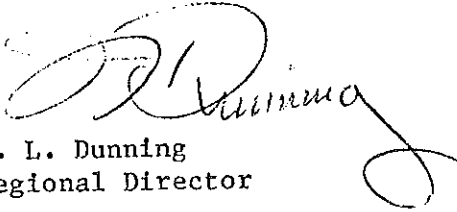
Although a connection to the Appalachian Trail is desirable, the legislation authorizing the NCT states that it extends "from eastern New York State to the vicinity of Lake Sakakawea in North Dakota."

On page 195, the parenthetical example of the private sector should be revised to read "(the North Country Trail Association and similar organizations)." It should also be noted that the establishment of a National North Country Trail Council" and affiliated State councils has not been decided. It was an example provided in the 1975 study report. Overall administration, guidance, and leadership will be provided by the National Park Service. Actual administration of the trail will be carried out by cooperating Federal, State, and local agencies and private trail organizations.

X 6. The discussion of the issue of snowmobile use of the trail in regard to the NCT on page 195 is appropriately and accurately stated.

We appreciate the opportunity to provide these comments and look forward to cooperating with Minnesota in the development of trails to meet our mutual goals.

Sincerely,


J. L. Dunning
Regional Director



STATE OF
MINNESOTA

DEPARTMENT OF NATURAL RESOURCES

Angela

BOX 52, CENTENNIAL OFFICE BUILDING • ST. PAUL, MINNESOTA • 55155

DNR INFORMATION
(612) 296-6157

FILE NO. _____

February 3, 1982

Mr. J. L. Dunning
Regional Director
National Park Service
U.S. Dept. of the Interior
Midwest Region
1709 Jackson Street
Omaha, NB 68102-2571

Dear Mr. Dunning:

Thank you for your comments on the draft master plan for the Minnesota-Wisconsin Boundary Trail and West Addition.

We have revised the plan in accordance with your comments and concerns and will forward you an approved final master plan as soon as it is available.

We look forward to working with you to accomplish our common goal.

Sincerely,

DONALD M. CARLSON
Special Assistant to the Commissioner
Trails & Waterways Unit
Box 52 - Centennial Building
Saint Paul, MN 55155-1679
(612)/296-4822

DMC:AA:1a



United States Department of the Interior

NATIONAL PARK SERVICE

ST. CROIX NATIONAL SCENIC RIVERWAY

P. O. BOX 708

ST. CROIX FALLS, WISCONSIN 54024

IN REPLY REFER TO:

D30
SACN

December 30, 1981

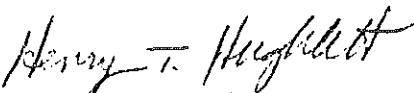
Ms. Angelia Anderson
Trails and Waterways Unit
Box 52 - Centennial Building
Minnesota Department of Natural Resources
St. Paul, Minnesota 55115

Dear Ms. Anderson:

Our staff has reviewed the draft Master Plan for the Minnesota/Wisconsin Boundary Trail and West Addition. Comments were limited to a few items.

1. On plate 3 of 19, the Headquarters for the St. Croix National Scenic Riverway should be indicated at St. Croix Falls. Plate 7 of 19 indicates that Headquarters is located at the Highway 70 Information Station west of Grantsburg.
2. On page 202, 1st paragraph, there is reference to reassurance signs being painted on rocks and trees, within Chengwatana State Forest and other places. National Park Service sign policy does not permit this type of signing and therefore, should not be permitted within National Park Service Lands.

Sincerely,


Henry T. Hughlett
Acting Superintendent

RECEIVED

DEC 4 1981

TRAILS & WATERWAYS



STATE OF
MINNESOTA
 DEPARTMENT OF NATURAL RESOURCES
 CENTENNIAL OFFICE BUILDING • ST. PAUL, MINNESOTA • 55155

DNR INFORMATION
 (612) 296-6157

File No. _____

February 25, 1982

Mr. Gustaf P. Hultman, Superintendent
 U.S. Department of Interior
 National Park Service
 St. Croix National Scenic Riverway
 P.O. Box 708
 St. Croix Falls, WI 54024

Dear Mr. Hultman:

Thank you for your comments on the draft master plan for the Minnesota-Wisconsin Boundary Trail and West Addition.

We have revised the plan according to your comments. In regard to #2, the plan now reads on page 202: "The plan recommends that this method be tried on the Minnesota-Wisconsin Boundary Trail in Nemadji, St. Croix and Chengwatana state forests outside National Park Service land".

Enclosed please find a copy of the Department of Natural Resources' (DNR) response to comments and concerns raised at the public meeting at Taylors Falls on December 22, 1981.

Sincerely,

ANGELA ANDERSON, Trails Planner
 Trails Planning Section
 Trails & Waterways Unit
 Box 52 - Centennial Building
 Saint Paul, MN 55155-1679
 (612)/296-6768

AA/jls

Enclosure

cc Henry T. Hughlett
 Donald M. Carlson



United States Department of the Interior

NATIONAL PARK SERVICE

ST. CROIX NATIONAL SCENIC RIVERWAY

P. O. BOX 708

ST. CROIX FALLS, WISCONSIN 54024

IN REPLY REFER TO:

March 8, 1982

D30(SACN)
D30(LOSA)

Angela Anderson, Trails Planner
Trails Planning Section
Trails & Waterways Unit
Box 52, Centennial Building
St. Paul, Minnesota 55155

Dear Ms. Anderson:

On March 5, 1982, we received the summary results from the Public Meetings for the Minnesota/Wisconsin Boundary Trail. From the summaries it would appear that there was considerably more interest on the southern portion of the trail than the northern. It also seems like interests and comments were alike from one portion to the other.

The idea of a landowner's handbook sounds like a good way to handle future problems along the trail. I would like to have a copy to review once it is developed. It may well eliminate the need for some law enforcement actions.

Good luck on the plan being approved by the Department of Energy, Planning and Development and its eventual implementation.

Sincerely,

Gustaf P. Hultman
Superintendent



MINNESOTA-WISCONSIN BOUNDARY AREA COMMISSION

619 SECOND STREET, HUDSON, WISCONSIN 54016

*Serving Our Sponsor States on the St. Croix
and Mississippi Rivers since 1965*



Minnesota Telephone
(612) 436-7131

Wisconsin Telephone
(715) 386-9444

December 22, 1981

Angela Anderson
Trails Planning Section
Trails and Waterways Unit
Minnesota Department of Natural Resources
Box 52
Centennial Building
St. Paul, MN. 55155-1679

Re: Minnesota-Wisconsin Boundary Trail

Dear Ms. Anderson:

The Minnesota-Wisconsin Boundary Area Commission staff has had an opportunity to review the draft master plan for the Minnesota-Wisconsin Boundary Trail. In addition, I attended the public meeting in Stillwater last night.

The Boundary Area Commission has a long history of support for development of this trail. We are generally satisfied that the plan addresses the issues properly and is consistent with historical planning for the trail.

We are disappointed---as I'm sure you are---that a route has not been selected for the trail segment between Carnelian Junction and Cedar Bend. We hope that can be accomplished fairly soon. It appears you intend to take advantage of the off-road bicycle trail through Marine on St. Croix, and we're pleased about that.

Development of a hiking trail in the valley between Cedar Bend and Taylors Falls would help satisfy trail needs within the Lower St. Croix National Scenic Riverway. There appear to be a couple of minor problems with that segment, however. National Park Service land ownership is not complete, as you have noted, and acquisition of the needed land may be difficult. Private landowners in that segment have resisted Park Service acquisition and may be equally unwilling to sell for trail development. The plan notes that NPS facilities at Camp Croix would be available to summer trail users, but it should be noted that frequent high water limits access to Camp Croix to state highway right-of-way. Some sort of agreement may be needed with the Minnesota DOT. Camp Croix is not currently suitable for winter use, and some work would be necessary before ski touring could be centered there.

With the exception of those comments, the MWBAC staff feels MDNR has done an excellent job planning for this large and complex trail. Thank you for this opportunity to comment.

Very truly yours,

Steven P. Johnson
Associate Director

cc: Gustaf Hultman, NPS



STATE OF
MINNESOTA
DEPARTMENT OF NATURAL RESOURCES
CENTENNIAL OFFICE BUILDING • ST. PAUL, MINNESOTA • 55155

DNR INFORMATION
(612) 296-6157

File No. _____

February 25, 1982

Mr. Steven P. Johnson, Associate Director
Minnesota-Wisconsin Boundary Area
Commission
619 Second Street
Hudson, WI 54016

Dear Mr. Johnson:

Thank you for your comments on the draft master plan for the Minnesota-Wisconsin Boundary Trail and West Addition.

We are pleased to hear that you support the trail and find that the plan properly addresses the issues. We had hoped to establish a trail alignment between Carnelian Junction and Cedar Bend and we did some initial landowner contacts and do have an approximate route in mind as indicated in the plan. However, it was indicated to us that a public trail at this time would not be accepted by local people because heavy recreational use of the St. Croix River puts much pressure on communities in the area. The Department of Natural Resources (DNR) believes that in time we will be able to establish a trail alignment in the area, especially if the other segments of the trail become popular.

We are working closely with the National Park Service in the establishment of a trail right-of-way between Cedar Bend and Taylors Falls and are aware of the ownership problems in some areas and the general opposition of the trail, especially expressed by the town of Franconia.

Enclosed please find a copy of DNR's response to comments and concerns raised at the public meeting at Taylors Falls on December 22, 1981.

Sincerely,

ANGELA ANDERSON, Trails Planner
Trails Planning Section
Trails & Waterways Unit
Box 52 - Centennial Building
Saint Paul, MN 55155-1679
(612)/296-6768

AA/jls

Enclosure

cc Donald M. Carlson

AN EQUAL OPPORTUNITY EMPLOYER

Office Memorandum

DEPARTMENT of Transportation
Room 715

TO : Donald M. Carlson
Special Assistant to the Commissioner
Trails and Waterways Unit
Department of Natural Resources

FROM : Leonard G. Eilts *L. G. Eilts*
Director
Office of Environmental Services

SUBJECT: Minnesota - Wisconsin Boundary Trail
Draft Master Plan

DATE: January 8, 1982

PHONE: 296-7528

The Minnesota Department of Transportation (Mn/DOT) has completed a review of the above-referenced Draft Plan. We offer the following comments for your consideration in development of the Final Plan.

We appreciate the DNR's efforts to coordinate planning of this trail with us. We particularly support plan concepts such as those found on pages 61 and 123 which acknowledges the need to provide good trail access points while discouraging unauthorized vehicle parking along our highways. We are also pleased to see the many references to Mn/DOT's bicycle route systems.

We do, however, have some specific comments and concerns regarding the plan:

1. Page 64. We suggest the last sentence be changed to read:
"Thompson Hill experienced a 14% drop in inquiries from 1978 to 1979, but inquiries increased by 7.7% between 1979 and 1980."
2. Page 74. We disagree with the fourth paragraph which states that bicycling occasions will decrease through 1985. A letter from William Merritt, Mn/DOT Assistant Commissioner, to William Lake, Federal Highway Administration (FHWA) Administrator, suggests just the opposite future for bicycling in the metropolitan area. Merritt's letter projects that completion of the programmed Trunk Highway (TH) 95 bikeway from Square Lake Trail to the south limit of Marine-on-the-St. Croix will cause bicycle use in the TH 95 corridor to increase 30% over the next three years following completion.

We are also curious about the source of the figures used in your calculations. Were SCORP figures used?

3. Page 96. There was no page 96 in our Plan document.
4. Page 106. We suggest the second sentence in the last paragraph be rewritten to read:

"This road is rated fair to unsatisfactory for bicycle use, depending on traffic volume and road geometrics."

We would further recommend that a discussion should be included which specifies upgrading procedures needed to make old highway

Donald M. Carlson
January 8, 1982
Page Two

61 a satisfactory bicycle travel corridor.

Because the bicycle is a legal road vehicle, cyclist have the perogative to use all roads (except those posted controlled access) for their travel purposes. Signing a road that we regard as less than suitable for bicycle travel does not seem, to us, to be a reasonable recommendation. On the other hand, signing at site specific locations, (for example - areas of limited sight distance where crossings may be difficult), may be possible. Such an effort, however, would require study by the DNR with Mn/DOT and/or the respective road authority - the county or city highway department.

The Mn/DOT bikeways maps indicate that both TH 61 and County State Aid Highway (CSAH) 61 are rated poor to unsatisfactory for bicycle travel. This information is clearly depicted on the maps, serving as a precaution to bicyclists that the road is not recommended for travel. We strongly disagree with the DNR that the route should be used as it currently exists.

It should be noted also that the "Highway 61" the Plan refers to is actually Chisago CSAH 30 from Wyoming to the Pine County line; it is TH 361 to Pine City; and then it becomes Pine CSAH 61 and Carlton CSAH 61. Perhaps the narrative could be re-written to reflect the correct roadway terminology and recent maps could be used that more clearly depict the current routes.

5. Page 112. We recommend that a discussion of the roadway condition of TH 23 be added to the second paragraph indicating why the route is recommended only for experienced cyclists. T.H. 23 has 12 foot lanes, 4-12 foot gravel shoulders, and an Average Daily Traffic (ADT) of 1350-3500. Although this route has not officially been designated as a bicycle route, Mn/DOT would evaluate the condition of TH 18 and TH 23 from the northern junction of CSAH 61 as "fair" for bicycle travel.

A suggested alternative to the trail alignment proposed in paragraph three would be: Washington CSAH 7 to TH 95, along TH 95 (when completed) to North Branch, as stated in the plan, but returning south along Chisago CSAH 30, which becomes U.S. 61 at Wyoming, to Washington CSAH 2 along Forest Lake, south on CSAH 15 to the off-road bikeway along CSAH 12.

Utilization of this route would eliminate the need to bike on a heavily traveled route, TH 61. Alternate routes which we have indicated above are rated good-fair for the most part by Mn/DOT's bikeways unit.

6. Page 21. The last paragraph refers to the desirability of extending the Boundary Trail into the core of the Twin Cities metropolitan area. Is it feasible for the DNR to consider an alternate south trail head that would extend into the Twin Cities? One possible route would be the soon to be abandoned Soo Line rail line which runs from the proposed trail at Interstate (I)694 west to the junction with the Burlington Northern railline in Maplewood. Another valuable connection would be between Washington County trails and the Lake Phalen area. A connection into the Lake Phalen area would have the additional advantage of in-place parking and recreation facilities. Both amenities would be desirable at a trail head location.

Other alternatives to an inner city route exist for biking and hiking. CSAH 29, for example, generally parallels the Soo Line and has paved shoulders to adequately accommodate bicycle travel. Possible routes include:

South Avenue (CSAH 25) east to Margaret Street, on Margaret Street North to Lake Boulevard which becomes Joy Road; across I-694 on Century Avenue and then on 60th Street to the east, north on Lincolntown Avenue, east on Long Lake Road; north on Hilton Avenue (CSAH 36) to the off-road bikeway along CSAH 12.

We recognize that an inner city alternative trail and access point could be thought of only as supplemental to another major south trail access. The inner city access could reasonably only serve as an access for certain trail users.

7. Page 120. We are concerned about the many at-grade trail crossings that occur in Segment 1. We urge more intensive evaluation of these crossings and suggest, in all cases, that the DNR contact local road authorities to discuss plans for these crossings and measures which can be undertaken to assure the safety of motorists and trail users.
8. Page 123. The third sentence in the Treadway discussion references bicycle treadway widths varying from six to eight feet. For the DNR's information, the commonly accepted National and Minnesota minimum standard for a two way bicycle treadway is eight feet. We suggest the sentence be changed to reflect the standard width.
9. Page 127. Mn/DOT's plans for TH 96 and TH36 are accurately portrayed in the Plan. We do plan to remove the bridge over TH96 and to place a culvert for a trail under TH36. However, the TH 36 culvert will not be put in place until the two existing bridges on TH36 deteriorate to the point that they must be replaced to assure continued safe operation of our transportation facilities. The DNR, therefore, should not depend on the culvert installation to facilitate the trail development.
10. Page 130. Because the discussion of this segment of the Trail is so general, it is difficult to evaluate it at this point.

Mn/DOT currently provides a large share of the bicycle route within the proposed trail corridor. We are proposing development of even a larger share of the route. The DNR is aware that Mn/DOT's District Office in Oakdale has programmed a construction project on TH 95 for 1983. The project would extend the off-road bike path from Marine-on-the St. Croix south to County Road (CR) 59, the Square Lake Trail. It will provide a combination of off-road and on-shoulder bike trails or routes between the entrance to William O'Brien State Park and T.H. 97. Mn/DOT's plans would provide most of the bicycle user trail through the Carnelian Junction to the Washington, Chisago County Line "Corridor".

We suggest that the plan be modified to emphasize use of TH 95 as a bicycle corridor rather than use of county roads for segments two and three of the trail as the Plan currently states. If the intent is to use the extended TH 95 bicycle route perhaps this should be stated more clearly.

- ???
11. Page 133. We agree that alignment alternative 2 of segment 3 would require use of Mn/DOT right-of-way. We ask that the DNR meet with the Right-of-Way Engineer at Mn/DOT's Oakdale Office to work out details of the trail plan prior to any actual trail development. Our District Office, especially the Traffic Engineer, would also need to be involved in the specific planning for the proposed trail crossing of TH 8. Sight distance, signing, and other safety oriented measures should be discussed. We will, however, maintain a position that Mn/DOT will not consider signals, speed limit reductions, and highway reroutings as necessary elements in developing a safe highway trail crossing.
 12. Page 134. Plans for using one of Mn/DOT's rest areas as a trail access (Cedar Bend) have been discussed with the DNR in the past. We are hopeful that a solution can be reached which would allow development of the proposed trail access. However, Mn/DOT's Oakdale District Office has not developed a position on development or maintenance costs of the site or on the resulting land ownership. We prefer, therefore, that the first paragraph on page 134 be rewritten to provide only a general reference to working with Mn/DOT on this specific issue. Our District Office must work with the FHWA in modifying plans for any of our transportation facilities. No communication with the FHWA has taken place to date. As the DNR develops detailed plans for this access site, we will be glad to work with the DNR and the FHWA toward an agreeable solution.
 13. Page 187, 188. We cannot endorse the DNR's recommendation that TH 73 be used as an alternate connecting bicycle route in the Moose Lake area. Mn/DOT has rated this road "unsatisfactory" and we consider it unsafe for bicycle travel.
 14. Page 188. In evaluating the cost of bituminous pavement versus crushed rock for bicycle paths, we caution the DNR to be sure to include maintenance costs as well. In our evaluations we have found a paved surface bikeway to be more cost effective.
 15. Page 190. Discussions of the Banning bicycle spur route should be updated to reflect the current situation rather than the status of the route prior to Fall, 1981.
 16. Finally, we have a general comment regarding the mapping component of the Draft Plan. We noted some inconsistencies between trail use portrayed on maps 1, 11, 12, 13, 15, 16 and the narrative document. Mn/DOT's perception of road design and analysis also varies from the DNR's in some instances. We suggest that the DNR check the maps carefully to be sure they accurately reflect routings and situations described in the text. An example of inconsistencies in mapping can be illustrated by Map 15 and Map 16. Map 15 shows a bicycle route proceeding north from Harris on TH 61. Map 16 shows

Donald M. Carlson
January 8, 1982
Page Five

only a loop bicycle trail and a large void in the trail between North Branch and Hinckley.

We also suggest that incorporation of maps into the narrative document would result in a more readable document. We found that determination of clear alignments was difficult because of the numerous necessary cross references to maps.

Thank you for the opportunity to review your very thorough Draft Plan for the Minnesota-Wisconsin Boundary Trail. If you would like to discuss any of Mn/DOT's comments or suggestions or if you require any additional information from Mn/DOT, please contact Cheryl Heide from my staff at 296-1652.

cc: Angela Anderson - Trails Planner DNR
Roger Williams - DEPD



STATE OF
MINNESOTA
DEPARTMENT OF NATURAL RESOURCES
CENTENNIAL OFFICE BUILDING • ST. PAUL, MINNESOTA • 55155

DNR INFORMATION
(612) 296-6157

File No. _____

February 26, 1982

Mr. Leonard G. Eilts, Director
Office of Environmental Services
Department of Transportation
Room 715
Saint Paul, MN 55155-1679

Dear Mr. Eilts:

Thank you for your comments on the draft plan for the Minnesota-Wisconsin Boundary Trail and West Addition.

The following paragraphs respond to your specific comments and concerns about the plan.

1. The plan was amended to read as you suggested.
2. The plan was amended in paragraph four to read:
"Although SCORP figures show that bicycling occasions will decrease through 1985, Mn/DOT disputes these figures for the metropolitan area in general and especially as they relate to State 95 in Washington County. Mn/DOT projects that completion of the programmed State 95 bikeway from Square Lake Trail to Marine-on-St. Croix will cause bicycle use in the State 95 corridor to increase 30% over the next three years following completion."

SCORP (1980) figures were used as indicated throughout the tables and text.

4. The second sentence in the last paragraph was altered to read:
" . . . depending on traffic volume and road design."

The last paragraph was also changed to read:

"From Harris to Hinckley 'Old Highway 61' traffic lanes must suffice for now (refer to Mn/DOT road maps for correct roadway terminology through Chisago and Pine counties). This stretch of road is rated fair to unsatisfactory for bicycle use depending on traffic volume and road design. Until this roadway can be improved through shoulder extensions it cannot be safely recommended as a bicycle route. However, since the

bicycle is a legal road vehicle it can be on all public roadways except those posted controlled access. If in fact the roadway is used by bicycles as part of the entire route prior to any improvement, DNR will make every effort to work with Mn/DOT and the respective road authority (county or municipal) to sign site specific problem areas to caution motorists and bikers alike. In addition, bicyclists may identify other suitable routes with the aid of Mn/DOT's Minnesota Bikeway maps."

5. The following information was added in paragraphs two after the third sentence:

"As mentioned before, use of State 23 is recommended only for the experienced cyclist. The highway has 12 foot lanes, 4-12 foot gravel shoulders and an Average Daily Traffic (ADT) of 1,350-3,500. Although State 23 has not officially been designated as a bicycle route, Mn/DOT would evaluate the road as 'fair' for bicycle travel."

Paragraph three second sentence was changed to read:

"Several popular one-day trips could involve the use of the Soo Line right-of-way and existing Washington County bicycle routes (Mn/DOT's Minnesota Bikeway maps should be consulted for further detail)."

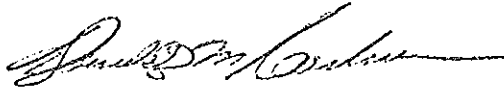
6. The DNR is aware of the situation depicted here and is presently working with other governmental entities on a potential trail alignment.
7. The plan lists a policy for at grade public crossings on page 211. In addition, each crossing will be dealt with in detail on an individual basis with the respective road authorities.
8. We recognize that the commonly accepted width for a two-way bicycle treadway is eight feet. In the case of the Soo Line the six foot width is recommended only in areas of physical limitations and not over the entire route.
10. The plan more clearly emphasizes the use of State 95 as a bicycle corridor.
11. DNR met initially with Mn/DOT officials from District 9 and the central office on September 2, 1980 to discuss the depicted alignment of alternative 2. We agree that a more detailed alignment proposal would have to be worked out with Mn/DOT in order to implement alignment of alternative 2.
12. DNR initiated communication on this proposal with Mn/DOT's Design Services, Site & Development Section in March of 1980 and District 9 was consulted (see Office Memorandum from Jim Reiersen to Angela Anderson, March 27, 1980). It is correctly stated that details for the development of an access have not been worked out. Complying with Mn/DOT's preference the fifth sentence of paragraph one page 134 was omitted.

13. According to Minnesota Bikeways map #26, it appears that State Highway 73 is a recognized bicycle route (paved shoulder extension) from Moose Lake to the I-35 intersection. The entrance to Moose Lake Recreation Area is approximately ½ mile east of the intersection off county road 137 which is a gravel road.
15. The discussion on the Banning bicycle spur route does reflect the current situation, paragraph two, second sentence.
16. You point out an example of map inconsistency between map 15 & 16 of the plan. Each of the maps fullfills its own purpose. Map 15 identifies a more or less continuous route for each trail use between the Twin Cities and Duluth. Map 16, however, illustrates potential use scenarios for weekend trips only not being concerned with the continuity aspect.

In the case of the Minnesota-Wisconsin Boundary Trail, we do not believe that incorporation of maps into the narrative document would have contributed to a more readable document. In fact, we think that having the maps separate would make for easier reading without paging back and forth.

Thank you again for your review.

Sincerely,



DONALD M. CARLSON
Special Assistant to the Commissioner
Trails & Waterways Unit
Box 52 - Centennial Building
Saint Paul, MN 55155-1679
(612)/296-4822

DMC/AA/jls

Enclosure

cc Angela Anderson
Ted Orosz

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the integrity of the financial system and for the ability to detect and prevent fraud. The document also highlights the need for transparency and accountability in all financial activities.

The second part of the document outlines the specific procedures and controls that should be implemented to ensure the accuracy and reliability of the financial records. These procedures include regular audits, internal controls, and the use of standardized accounting practices. The document also discusses the importance of training and education for all personnel involved in the financial process.

The third part of the document provides a detailed overview of the financial reporting requirements and the role of the accounting department. It explains how the accounting department is responsible for providing accurate and timely financial information to management and other stakeholders. The document also discusses the importance of maintaining up-to-date financial records and the need for regular reviews and updates.

The fourth part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the integrity of the financial system and for the ability to detect and prevent fraud. The document also highlights the need for transparency and accountability in all financial activities.

Collins

DEPARTMENT of Transportation
Room 715

Office Memorandum

To Collins
RO

TO : Donald M. Carlson
Special Assistant to the Commissioner
Trails and Waterways Unit
Minnesota Department of Natural Resources

DATE: March 11, 1982

FROM : Leonard G. Ellits *L. G. Ellits*
Director
Office of Environmental Services

PHONE: 6-7528

SUBJECT: Minnesota-Wisconsin Boundary Trail
and West Addition Draft Master Plan Review Comments

Mn/DOT has reviewed DNR's response to our comments and concerns regarding the Minnesota-Wisconsin Boundary Trail Draft Master Plan. In general we believe that our comments have been well addressed. We have no additional comments to offer at the present time.

As detailed phases of planning and designing the trail take place, however, we would appreciate being kept informed. Please feel free to contact either the Office of Environmental Services or the appropriate District Office if you require additional information from Mn/DOT.



Done
12-22
RS

300 Metro Square Building, 7th Street and Robert Street, Saint Paul, Minnesota 55101 Area 612, 291-6359

December 18, 1981

Ms. Angela Anderson
Minn. Department of Natural Resources
Trails and Waterways Unit
Box 52, Centennial Building
St. Paul, Minnesota 55115

Dear Angela:

I have reviewed the draft Master Plan for the Minnesota - Wisconsin Boundary Trail...and West Addition and offer the following comments for your consideration:

The section on trail use demand and projections (pp. 69-74) only uses Minnesota SCORP data. Since this trail will also get some use from western Wisconsin residents it seems appropriate that Wisconsin SCORP data should be analyzed too.

Basically, the public participation procedures you used justify the recommendations for trail alignment and use. Yet in several instances, trail alignment alternatives were listed with no Departmental recommendation or discussion on the future steps that will be taken to determine the final alignment (see pp. 138-139, and 142-143). In other segments of the trail, you have made a recommendation on a final alignment (see pp. 171-172, 102-103, and 135-136). Decisions should be made on those alternatives now or else at least a procedure established to make those decisions before adopting this plan.

Overall, I was pleased with the comprehensiveness of the plan and the extra effort put into effective public involvement for preparing the plan. The utilization of a system of trails instead of one trail corridor provides a reasonable amount of trail opportunities without creating a lot of trail-use conflicts or conflicts with adjacent land-owners. Hopefully sufficient funds will be appropriated in future bienniums to implement the plan.

Page 2
December 18, 1981
Ms. Angela Anderson

The plan was also reviewed for consistency with other Council plans and policies and no concerns were raised. You'll get a copy of a "Consent List" letter from Chairman Weaver's office in January.

Sincerely,

Arne Stefferud
Arne Stefferud
Park Planner

AS/dlmp

January 8, 1982

Donald M. Carlson
Special Assistant to the Commissioner
Trails and Waterways Unit
Minnesota Department of Natural Resources
Centennial Office Building
St. Paul, MN 55155

RE: Master Plan for the Minnesota-Wisconsin
Boundary Trail and West Addition
Metropolitan Council Referral File No. 10221-1

Dear Mr. Carlson:

At its meeting on January 7, 1982, the Metropolitan Council considered the draft of the Master Plan for the Minnesota-Wisconsin Boundary Trail and West Addition. The Council finds all components are consistent with appropriate Council plans and policies.

Sincerely,

METROPOLITAN COUNCIL



Charles R. Weaver
Chairman

CRW:bm

cc: Arne Stefferud, Metropolitan Council Staff

*Copied Collins
Thomas
Alexander
Darius
Sundsten*
*To Angela
Dan*
Pan Collins
*Angela has done
a good job 1-12-82*
RB



300 Metro Square Building
Saint Paul, Minnesota 55101
Telephone 612/291-6359



STATE OF
MINNESOTA
DEPARTMENT OF NATURAL RESOURCES
CENTENNIAL OFFICE BUILDING • ST. PAUL, MINNESOTA • 55155

DNR INFORMATION
(612) 296-6157

File No. _____

February 5, 1982

Mr. Arne Stefferud, Park Planner
Metropolitan Council
300 Metro Square Building
Seventh & Robert Streets
Saint Paul, MN 55101

Dear Arne:

Thank you for your comments on the draft master plan for the Minnesota-Wisconsin Boundary Trail and West Addition. We would like to respond to two of the concerns you expressed.

Accessibility to the trail via a trail for Wisconsin users would be limited to some areas south of Duluth and in the winter across the St. Croix River at Wild River State Park. This winter crossing, although not promoted by the DNR, is presently used by snowmobilers primarily from Minnesota who frequent the trails in Wisconsin. Summer users would have to cross at established bridges to access the trail. South of Jay Cooke State Park a spur trail (Wrenshall to State Line railroad right-of-way) will form the connection to Wisconsin's trail system. This would even be more emphasized if recommended alternative 2 (Segment 7) would be implemented. Since records show that Minnesota trail users frequent Wisconsin trails rather than western Wisconsin trail users coming to Minnesota and since accessibility to the Minnesota-Wisconsin Boundary Trail is somewhat limited, we do not perceive a need to analyze Wisconsin's SCORP data.

The final plan will make a decision instead of a recommendation on one of those addressed trail alignment alternatives you are referring to. For instance, on page 142 (second paragraph, fourth sentence) it will read: "Alternative 2 is the alternative the DNR will pursue".

Sincerely,

ANGELA ANDERSON, Trails Planner
Trails Planning Section
Trails & Waterways Unit
Box 52 - Centennial Building
Saint Paul, MN 55155-1679
(612)/296-6768

AA/jls
cc Charles Weaver

AN EQUAL OPPORTUNITY EMPLOYER





FOUNDED IN 1849

MINNESOTA HISTORICAL SOCIETY

690 Cedar Street, St. Paul, Minnesota 55101 • (612) 296-6126

27 January 1982

To Collins
AB

Mr. Donald M. Carlson
Special Assistant to the Commissioner
Trails & Waterways Unit
Box 52 - Centennial Building
St. Paul, Minnesota 55115-1679

Dear Mr. Carlson:

RE: Department of Natural Resources'
Trails & Waterways Unit
Draft Master Plan for the
Minnesota-Wisconsin Boundary Trail
and West Addition.

MHS Referral File Number: N 857

We have reviewed the draft master plan for the Minnesota-Wisconsin boundary trail. Our conclusions are as follows:

1. That section dealing with the cultural environment does not include several existing historic resources. Other relevant source materials for cultural resources in the project area were not cited. Before this information is used for interpretive purposes it is recommended that your researcher consult with the State Historic Preservation Office and examine the resource files kept by that office.
2. There is potential impact on archaeological resources as a result of the project development, but details as presented in the plan are not detailed enough to precisely determine that impact. As construction plans become available, they should be forwarded to the State Historic Preservation Office for review from the standpoint of potential impact on archaeological resources.

Thank you for your participation in this important effort to identify and preserve Minnesota's cultural resources.

Sincerely,

Dennis A. Gimrestad
for Russell W. Fridley
State Historic Preservation Officer

RWF/fr



STATE OF
MINNESOTA
DEPARTMENT OF NATURAL RESOURCES
CENTENNIAL OFFICE BUILDING • ST. PAUL, MINNESOTA • 55155

DNR INFORMATION
(612) 296-6157

File No. _____

February 25, 1982

Mr. Russell W. Fridley
State Historic Preservation Officer
Minnesota Historical Society
690 Cedar Street
Saint Paul, MN 55101

Dear Mr. Fridley:

Thank you for your comments on the draft master plan for the Minnesota-Wisconsin Boundary Trail and West Addition. Our response is as follows.

1. We would like to add the relevant source materials you refer to in the plan and would appreciate it if you could forward this information to us. The Department of Natural Resources (DNR) will also prepare a more detailed program for interpretation as an addendum to the plan. Paragraph 2 on page 223 will read in part as follows: ". . . These guidelines will be applied in developing an effective interpretation program for the Minnesota-Wisconsin Boundary Trail and West Addition During preparation of this addendum the DNR will closely work with the Minnesota Historical Society".
2. On page 208 Manmade Resources Paragraph 2 the plan will read in part as follows: ". . . Therefore, the Minnesota Historical Society and the Minnesota Archeological Survey will be consulted as soon as a specific alignment has been identified and before any on-site work occurs. Construction plans will be submitted to above mentioned entities for review".

Please feel free to contact me if you have any questions.

Sincerely,

ANGELA ANDERSON, Trails Planner
Trails Planning Section
Trails & Waterways Unit
Box 52 - Centennial Building
Saint Paul, MN 55155-1679
(612)/296-6768

AA/jls

cc Dennis A. Gimmetstad

AN EQUAL OPPORTUNITY EMPLOYER



CITY
OF
DULUTH



DEPARTMENT OF PLANNING & DEVELOPMENT

Physical Planning Division
409 City Hall • Duluth, Minnesota 55802
218/723-3328

Angela

Gerald Kimball
Director

January 18, 1982

Angela Anderson
Trails Planner
Trails Planning Section
Trails & Waterways Unit
Box 52-Centennial Building
St. Paul, Mn. 55155-1679

Dear Angela,

I realize that you were hoping for a written response by December 31, 1981, but I have been unable to find time to get to reviewing your Minnesota-Wisconsin Boundary Trail. First, I want to congratulate you on the mammoth planning effort which you have put into this report. This 235 mile segment of corridor trail requires extensive amount of research and public meeting time. I was surprised to see the types of information you provided in the two volume series concerning the trail. A lot of the information is interesting, especially the history of the various segments of the trail.

Overall, I believe that you have addressed a concern of the city with regard to motorized vehicles (snowmobiles) and the other uses that we are considering. The concept of tying into the existing Western Waterfront Trail has been a goal of my efforts in planning bicycle routes for the City of Duluth. Anytime one is able to connect various trail networks which provide various looping systems and more recreational experiences, I heartily support.

The following is a list of the comments I have at this time concerning the proposed trail:

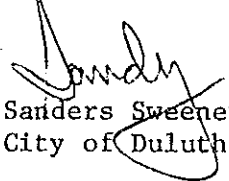
1. The acquisition of the right-of-way connecting Minnesota to the Wisconsin, Douglas County Trail from Wrenshall was a suggestion we made several years ago. This makes sense that a cooperative effort be undertaken between Carlton County and Douglas County to provide this trail segment. The proposed uses are appropriate.
2. The west addition: Carlton to West Duluth railroad right-of-way:
 - a. Two treadways-horses, bikes, hikers and snowmobilers-good idea. Your suggestion that they be separated by vegetation is a good idea but I think it would be mandatory in the case of separating horses from bikes. You suggest that this be done, but you don't state that it shall be done. The merging of the two treadways areas where width is minimal, could be a problem. You do not identify in the report where those potential problems existed. A 6 ft. surface for the purposes of both horses and bicycles could be a problem.

- b. It's a good idea to cut off the horseback riding and snowmobile riding at Seven Bridges Road.
 - c. The idea of having ski touring recommended from Seven Bridges Road to West Duluth Junction and a future trail connection to the Western Waterfront Trail is consistent with the City of Duluth's plan for the area.
 - d. The proposed development of a trail access in Duluth's Indian Point Park Campgrounds and its joining to the Western Waterfront Trail provides a good linkage and a good looping network.
3. The west addition: Hinkley to Barnum - The overall recommendations, as stated in the report, are well thought out and should work.
 4. Segment 7 which is the north boundary of the Nemadji State Forest to Jay Cooke Park consists of two alternatives. You stated that DNR's recommendation is for alternative 2 which is twice as long as alternative 1. It would appear to make more sense to use the railroad right-of-way due to cost factors and the interesting possibilities of connecting into Superior and back across the trail which traverses the state line between Wrenshall and South Superior. This alternative would also be more readily implemented and would provide for a longer trail network.
 5. The proposed trail wayside below Bardons Peak is a good idea for the view. Has some thought been given to location of possible drinking facilities and bathroom facilities been considered?
 6. The connection from the Minnesota-Wisconsin Boundary Trail to Indian Point is not clearly shown on the maps which have been included in the reports. It appears that it uses some existing roadways in the area surrounding Indian Point. This linkage would seem to make both trails more accessible and desirable for the various users. This linkage should be given high priority.
 7. On page 202 you had a comment concerning signs, such as reassurance markers, directional signs and caution signs could be painted on trees or rocks or other fixed objects. The report stated that this could save 60% in labor costs as well as for posts and the signs themselves. I'm interested in knowing how this would look and what types of techniques have been used in other areas. Somehow, the painting of rocks and the posting of signs unto trees does not seem to be in the best interests of the environment or aesthetically. I realize the cost saving achieved by such a proposal, but it would seem that some fund raising attempts could be made to buy appropriate signs.
 8. The evaluation as to how the trail can be maintained reveals that alternative 3 is probably the best idea. I can't imagine how the staff of Jay Cooke State Park could maintain the trail in the park and the Carlton to West Duluth and the Wrenshall to State Line segments. I believe the funding of alternative 3 will be a problem as it is with all levels of government at this time.
 9. The development time table for the segment that we are most interested in appears to be very optimistic in that the trail from Carlton to West Duluth would be surfaced and finished in the 1984-85 biennium. I question the \$20,000 per mile cost you stated for paving a 6' to 8' asphalt treadway for bicycle use. I hope it is this inexpensive. Have any DNR staff considered using limestone and what

those costs would be? The City of Duluth has experimend with a type of lime-stone aggregate on its Western Waterfront Trail which might be useable for the segment between Carlton and West Duluth.

In summary, it has been a pleasure working with you on the Minnesota-Wisconsin Boundary Trail. Your work at including as many citizens as possible has been well received and as a result of the meetings, changes to the plan have been made. I hope that this trail is developed and that the City of Duluth will be involved in the evaluation of the segments most closely related to the City. Again, I appreciate the opportunity to review the plan. Keep up the good work.

Sincerely yours,



Sanders Sweeney, Bikeway Coordinator
City of Duluth

SS:bg



STATE OF
MINNESOTA
DEPARTMENT OF NATURAL RESOURCES

BOX 52, CENTENNIAL OFFICE BUILDING • ST. PAUL, MINNESOTA • 55155

DNR INFORMATION
(612) 296-6157

FILE NO. _____

February 25, 1982

Sanders Sweeney
Bikeway Coordinator
City of Duluth
Dept. of Planning
and Development
409 City Hall
Duluth, MN 55802

Dear Sandy:

Thank you for your comments on the Minnesota-Wisconsin Boundary Trail and West Addition. The DNR is pleased to know that most of the issues concerning Duluth were addressed adequately. Following are responses to those concerns that needed to be addressed.

- 2a. The public review draft generally recommends and proposes actions because the review by the public and their response is essential to complete the master plan. The language in the final plan will be stronger and more decisive.

It is correct that the master plan does not identify potential problem areas relative to the two proposed treadways. These site specific details will be dealt with in the implementation plan for this segment.

5. The plan will be revised to include bathroom facilities at Bardons Peak. However a drinking water facility is not being considered at this time. If a demand for such a facility can be demonstrated the DNR will provide for it. The costs for digging a well in this area could be high and the distance between Duluth and Jay Cooke State Park is only 12 miles.
6. The DNR realizes that additional detail work is needed to clarify the Indian Point Park access situation. This will be done at the implementation stage.
7. The idea of using stencils and paint to sign and mark the trail is not new. To a certain degree this method is used in Europe. The plan recommends such practice on an experimental basis in the areas indicated where accessibility is sometimes limited. The DNR agrees that this method should not be practiced uniformly along all trails. In the case of a railroad right-of-way signs or posts may be more appropriate.

9. At this time the DNR has not decided on the type of hard surface for segment 8. The reason for listing asphalt was to cover for all other potential surfaces. The DNR would rather use a more cost efficient surface material such as limestone.

Enclosed please find a copy of DNR's response to comments and concerns raised at the public meeting in Duluth on December 15, 1981.

Sincerely,



ANGELA ANDERSON, Trails Planner
Trails Planning Section
Trails & Waterways Unit
Box 52 - Centennial Building
Saint Paul, MN 55155-1679
(612)/296-6768

AA:la

Enclosure

cc Ray Carson
Donald M. Carlson



CITY
OF
DULUTH



DEPARTMENT OF PLANNING & DEVELOPMENT

Gerald Kimball

April 2, 1982

Physical Planning Division
409 City Hall • Duluth, Minnesota 55802
218/723-3328

Gerald Kimball
Director

Angela Anderson
Trails Planner
Trails Planning Section
Trails & Waterways Unit
Box 52 Centennial Bldg.
St. Paul, Minn. 55155-1679

Re: Minnesota Wisconsin Boundary Trail.

Dear Angela:

This letter is in reponse to your question concerning the use of the Carlton to West Duluth segment of the Minnesota-Wisconsin Boundary Trail. The City of Duluth presented two different responses which needed to be resolved. There was a lack of communication which resulted in the two different responses. I spoke with Tim Howard of the City Parks & Recreation Dept. yesterday concerning his feeling about allowing snowmobiles or cross country skiers on the segment from Carlton into West Duluth. We are in agreement that snowmobile use could be allowed to provide access for the western neighborhoods. Our major concern still is that the Western Waterfront Trail not be used by snowmobilers.

Your report states that you have not decided what types of uses would be allowed on the various segments of the trail. There are signs that exist in the Riverside neighborhood show that the trail is prohibited for use by non-motorized vehicles except for snowmobiles. This states that snowmobiles are allowed on the trail so that a decision has been made at least in a temporary fashion. In summary, the City believes that the section from Carlton into West Duluth can be used by snowmobilers as opposed to cross-country skiers. The City has an abundance of trails for cross country skiers and the opening up of this portion for snowmobilers to provide for access to the Western Communities seems to be appropriate. If you have any other questions concerning this, please feel free to contact me.

Sincerely yours,

Sanders Sweeney

Sanders Sweeney
Senior Planner

SS/bjb

cc: Tim Howard, Parks & Rec.



CITY
OF
DULUTH



DEPARTMENT OF PARKS & RECREATION
208 City Hall • Duluth, Minnesota 55802
218/723-3337

Ray E. Carson, Jr.
Director

January 27, 1982

Angela Anderson
Trails Planning Section
Trails and Waterways Unit
Box 52 - Centennial Building
St. Paul, Minnesota 55155

Dear Ms. Anderson:

I have been reviewing with interest the draft master plan for the Minnesota/Wisconsin boundary trail and west addition. I was most interested in the west addition as this directly impacts the City of Duluth.

I wish to comment on some of the recommendations under Subdivision 8 on page 7. It had been my understanding that the west addition from Seven Bridges Road to the West Duluth terminus would be designated for snowmobiling as the only winter use. I am both surprised and confused to see that ski touring is the recommended winter use from Seven Bridges Road to the West Duluth terminus. Why the change?

At a recent meeting of the Western Waterfront Trail Advisory Committee, a group of citizens from the Riverside neighborhood approached the Committee about using a portion of the Waterfront Trail for snowmobiling. After reviewing the apparent availability of snowmobiling on the abandoned railroad right-of-way (i.e. west addition), the Committee decided against allowing snowmobiles on the Western Waterfront Trail. Had the Committee known that snowmobiling would not be allowed on the railroad right-of-way, I believe it would have altered the Committee's thinking and perhaps the final decision.

I wish to point out a few things which were not considered in your recommendation:

1. From this City's experiences, cross-country skiers prefer a loop trail with undulating topography in a wooded setting, mainly for protection against winds. Also, set tracks are less likely to be covered by blowing snow in a wooded area versus in the open. Because of this, it is felt that ski touring would not be a wise use on the west addition because of the above mentioned problems.
2. By permitting snowmobiling on the entire west addition to the West Duluth terminus, access could be gained by snowmobilers from the Fairmont Park, Norton Park, Riverside, Smithville and Morgan Park communities. Currently, snowmobilers in these neighborhoods

have to cross busy streets in order to gain access to the City's snowmobile trail system some distance away. A much safer access to the City trail would be at the point where the west addition intersects the Seven Bridges Road. In addition, snowmobilers would have the option to continue on the west addition.

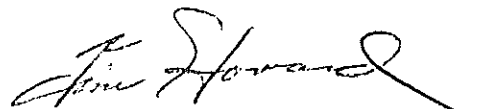
3. If snowmobiling was permitted to the West Duluth terminus, snowmobilers who must trailer their machines to the access point of a trail could utilize the Western Waterfront Trail parking lot (on Grand Avenue across from the Duluth Zoo) and thereby gain access to the west addition. The available parking at Seven Bridges Road is presently quite poor.
4. Lodging and some restaurant facilities are available at the West Duluth terminus. These facilities would allow snowmobilers traveling long distances the option of staying overnight.
5. Duluth currently has five ski touring trails under City management and one under the management of Spirit Mountain. The demand for additional ski touring facilities in the Duluth area is not apparent at this time. The development of the railroad right-of-way for snowmobiling would be much more advantageous versus ski touring because it would not only make the west addition one continual snowmobile trail, but also a single winter use on the entire trail eliminates the need for two separate pieces of trail maintenance equipment (i.e. one piece for snowmobile trail and one for ski touring).

In regards to the recommendation to develop a day-use trail wayside within the right-of-way near Bardon's Peak, what type of facility is it and how will it be adequately maintained? Depending on the exact location, the wayside could be subjected to vandalism which in turn could make the facility extremely costly to properly maintain.

I would hope that the Parks and Recreation Department will be consulted in the future regarding any trails which directly impact the City of Duluth. Over the past several years, this Department has been actively developing and maintaining snowmobile, ski touring and hiking trails with input from local trail users. Thus, it is felt that our prior experiences with local trails would be of great value to your trails planning unit as you further develop the planning process for the Minnesota/Wisconsin boundary trail.

If you have any questions, please do not hesitate to contact me.

Yours truly,



Tim Howard
Staff Forester

TH:nmj

cc Ray Carson

Jeff Mausolf (DAASC)



STATE OF
MINNESOTA
 DEPARTMENT OF NATURAL RESOURCES

CENTENNIAL OFFICE BUILDING • ST. PAUL, MINNESOTA • 55155

DNR INFORMATION
 (612) 296-6157

File No. _____

February 25, 1982

Mr. Tim Howard, Staff Forester
 City of Duluth
 Department of Parks & Recreation
 208 City Hall
 Duluth, MN 55802

Dear Tim:

Thank you for comments on the draft master plan for the Minnesota-Wisconsin Boundary Trail and West Addition. We would like to respond to some of your comments as follows.

The Department of Natural Resources (DNR) had not predetermined snowmobile use on the railroad right-of-way between Carlton and West Duluth. Only after the master plan is approved by the public and other governmental entities uses are considered designated. The DNR is aware of the local snowmobile clubs desire to have the trail connect into West Duluth primarily to accommodate local access. However, the DNR in its effort to plan for State Trails has to keep primarily statewide interests in mind. Local access to State Trails is primarily accommodated by Grants-In-Aid trails. The very same concern regarding snowmobiling was raised at the Duluth public meeting and it was pointed out that a local trail exists between the right-of-way near its terminus in Duluth and the Spirit Mountain trail system. If in fact such a trail exists and would be open to the general public (e.g., Grants-In-Aid (GIA) trail or other established municipal trail) the DNR would consider snowmobiling up to that trail link. With this link in mind the major snowmobile access could remain at Spirit Mountain.

In consulting with the City of Duluth's Western Waterfront Trail Planning Staff, the DNR was made aware that this trail would not be open for motorized trail use including snowmobiling. The Western Waterfront Trail, however, starts at Indian Point Park where the proposed Minnesota-Wisconsin Boundary Trail terminates. Because Indian Point Park can only accommodate trail access in the summer the DNR is trying to work out an agreement with the City of Duluth for joint use of its proposed Western Waterfront Trail access that would also be a winter access point. Therefore, the DNR anticipated that an enforcement problem could accrue jeopardizing the existence of the Western Waterfront Trail.

The DNR also received comments from Duluth's Planning & Development Department who supports the DNR for terminating snowmobile use on the right-of-way at Seven Bridges Road. It was pointed out that this was consistent with the City of Duluth's plans for the area.

AN EQUAL OPPORTUNITY EMPLOYER

February 25, 1982

Mr. Tim Howard, Staff Forester

Page 2

The following responses are in regard to your point by point comments.

1. The DNR realizes that ski-touring on the right-of-way may not offer the optimum skiing experience. But we believe that we can not accommodate snowmobiling under the above described circumstances.
2. State Trails do not provide just for local use and access as it would happen in this particular case unless the previously mentioned connection to Spirit Mountain exists.
3. As we understand from discussions with the City of Duluth's Planning Department it is not desirable to utilize the proposed Western Waterfront Trail access for snowmobile trail access at the same time.
4. The same argument could be made for ski-touring. Skiers even more so may be in need of close-by lodging and restaurants being less mobile than snowmobilers. And ski-touring is also a long distance opportunity the trail provides for.
5. The Minnesota-Wisconsin Boundary Trail and West Addition will be managed and maintained by the DNR. If the DNR chooses to contract grooming out to local businesses it could work very well by grooming the ski trail portion in connection with the Western Waterfront Trail and the snowmobile trail portion in connection with the Spirit Mountain trail.

The day-use trail wayside proposed at Bardon's Peak will be accessibly only by the trail user and will be a facility limited to a few picnic tables and toilet facilities. If demand for drinking water becomes apparent DNR will consider the construction of a well.

The DNR will consult and work with the City of Duluth throughout future implementation of the plan. Enclosed please find a copy of DNR's response to comments and concerns raised at the public meeting in Duluth December 15, 1981.

Sincerely,



ANGELA ANDERSON, Trails Planner
Trails Planning Section
Trails & Waterways Unit
Box 52 - Centennial Building
Saint Paul, MN 55155-1679
(612)/296-6768

AA/jls

Enclosure

cc Ray Carson
Jeff Mausolf
Sandy Sweeny
Donald M. Carlson



CITY
OF
DULUTH



DEPARTMENT OF PARKS & RECREATION
208 City Hall • Duluth, Minnesota 55802
218/723-3337

Ray E. Carson, Jr.
Director

Angela

April 7, 1982

Angela Anderson
Trails Planner
Trails Planning Section
Trails and Waterways Unit
Box 52, Centennial Building
St. Paul, Minnesota 55155

Dear Angela:

I recently had the opportunity to speak with Sandy Sweeney of the City's Planning Department regarding the alternative winter uses under consideration by DNR for the west addition of the Minnesota/Wisconsin Boundary trail. I conveyed to Sandy the same concerns which I expressed to you via my January 27, 1982 letter. The west addition lends itself very well to snowmobiling as this is what this trail segment is already used for. Ski touring is less attractive because of potential maintenance problems and the skier's exposure to strong winds.

In summary, both Sandy and I agree that after consideration of all potential problems, the best use of the west addition during the winter months would be for snowmobiling. The most valuable aspect of the trail would be as a neighborhood access. We both feel our decision would be in the best interests of the City of Duluth and it's winter trail users.

Hopefully this situation is now cleared up. If not, please let me know.

Yours truly,

Tim Howard
Staff Forester

TH:nmj

cc Ray Carson
Sandy Sweeney



Northern States Power Company

414 Nicollet Mall
Minneapolis, Minnesota 55401
Telephone (612) 330-5500

To Collins
[Signature]

March 16, 1982

Mr. Donald M. Carlson
Special Assistant to the Commission
Trails of Waterways Unit
Box 52 - Centennial Building
St. Paul, MN 55155 - 1679

MINNESOTA - WISCONSIN BOUNDARY TRAIL
Draft Plan Review

NSP has reviewed the draft plan from the standpoint that it is an affective landowner, has assured the DNR of its cooperation, and has worked with the DNR on the trail alignment.

NSP has no objection to the trail plan and will continue to work and cooperate with the DNR in achieving its goal per the master plan.

On page 146 of the plan, reference is made to the NSP-Administered Sunrise Camp which is incorrect. Camp Sunrise is now a non-profit organization and incorporated as Camp Sunrise and only leases the land from NSP.

Thank you for the opportunity to review the master plan.

R. O. Jondahl

R. O. Jondahl
Administrator, Real Estate

JJ

c: Ted Orosz - Minnesota Department of Energy,
Planning & Development



STATE OF
MINNESOTA
DEPARTMENT OF NATURAL RESOURCES
CENTENNIAL OFFICE BUILDING • ST. PAUL, MINNESOTA • 55155

DNR INFORMATION
(612) 296-6157

File No. _____

March 31, 1982

Mr. R. O. Jondahl
Administrator, Real Estate
Northern States Power Company
414 Nicollet Mall
Minneapolis, MN 55401

Dear Mr. Jondahl:

Thank you for your review of the draft plan for the Minnesota-Wisconsin Boundary Trail and West Addition.

We are pleased to hear that Northern States Power (NSP) has no objections to the plan and is willing to cooperate with the Department of Natural Resources (DNR) in further development of the trail.

The plan was revised on page 146 to reflect the current status of Sunrise Camp as a non-profit organization incorporated as Camp Sunrise.

We will forward you a final copy of the plan as soon as it becomes available.

Sincerely,

DONALD M. CARLSON
Special Assistant to the Commissioner
Trails & Waterways Unit
Box 52 - Centennial Building
Saint Paul, MN 55155-1679
(612)/296-4822

DMC/AA/jls

cc Ted Orosz