# Minnesota Highway 38
# Edge of the Wilderness Scenic Byway
# Corridor Management Plan

**Original Plan: June 1995 – CMP Update: 2014**


Edge of the Wilderness

A National Scenic Byway

Minnesota Department of Natural Resources

Forest Service U.S. Department of Agriculture

Minnesota Department of Transportation

America's Byways

# MINNESOTA HIGHWAY 38

## Edge of the Wilderness Scenic Byway
## Corridor Management Plan

**Original Plan: June 1995 - CMP Update: 2014**

## From the Junction MN 2 in Grand Rapids
## To the Junction of MN 1 in Effie

## Itasca County, Minnesota

**Prepared by**

**Minnesota Department of Transportation**
**U.S. Forest Service**
**Minnesota Department of Natural Resources**
**Minnesota Highway 38 Leadership Board, Inc.**

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# Executive Summary

## Minnesota Highway 38
## Edge of the Wilderness Scenic Byway
## Corridor Management Plan

Corridor management planning is focused on managing the intrinsic resources along a roadway corridor. A corridor management plan should serve as a guide for future development and management within the corridor in keeping with the intrinsic character. A management plan addresses the needed improvements to a roadway and its facilities and opportunities for interpretive programs and tourism promotion. This increases awareness of the intrinsic resources by local communities and the traveling public.

This Minnesota Highway 38 Corridor Management Plan (Plan or CMP) includes the issues and strategies that will guide highway engineers, designers and planners during current and future project work within the corridor of MN Highway 38. This plan was prepared with the assistance of an advisory group of individuals from the public and private sectors, the Minnesota Department of Natural Resources, the Minnesota Department of Transportation, and the U.S. Forest Service. Additional input was sought from individuals and organizations throughout the area via public meetings and mailings.

Development of the original CMP took place in stages over several years as did this updated version. First, issues and concerns were gathered from the public and documented. Public notices were published in the local papers and informational fliers were distributed to residents and other stakeholders within the corridor. Individuals, groups, and organizations were invited to attend the public meetings and/or submit their input, either in writing or verbally. During the CMP Update SWOT analysis was conducted and stakeholders had opportunities to provide input via 3 public meetings and through additional written or verbal comments.

A unique component of the original CMP consisted of approximately sixty (60) area school children who were given disposable cameras and asked to take pictures along the corridor of things they liked and disliked. They were asked to write a caption related to each photo describing their intentions when taking it. In addition to helping representatives who were not as familiar with the local issues and concerns to become more aware, this project helped those who were considered “too accustomed to the road”, to see it in a new light; a new perspective.

The next step of the original CMP was the formation of an Advisory Committee. This consisted of a group of concerned citizens within the area who represented various agencies, businesses, clubs, and associations. Advisory Committee meetings were open to the public and members were encouraged to share findings and recommendations within the CMP with their constituents.




Issues and concerns identified through this process were grouped into six (6) categories. Safety; Visual Quality; Recreation; Water Quality; Vegetation/Timber Management; Cities, Communities, and Economic Development. A detailed list of these categories is in the Corridor Management Plan. Issues and concerns were considered through all phases of the planning process.

Resource teams were assigned the task of inventorying and analyzing twenty-four different social, environmental, and economic resource areas. In a step process, the existing character of each resource was inventoried; the potential adverse and beneficial impacts caused by a scenic byway were analyzed; and, for each resource, a series of recommendations were made to ensure that adverse impacts would be minimized, avoided or mitigated and that enhancement opportunities could be capitalized. The Corridor Management Program Plan includes summaries of these reports and recommendations. The

reports, in their entirety, are available to corridor managers and planners for future reference during the planning phases of various reconstruction efforts. However, additional site-specific environmental analyses will have to be conducted prior to reconstruction or enhancement projects.

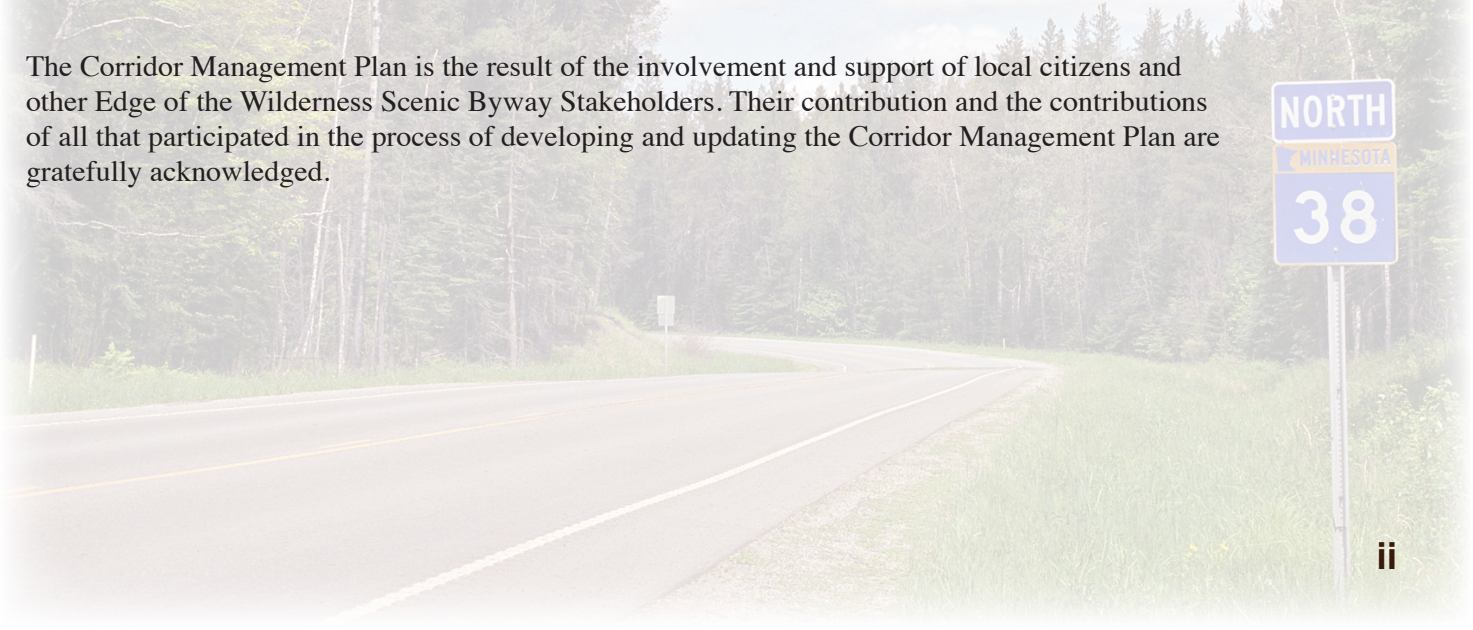
In addition to the resource summaries, the CMP identifies the vision and goals for the highway; describes the public involvement effort; sets priorities for proposed projects (timelines and estimated costs); and outlines a potential implementation strategy. Maps are included to identify site-specific projects.

In general, with regard to highway design, the CMP includes the following proposals:

- Existing alignment (horizontal curves) and profile (vertical curves) should be maintained unless spot improvements would significantly improve safety;
- The goal is ten (10) ton year-round road capacity throughout the corridor;
- Attention to visual and vegetation resources is given a strong emphasis;
- From County Road 19 to Marcell, shoulders should be stabilized or widened with a portion paved and the remainder gravel; vegetative seeding and other methods should be utilized to reduce erosion;
- Ditches should be shallow and clearing widths should be narrow;
- Since passing zones are infrequent, pull-offs and interpretive and/or recreation stops should be strategically placed throughout the corridor to help reduce traffic conflicts between commuters, truckers and tourists.

To accomplish the goals and objectives of this CMP, an overall strategy for coordination of the proposed activities within the byway corridor is essential. To provide for this coordination, an ongoing committee or board was established to provide oversight to various proposals. The Minnesota Highway 38 Leadership Board includes representatives from local units of government, local businesses, citizens at large and other stakeholders from along the corridor and welcomes and solicits participation from representatives of the Minnesota Department of Transportation, U.S. Forest Service and Minnesota Department of Natural Resources. The responsibilities of this Board will include actively pursuing support and funding for implementing the proposed projects; ensuring coordination between agencies; maintaining an awareness of the status of ongoing plans and projects; and overseeing specific task forces including Highway Design, Marketing and Interpretation, Economic Development and Facilities/Amenity Sites. Monitoring the overall effectiveness and success of the Corridor Management Plan is also essential and this responsibility will be assumed by the Leadership Board or a subsequent task force. It is important to note that this CMP is dynamic and the success of the CMP is dependent upon the continued involvement and support of local citizens.

The Corridor Management Plan is the result of the involvement and support of local citizens and other Edge of the Wilderness Scenic Byway Stakeholders. Their contribution and the contributions of all that participated in the process of developing and updating the Corridor Management Plan are gratefully acknowledged.



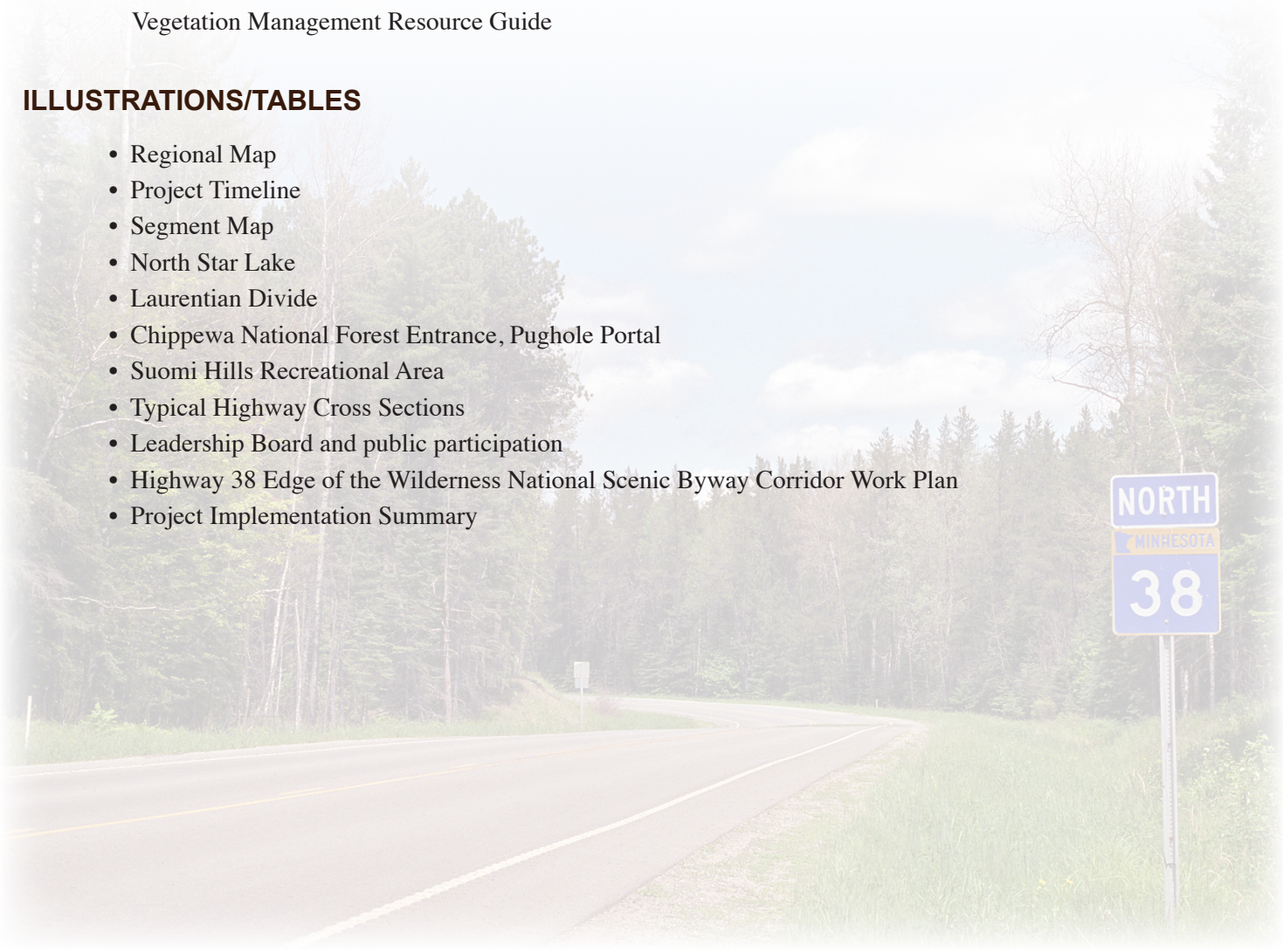
# TABLE OF CONTENTS

## VI. APPENDICES



## ILLUSTRATIONS/TABLES





# INTRODUCTION

## PROJECT DESCRIPTION


Minnesota State Highway 38 travels 47 miles through some of the most scenic areas in northern Minnesota. The communities of Grand Rapids, Marcell, Bigfork and Effie are linked together by this transportation corridor. Each year thousands of tourists, recreationists, commuters, local residents, and commercial truck haulers make use of the highway for their diverse needs. The 22 mile segment that is within the Chippewa National Forest is a designated National Forest Scenic Byway. The entire 47 miles from Grand Rapids to Effie was designated as one of the first Minnesota State Scenic Byways in September, 1994, and one of the first National Scenic Byways in 1996. The corridor offers an abundance of scenic, recreational, historic and economic opportunities. The local communities have joined together in recognizing the unique attributes of this area and the MN 38 Corridor by calling it the "Edge of the Wilderness".

The Minnesota Department of Transportation has recognized the unique character of this area and the special needs that it brings to maintaining the highway. The Chippewa National Forest and Minnesota Department of Natural Resources have shared concerns for the natural resources, recreation opportunities, and economic needs within the transportation corridor. Because of these mutual concerns, it was beneficial to combine the separate planning processes of these agencies into a joint comprehensive corridor management plan.

The local communities and residents are concerned also with the safety and maintenance of the highway and the management of the resources within the corridor. To ensure that their concerns were recognized and considered during and after the original CMP was adopted a MN 38 Advisory Committee was developed and is now called the Minnesota Highway 38 Leadership Board. This 501(c)(4) not for profit consists of representatives from the local communities, local governments, industries and citizens. MnDOT, MN DNR, and the USFS are also represented at the Board meetings. The Minnesota Highway 38 Leadership Board and a variety of Byway stakeholders throughout the corridor provided guidance and feedback throughout the Corridor Management Update process.

This Corridor Management Program will detail some of the accomplishments from the original Corridor Management Plan's implementation and provide future direction for management of the Highway 38 corridor. The conceptual nature of the plan will provide designers a context for their work. Each individual project will be subject to further environmental review and public comment. The interagency coordination and cooperation that is a product of this planning process, combined with ongoing public involvement, will be vital to accomplishing the goals and objectives of this Plan.




## PURPOSE

Corridor management planning is focused on managing the intrinsic resources along a scenic byway. A corridor management plan should serve as a guide for future development and management within the corridor in keeping with the byway's character. The plan should address the needed improvements to the roadway and its facilities, and opportunities for interpretive programs and tourism promotion as well. Thus, increasing awareness of the corridor's intrinsic resources is acquired by the local communities and the traveling public.

## The Corridor Management Plan process:

- Provides a coordinated approach for development and management along the corridor.
- Identifies the public issues and concerns related to the improvement and management of the corridor.
- Recognizes accomplishments completed as a result of the original Corridor Management Plan.
- Identifies elements that make the byway unique.
- Inventories and analyzes the natural and cultural resources, and the social and economic conditions within the corridor to determine their significance.
- Anticipates future actions that may improve or degrade the character and possibility of activities within the corridor.
- Identifies strategies for the protection of the intrinsic resources, improvements of the corridor for local users and travelers, interpretation of the byway's values, and promotion and economic development of the byway.
- Recommends projects and practical guidelines that are responsive to the concerns of the local public, providing the public managing agencies a tool to better serve the public.
- Ensures that facilities and management within the corridor are complementary to the natural and cultural resources characteristic of the corridor.
- Generates and maintains public participation and support for the development and implementation of the Corridor Management Plan.

## VISION

Karen Oothoudt Photography

The Edge of the Wilderness Scenic Byway offers a unique experience to travelers seeking an alternative to the typical wide fast-paced travel routes. This route weaves around lakes and wetlands and conforms to the land offering the traveler both the view and "feel" of the surrounding landscape. The mixed hardwoods, pines, and spruce characteristic of the corridor, offer a "true Northwood's experience".

The highway itself accommodates tourism, commercial, and commuting traffic as a safe travel route between the local communities. Rest areas, trails, picnic areas, and campgrounds are found along the roadway offering a variety of recreational opportunities. Scenic vistas provide outstanding views of the beautiful lakes and wetlands adjacent to the highway. Interpretive facilities, publications, and other media provide the traveler insights of the wildlife, history, geology, landscapes and cultural activities unique to the corridor.



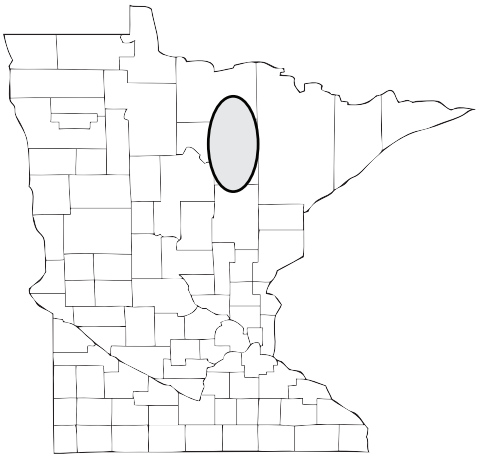

Communities along the corridor offer services to the travelers and promote cultural events that enrich the local communities and enhance tourism. Marketing efforts at the regional, statewide and national scale inform the traveling public of the outstanding scenery and many recreational opportunities available along the byway. The "Edge of the Wilderness" theme is incorporated in all marketing efforts as a common theme that enhances recognition and promotion of available opportunities.

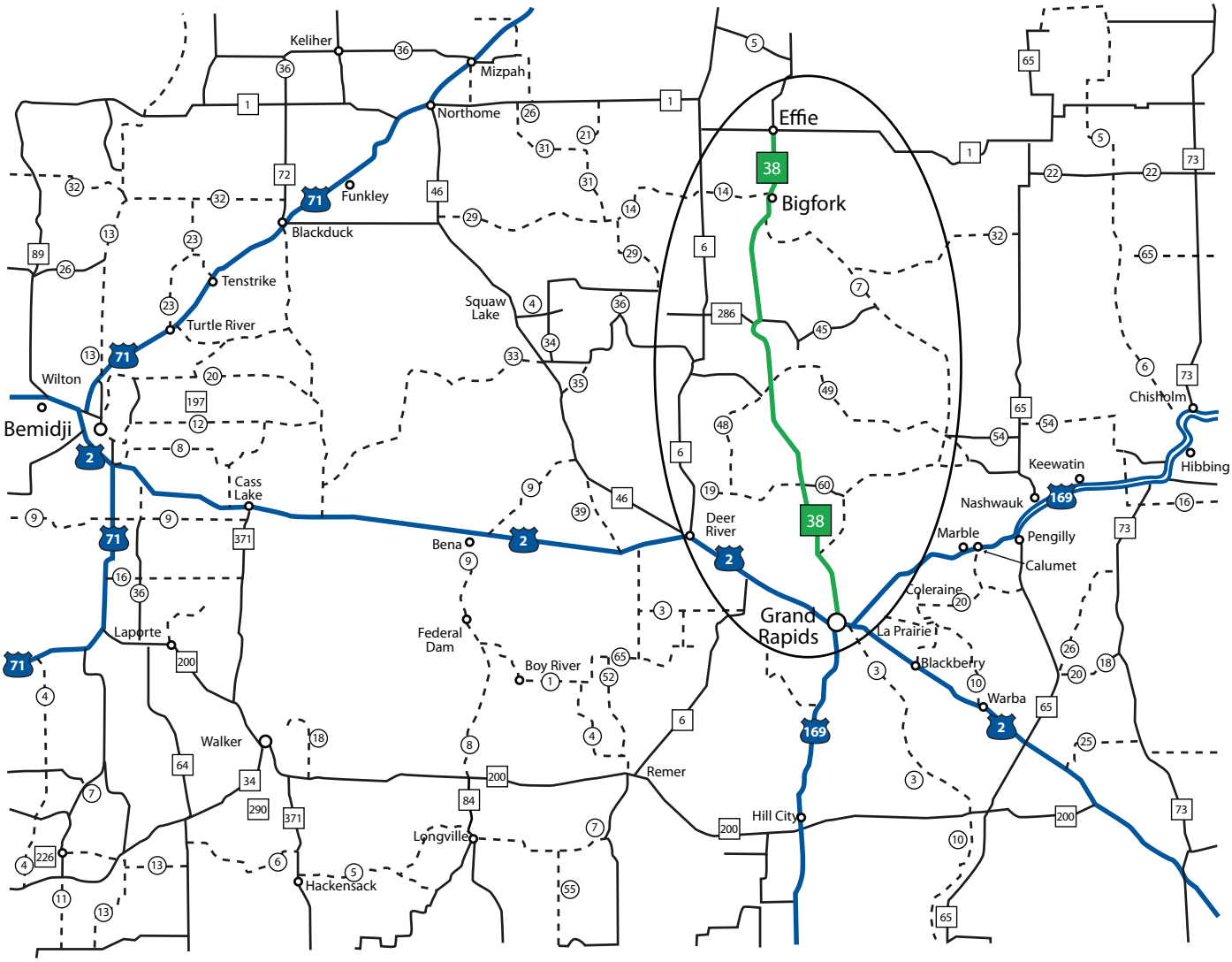
## GOALS

- Enhance transportation safety and efficiency.
- Provide an all weather 10 ton road for timber and goods movement.
- Enhance the scenic and recreational experience of all users of the corridor.
- Promote economic development and tourism.
- Increase accessibility to recreation areas and associated facilities.
- Provide for marketing, promotion and interpretation of the unique attributes and opportunities.
- Conserve intrinsic resources of the scenic byway in a sustainable balance with economic development and tourism.
- Facilitate ongoing public involvement in the planning and implementation processes.
- Develop a sense of joint ownership by all users and managers.

Mary Shideler

# Regional map





# SCOPING/ISSUES

The initial step in the process of developing the corridor management plan is scoping. Scoping provides guidance for all aspects of the planning process. Scoping includes identifying significant issues and concerns related to the planning process or potential projects. An important component of scoping is identifying the individual, groups or governmental agencies that are interested in the planning process or the potential projects that might develop as part of the plan. The issues and concerns identified through the scoping process assist in refining the information that needs to be gathered or inventoried.

The scoping process involved three steps:

1. Issues and concerns of members of the Minnesota Highway 38 Leadership Board and Byway stakeholders were identified and documented. This was accomplished by discussing issues and concerns of the stakeholders at public and Minnesota Highway 38 Leadership Board meetings.

2. Issues and concerns of other interested groups or individuals that were not represented on the Minnesota Highway 38 Leadership Board were identified and documented. As previously stated, this was accomplished through three public meetings. In addition, public notices were published in local newspapers. Fliers were distributed in local communities and mailed to various stakeholders within the corridor. Individuals or groups were invited to attend the public meetings or submit their input verbally or in writing.

3. During the original Corridor Management Process, a unique project was used to gain additional insight into the issues and concerns related to the highway corridor. Approximately sixty (60) area school children were given disposable cameras and asked to take pictures along the corridor of things they liked and disliked. They were asked to write a caption related to each photo describing their intentions when taking it. In addition to helping representatives who were not as familiar with the local issues and concerns to become more aware, this project helped those who were considered "too accustomed to the road", to see it in a new light; a new perspective.

To ensure ongoing public involvement and awareness of the planning process the following steps were implemented:

- All Minnesota Highway 38 Leadership Board meetings were, and, are open to the public.
- News releases and advertisements were sent out to local newspapers informing the public of the status of the corridor planning process.
- Public meetings were held to allow the public to provide input and review the draft Corridor Management Plan Update and provide comments.

Issues and concerns identified throughout scoping were considered throughout the planning process, during resource inventories and analyses, developing recommendations and preparing the implementation section.

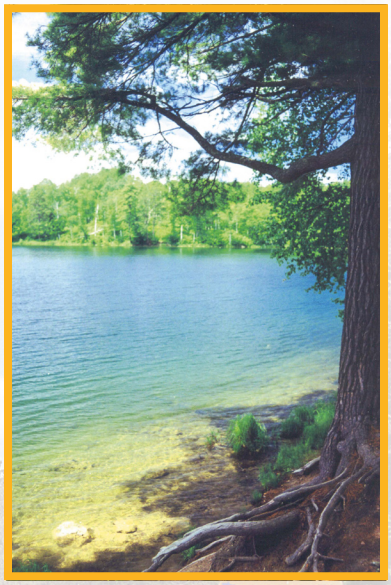
The following is a summary of the primary issues and concerns identified and considered throughout these processes.

## Safety

Karen Oothoudt Photography

- Provide an all-weather road.
- Provide sufficient shoulder widths for emergency stops, vehicle recovery, off highway parking by recreationist, bicycle/pedestrian use and school bus stops.
- Provide sufficient sight distances for passing, access from connecting roads and driveways, and swimming and boat launching areas.
- Provide for safe pedestrian and bicycle use.
- Improve road and bridge conditions where deteriorated to unsafe levels, including pot holes, grooved areas that fill with water, crumbling shoulders, and limited weight capacity.
- Provide more law enforcement to control drivers exceeding posted speed limits through curves and in areas of poor condition.
- Slow traffic within communities.

## Visual Quality



- Reduce adverse impacts of advertising signs, billboards and adopt-a-highway signs. An Itasca County Highway 38 Sign Ordinance establishes commercial sign standards in the corridor. Similar ordinances were enacted in Bigfork, Effie, and Grand Rapids. Continue implementation of the ordinance and update when and if necessary.
- Limit clearing widths, minimize vegetative cutting and preserve areas with overhanging trees. Grand Rapids to County Road 19 and Marcell to Bigfork reconstruction projects are examples of this practice.
- Enhance vista opportunities of lake and wetlands.
- Continue to bury utility lines along highway right-of-way. Grand Rapids to County Road 19 and Marcell to Bigfork reconstruction projects are examples of this objective being implemented.
- Provide buffer areas for timber cutting.
- Preserve and enhance Scenic Highway characteristics and qualities for the highway.

## Recreation

- Enhance overall recreation opportunities.
- Provide vistas and rest areas.
- Provide multiple use off-highway trails from Grand Rapids to County Road 49, Bigfork to Bustic Lake and Marcell to Bigfork along the railroad grade.

- The MN DNR would like to have the opportunity to consider the Highway 38 right of way as a snowmobile trail corridor in some locations as trail routes may be adjusted in the future.
- Provide snowmobile crossings along the highway.
- Provide for safe public access at Pughole, Kremer, and Day Lakes.
- Wide paved shoulders and sidewalks for pedestrian use within the community of Marcell were completed during the Marcell Streetscape project
- Continue to promote tourism by preserving and enhancing scenic qualities, providing for fall color tours, and maintaining safe vehicle passage during highway construction.

## Water Quality

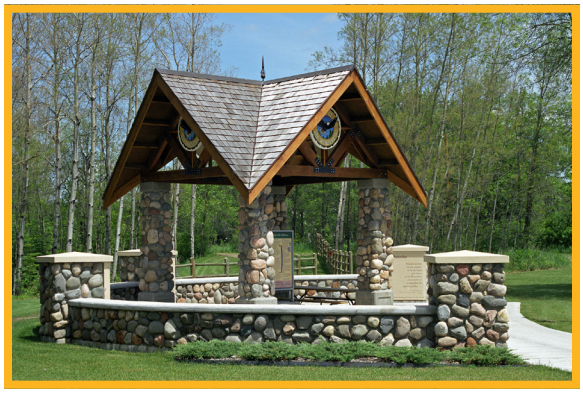
- Improve or maintain water quality by avoiding significant adverse impact to lakes adjacent to the highway during highway reconstruction.
- Improve or maintain water quality by avoiding direct highway run-off into springs, streams, wetlands, and lakes.
- Improve or maintain water quality by avoiding adverse water flow impacts to culverts.
- Alert corridor planners and designers of a need for extra sensitivity in lakeshore areas.

## Vegetation/Timber Management

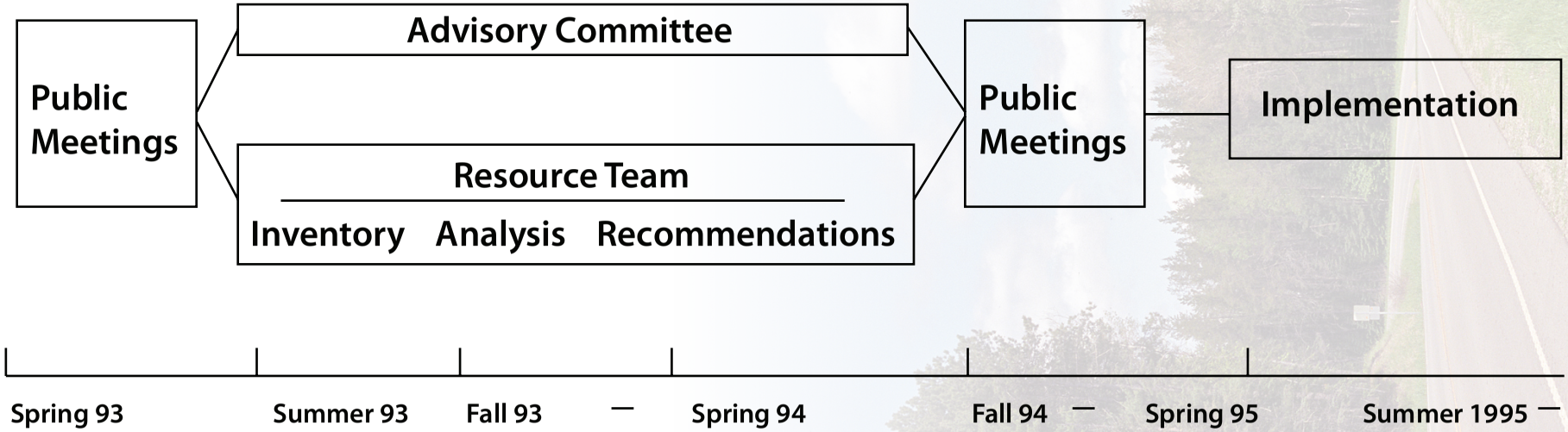
- Consider scenic integrity objectives for timber sales.
- Provide buffer zones between road and cutting areas wide enough to reduce risk of tree windfalls onto the highway.
- Leave larger trees and wildlife habitat trees within the buffer zones.
- Where appropriate, use selective harvest to regenerate shade tolerate species and reduce visual impacts.
- Minimize highway clearing widths.
- Allow for areas with overhanging trees.
- Preserve “character trees” adjacent to the highway.
- Alert corridor planners and designers of a need for extra sensitivity in Suomi Hills semiprimitive non-motorized area.
- Alert corridor planners and designers of a need for extra sensitivity in lakeshore areas.
- Manage areas adjacent to road for fall colors.
- Maintain or enhance paper birch along Pughole Lake using appropriate harvest techniques while considering visual impacts.
- Manage wildflowers for preservation and enhancement along the highway.

## Cities, Communities, and Economic Development

- A common “Edge of the Wilderness” theme has been utilized and needs to be continued in use throughout the corridor.
- Marcell, Bigfork, and Effie streetscape projects were completed and illustrate the use of the “Edge of the Wilderness” theme.
- Continue to market the scenic highway to improve the local economy.
- Provide 10 ton all weather road to support local economies.

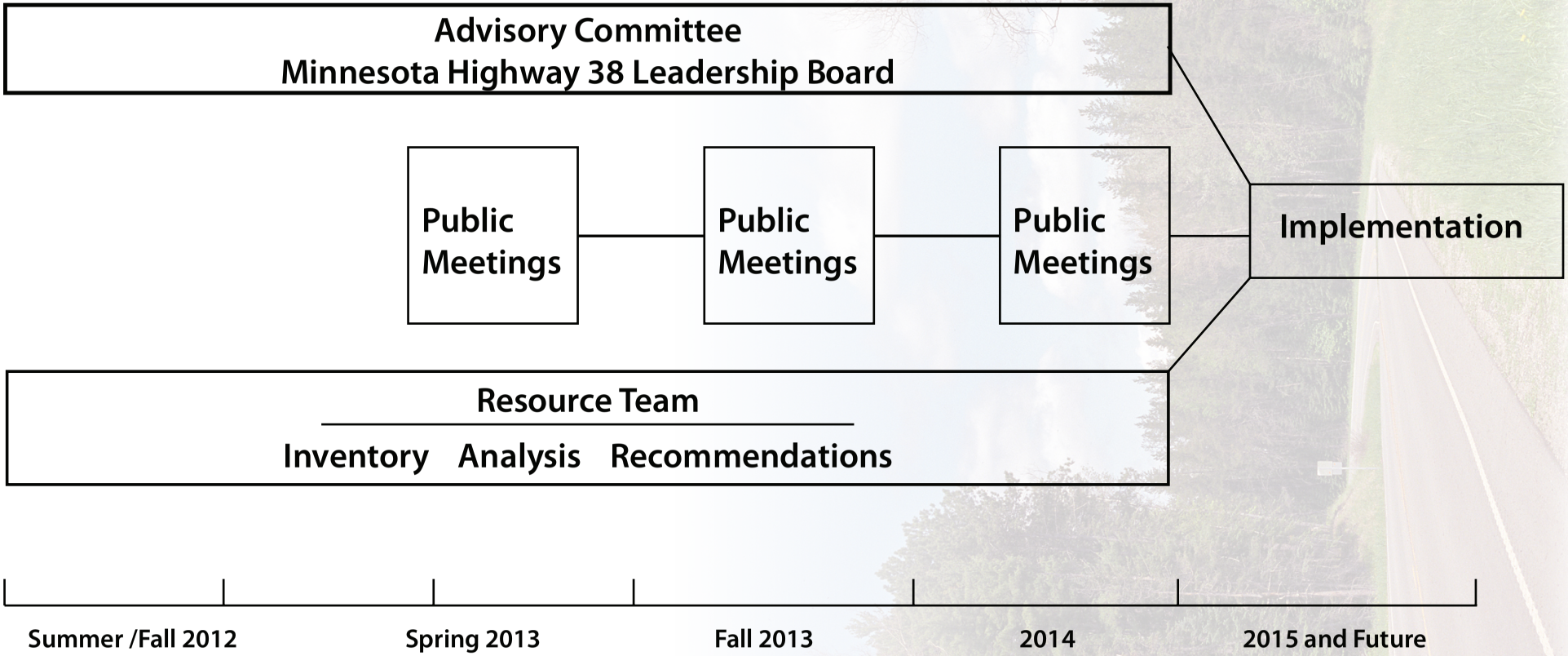


# Original CMP




## Approximate Project Time-line

# Updated CMP




## Approximate Project Time-line

# RESOURCE SUMMARY

Between the summer of 1993 and the spring of 1994, resource specialists and designers from the Minnesota Department of Transportation (MnDOT), the United States Forest Service (USFS), the Minnesota Department of Natural Resources (MN DNR), and other federal, state, and county agencies researched twenty-four different social, environmental, and economic resource areas. In a three step process, the existing character of each resource was inventoried; the potential adverse and beneficial impacts caused by a scenic byway were analyzed; and, for each resource, a series of recommendations was made to ensure that adverse impacts would be minimized, avoided or mitigated, and enhancement opportunities would be capitalized. The area studied was a one-half mile corridor, a quarter-mile either side of existing MN 38, from Grand Rapids to Effie. Those same agencies were consulted for updates to the Corridor Management Plan in 2013 and 2014.

For reference and planning purposes the 47 mile long corridor was divided into four segments. The segments were defined by their unique landscape characteristics, relative amount of traffic, and logical community beginnings and endings. The following is descriptive narrative of each of the four segments:

## SOUTH RURAL: Grand Rapids to Co Rd 60

MN State Highway 38 begins at the intersection of US 2 in the central part of Grand Rapids near the indoor mall. The highway is typically urban residential with scattered businesses. The streets are edged with curbs and gutters up to the vicinity of McKinney Lake. Leaving Grand Rapids, the terrain is mostly flat with mixed lowlands meadows, swamps, and lakes. The open uplands reflect an idealized rural landscape with some agricultural cultivation, hay meadows, and areas of mixed woodlands. Most of the pines occurring in this segment are found in residential yards. Housing is clustered and concentrated along the highway with a few isolated businesses.

## SOUTH CHIPPEWA: Co Rd 60 to Marcell

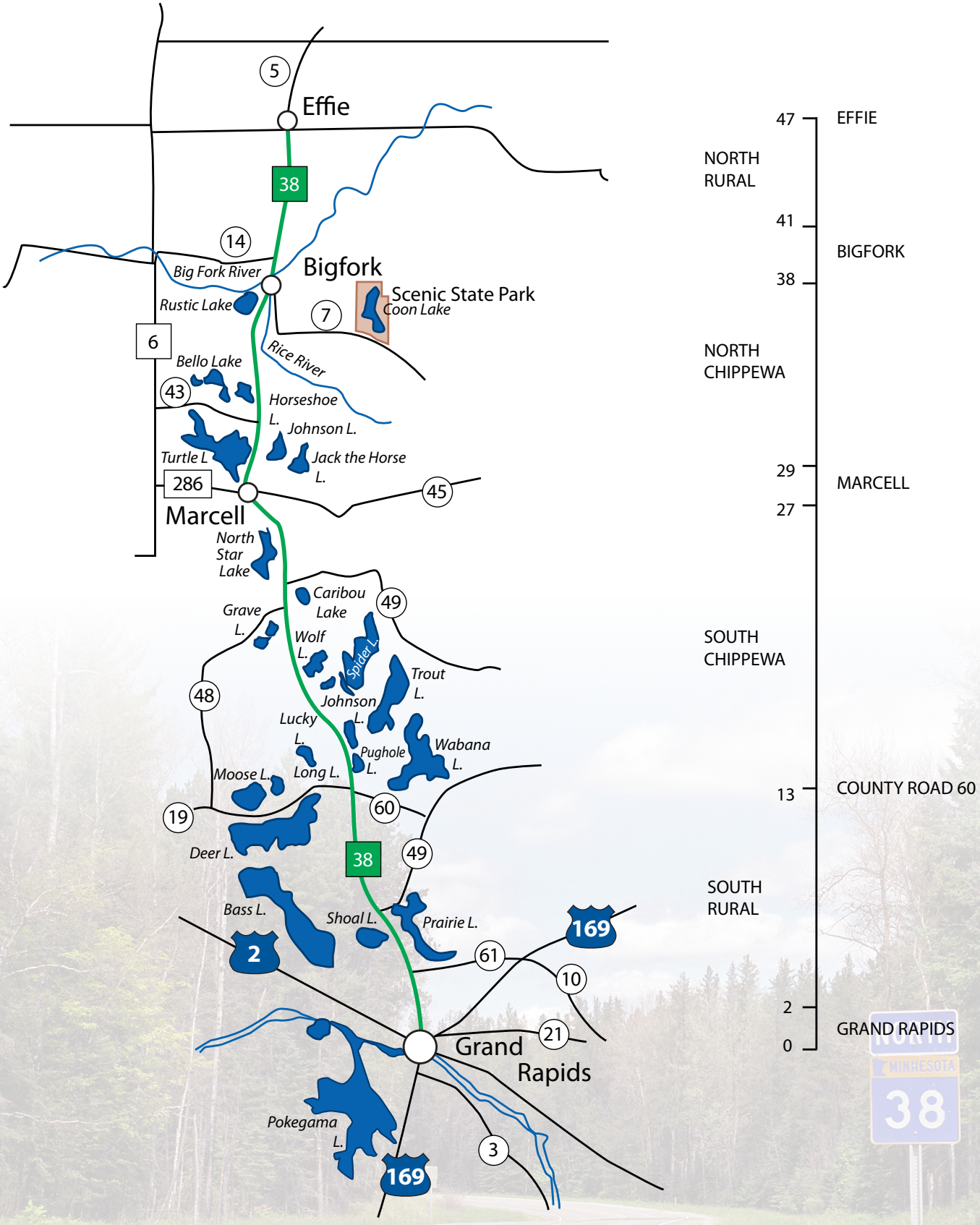
This section is mostly rolling uplands with many lakes and spectacular lake views such as those found on Pughole, Johnson, Caribou, and North Star Lakes. The forested lands are of mixed hardwoods, and aspen with interspersed conifers of pine, balsam and spruce. Residences are scattered and concentrated along lakes. Some commercial resort properties are found along the highway. In Marcell, there are businesses associated with the tourist industry. The former USFS Marcell Ranger District Office is found on the northern edge of the community; the site is now called the Edge of the Wilderness Discovery Center and is a partnership between the USFS, Northern Itasca Joint Powers Board, Minnesota Highway 38 Leadership Board, Inc., and the Edge of the Wilderness Lodging Association The site consists of a visitor center, gift shop, interpretive displays, interpretive trail, the Marcell Lodge, a fishing pier, a picnic shelter, and several other contemporary and historic outbuildings.

## NORTH CHIPPEWA: Marcell to Bigfork

Leaving Marcell, the terrain becomes gently rolling uplands with fewer lakes near the roadway. The forested lands are mixed hardwoods, aspen, and interspersed conifers of mostly pine. Residential and commercial development is sparse. In Bigfork, there are businesses associated with tourism and numerous other businesses supporting northern Itasca County. The community has several residential areas, and a forest products industry. Bigfork is home to the Bigfork School, Bigfork Valley Hospital, and North Itasca Electric Cooperative. An abandoned railroad trestle supports a snowmobile trail and has received some improvements to it since the original Corridor Management Plan was adopted. There is also a pedestrian/bike bridge that spans the Rice River.

## NORTH RURAL: Bigfork to Effie

North of Bigfork, the terrain flattens with numerous lowland wetlands in the remnants of the glacial Lake Aggassi lake bed. The forest lands are mostly aspen and lowland conifers (spruce and tamarack). There are a few residences and businesses outside of Bigfork. The Bigfork Airport and Bergquist Industries are directly north of Bigfork along the highway. MN State Highway 38 ends at the intersection of MN 1 in the Village of Effie. This community has low density residential housing, churches, and limited businesses. There is a bar, a gas station/convenience store, liquor store, City Park and recreation area and a restaurant.




Highway 38 from Grand Rapids to Effie showing the approximate locations of various segments. Segment names are left of the bar. The scale of the vertical bar is in miles.

The following is a summary of reports compiled by the twenty-four work teams during the original CMP planning effort and supplemented by updates during the 2013-14 CMP update process. Information from the reports has been divided into twenty-six topics for presentation in this document. The original full reports are available for review at the USFS District Ranger Station in Deer River or at MnDOT's Office of Environmental Services in Oakdale.

Information contained in the resource reports has been translated into a Geographic Information System (GIS) database with assistance from the state's Land Management Information Center.

## AIR QUALITY

### Existing Character

There are no federally defined air quality non-attainment areas in the MN 38 corridor. Due to low traffic volumes, there is no area where current carbon monoxide (CO) standards are exceeded. The largest threat to air quality comes from episodic forest fires, not directly from transportation or recreation. (See Fire Control.)

### Design and Management Guidelines

Monitor intersecting traffic volumes at US 2 and MN 38 and conduct a carbon monoxide analysis if warranted. If carbon monoxide is found to exceed air quality standards, appropriate mitigation measures will be instituted. Air quality will be enhanced by giving the higher volume of traffic on US 2 signalized priority over the lower volume of traffic on MN 38. Although not warranted to improve air-quality, if the Grand Rapids community elects to re-route US 2 as a parallel one-way pair, air quality at the intersection of US 2 and MN 38 would be enhanced.

## ARCHEOLOGICAL AND HISTORICAL RESOURCES

### Existing Character

The Minnesota Department of Transportation (MnDOT) completed a three phase research project of the archeological and historical resources within the MN 38 corridor. The first phase is a search of literature and historical documents about human activities in the corridor. The second phase is field observations and shovel tests to ascertain the presence of existing artifacts. The third phase, recovery or documentation of known and discovered archeological and historical artifacts, was conducted by a private consulting firm under contract to MnDOT.




### Design and Management Guidelines

Development of transportation and recreation facilities within the corridor will attempt to avoid adverse impacts to historical and archeological resources. If avoidance is impractical, adverse impacts will be minimized and compensated for using procedures identified by the State Historic Preservation Office. Where practical, understanding of the archeological and historical resources along MN 38 has been enhanced through interpretive markers, brochures, and programs.

## Existing Character

There have been some improvements made that have made the Byway more accessible and user friendly for bicycling and there is further potential for improving commuting and recreating by bicycle in the MN 38 corridor. However, certain segments of the highway do not provide the proper infrastructure for bicycle commuting which does limit the overall opportunities. Bicycling on MN 38 is extremely dangerous in some areas due to poor sight-distance, non-existent or too narrow shoulders, steep embankments, narrow bridges, and higher summer traffic.

Scattered bicycling facilities occur in the corridor. Itasca County has completed improvements to the Itasca County Bike Trail which connect Grand Rapids to Gunn Park and the Mesabi Trail. The trail is surfaced to accommodate bicycle traffic. Mountain biking is a popular activity in the Suomi Hills semi-primitive area of Chippewa National Forest. The Bustic Lake swimming beach south of Bigfork attracts bicyclists of all ages and a widened shoulder that was added during the Jaynes to Bigfork Highway 38 reconstruction and Bigfork Streetscape projects provides somewhat safer access. The abandoned railroad bridge over the Big Fork River in Bigfork could accommodate local bicyclists, but the trail primarily serves snowmobiles during the winter months. The snowmobile trail easements are only valid from December 1 to March 31 of the following year depending on the end of the snow season.

Between Grand Rapids to Itasca County Road 19, there are many houses which generate bicycling; furthermore, recreational bicycling on MN State Highway 38 between Grand Rapids and Itasca County Road 49 may increase. To accommodate these riders, wider shoulders were constructed between Grand Rapids and Itasca County Road 19 during reconstruction of MN 38.

## Design and Management Guidelines

Development of transportation and recreation facilities should avoid impacts which would adversely affect mountain bicycling in the Suomi Hills semi-primitive area, and also avoid any impacts to the abandoned railroad bridge over the Big Fork River. Between the communities of Marcell and Bigfork; homes, trails, resorts, and beaches generate bicycle use. To accommodate this segment which would include a mix of experienced and inexperienced users, a trail paralleling the highway could be developed on the abandoned railroad grade. The trail on the abandoned railroad grade was explored during MN 38 reconstruction in that section but was not feasible at the time, the possibility still exists.

Within Marcell and Bigfork, bicycle use was accommodated as part of streetscape developments in each of these communities. A separate bicycle/pedestrian trail from Bigfork south to Bustic Lake swimming beach is recommended. The community has proposed a fishing pier as well.

A 2.3 mile multi-use trail in Bigfork called the Bigfork RiverWalk Trail is currently being pursued. The trail will tie in all aspects of the community and be for non-motorized use. Anticipated construction is 2016-17. The need for a bicycling trail between County Road 19 and Marcell and also between Bigfork and Effie will be monitored. If demand substantially increases, an off-road trail will be evaluated.

# COMMERCIAL SIGN CONTROL

## Existing Character

There are few commercial signs along the corridor. Most commercial signs are for on-premise identification. On-premise and off-premise commercial signs are controlled by MnDOT and an Itasca County Sign Ordinance. Commercial signs occur only in areas along the corridor which are zoned commercial, in the municipalities of Grand Rapids, Bigfork, and Effie.

## Design and Management Guidelines

Permits for new off-premise signs are to be limited by MnDOT and local ordinances. On-premise signs identifying commercial establishments, products, and services are controlled by MnDOT and local ordinances enacted by Itasca County and the municipalities of Grand Rapids, Bigfork, and Effie.

# CONTAMINATION SITES

## Existing Character

Federal and state regulatory agencies list some leak sites within the scenic byway. These sites are:

1) Former McKinney Lake Store Site in Grand Rapids

2) Private Residence - Gunn Park Drive Grand Rapids

Other possible contamination sites may exist and require investigation; additional information on storage tanks and other activities can be found at the MPCA "What's in my Neighborhood" website: http://www.pca.state.mn.us/index.php/data/wimn-whats-in-my-neighborhood/whats-in-my-neighborhood.html

Several contaminated sites were cleaned up that were listed in the original CMP during reconstruction or other remedial activities.

## Design and Management Guidelines

During design of proposed Scenic Byway projects, the MnDOT Office of Environmental Services will investigate the project area for possible contamination sites. If any potentially contaminated properties are identified for acquisition, the sites will be investigated for the type and extent of contamination and to determine any remedial actions necessary to clean up the sites. If cleanup is not completed prior to the acquisition, MnDOT will undertake necessary actions to complete the clean up as required by regulations.

To reduce the possibility of accidental contamination incidents, the routing of hazardous material through the Chippewa National Forest will be discouraged by MnDOT.

# DETOURS

## Existing Character

A system of nearby parallel roads for detouring does not exist in most places in the corridor. US 2, MN 1, MN 6 and MN 286 would provide alternative routes, particularly for heavy commercial traffic.

## Design and Management Guidelines

It is anticipated that, when possible, the route will be developed under traffic. To decrease delays, construction might involve only short segments. In any case, local passenger traffic will be maintained where detouring is not feasible. To avoid construction mishaps, commercial traffic could be re-routed to MN 6 during construction. Future improvements on MN 6 and MN 38 will be coordinated to avoid simultaneous construction of parallel segments. Information on construction projects will be reported to local media and directly to affected neighbors.

The upcoming project in 2017 that consists of a reclaim with a 1' paved shoulder and a 1' gravel shoulder (in most areas) will be constructed under detour.  The corridor is too narrow to allow construction activities and through traffic on the same segment.

# EROSION CONTROL

## Existing Character

Susceptibility of native soils to erosion along MN 38 is defined by the Soil Conservation Service as being primarily "medium to low" throughout most of the corridor. However, highly erodible soils do occur between Pughole and North Star Lakes, and the highway is adjacent to many lakes which could be adversely affected by erosion during construction.

Existing erosion problems occur at Kremer Lake, Surprise Lake, North Star Lake, and the glacial landform adjacent to North Star Lake.

Erosion problems on Rice Lake north of Marcell were corrected during Marcell to County Road 43 reconstruction.

Erosion problems at McKinney Lake were corrected by relocating the access and stabilizing shoreline along Highway 38 with rock and other techniques. The City of Grand Rapids, MN DNR, and MN Highway 38 Leadership Board Inc. collaborated on the new access project.

## Design and Management Guidelines

Erosion control measures will be used to minimize any adverse impact caused by soils eroding during construction. To avoid adverse impacts to the highly erodible soils between Pughole and North Star lakes, the existing alignment and profile will be maintained if practical.

Another example of a design guideline to reduce impacts is: when widening the highway cross-section near a lake, the alignment could be shifted away from the lake, when practical, to avoid adverse impacts to the existing vegetated embankments.

Existing erosion problems at Pughole Lake and the northeast corner of Kremer Lake could be corrected by improving or relocating access to these lakes. The existing eroded access at the southwest corner of Surprise Lake could be corrected by closing the access to the lake. Erosion problems caused by springs on the east side of Kremer Lake and by springs in the glacial landform adjacent to east side of North Star Lake (near the Cedar Bog) could be corrected with subgrade drains. Erosion problems caused by unstable fill in North Star Lake could be improved by shifting alignment of the highway away from the lake and stabilizing the embankment with vegetation. Existing erosion along the trail leading from North Star Lake turnout to the crest of the glacial landform could be corrected by improving access from the turnout to the crest.

Some sections of the highway between County Road 19 and Marcell that are experiencing erosion problems will receive fill and new culverts during the 2017 improvement project.

# FARMLAND

## Existing Character

Farming occurs in the corridor to a minor degree. A few farms and farmsteads, some abandoned, are visible from the highway in the southern rural, northern rural, and Bigfork segments. In the vicinity of Effie cattle are raised in larger numbers. Effie is known for its annual rodeo.

## Design and Management Guidelines

No transportation or recreational project associated with the Scenic Byway is anticipated to cause any adverse impact to agricultural land or operations. No agricultural land will be acquired, thus, no farm will be severed or triangulated. Possible Scenic Byway projects will not have a significant effect upon agricultural production in Itasca County.




# FIRE CONTROL

## Existing Character

Threat of fire may increase, although only marginally, due to the increase in access a scenic byway provides to the recreational use of the forest. Also, improvements to the transportation resource will

likely increase recreational use of the forest. However, improvements will simultaneously improve the possible responsiveness of fire fighters. This will be an improvement for the Township of Marcell because the township does not have a central water system and consequently there are no fire hydrants.

Fire suppression water storage tanks were installed in Marcell and Stokes Townships and other locations in close proximity to the Highway 38 corridor; they will aid in providing water for fire suppression efforts.

## Design and Management Guidelines

The USFS, MN DNR, county, and municipal fire departments should annually coordinate a review and updating of firefighting and air quality procedures in the corridor. Maintenance of the Forest Service fire danger signs at the Edge of the Wilderness Discovery Center and at other locations along the corridor will inform visitors of fire hazards and potential fire danger. As appropriate, new recreational facilities will include information on fire safety and will be designed to reduce fire risk.

Itasca County Firewise: Under the auspices of the Healthy Forest Restoration Act enacted by Congress in 2004, Itasca County took steps to develop a Community Wildfire Protection Plan. The goal of Itasca County Firewise is to:

- Increase educational efforts to inform citizens of wildfire hazards and available mitigation measures with Firewise Program:
- Support local fire departments with recruitment, retention and training needs to increase fire protection capabilities.
- Identify hazardous fuel reduction areas and develop mitigation strategies.

The Itasca County Wildfire Protection Plan may be found online at: http://www.co.itasca.mn.us/home/departments/land/documents/cwpp.pdf

# FISHERIES

## Existing Character

The fisheries of northern Minnesota are nationally renowned, and it follows that angling is a major form of recreation. Itasca County attracts anglers from throughout the United States. Local communities have adopted a theme of "1,000 Grand Lakes." There are 36 lakes, six streams, and two rivers which provide habitat for fish in the corridor. Wetlands and riparian zones also contribute essential habitat for spawning and rearing fish. Vegetative cover along the shores of water bodies impedes wave erosion, and provides important habitat for fish such as shade and overhead cover. Fisheries are a critical mainstay of the native ecological system and they are also important sociologically, because they contribute to pleasant quality of life associated with this area, and they are critical to the prosperity of the communities.

Karen Oothoudt Photography

To avoid adverse impacts to fisheries, replacement of the Big Fork River bridge was reconstructed and it was located away from the critical fisheries habitat of the confluence of the Big Fork and Rice rivers.

Fishing is important to the local and regional economies of this area. Many businesses along the corridor such as outfitters, gas stations, restaurants, and resorts are orientated to the angler. Existing transportation and recreation facilities, have to a minor extent, adversely affected fisheries, and in some locations, uncontrolled recreational use adversely affects water quality by accelerating erosion.

## Design and Management Guidelines

Fisheries will be maintained or enhanced by development of Scenic Byway. Adverse impacts to fish movement, water quality and fisheries habitat will be avoided, minimized, or mitigated as much as possible. Fisheries could be enhanced by augmenting movement, reducing existing erosion, and improving littoral habitat.

To minimize the obstacle roads present, new culverts will be sized to allow for fish movement. Where physically practical, culverts will be set at least 6 inches below the channel bottom to allow natural bed material to deposit inside the culvert. Also, arch culverts could be used to retain natural bed materials in areas with substantial fish movement. Debris screens will be designed to allow fish passage. Fish movement between Crystal and Hale lakes could be enhanced by removing or modifying the debris screens in the existing culverts. Fish movement between Shoal and Prairie lakes could be enhanced by constructing an arch culvert.

To avoid adverse impacts to water quality caused by sedimentation, erosion control measures will be implemented during construction (see Erosion Control). Where possible, drainage from the highway and parking lots will be dispersed and not drained directly into lakes or wetlands. To minimize sedimentation and pollution, drainage from parking lots will be designed for sheet flow, or be funneled to settling ponds or ditches. To enhance water quality, eroded embankments on Pughole, Johnson, Kremer, Surprise, Caribou, and North Star lakes could be stabilized with native rock and vegetation. Erosion and water drainage problems were corrected for McKinney Lake.

Culverts at stream crossings should be replaced and sized to provide fish passage and also provide a stable stream and adequate connection to its watershed. Passage for small animals should be a consideration in some culvert locations to provide safe movement along streams.

To avoid adverse impacts to fish habitat, development of the Scenic Byway will avoid or minimize encroaching on littoral areas, particularly those of Pughole, Caribou, and North Star lakes. Adverse impacts to springs feeding North Star Lake will be avoided or minimized. Fish habitat could be enhanced by modifying and vegetating the existing fill in the littoral area of North Star Lake. Further, development of the Scenic Byway will avoid, minimize or compensate for any adverse impacts to the rivers and wetlands in the vicinity of the confluence of the Big Fork and Rice rivers in the City of Bigfork. To avoid adverse impacts to fisheries, special attention should be given to the critical fisheries habitat of the confluence of the Big Fork and Rice rivers.

# FLOODPLAINS

## Existing Character

There are three designated floodplain areas located within the Scenic Byway corridor. These are located in the vicinity of Prairie Lake, the Rice River, and the Big Fork River. Although littoral areas of many lakes, streams, and wetlands may experience flooding, only Caribou Lake has been identified as having an infrequent flooding problem, and this potential has been reduced by the installation of a culvert.

## Design and Management Guidelines

Development of the Scenic Byway will avoid significant adverse impacts to the hydrological and ecological attributes of floodplains. No transportation or recreational facility will be developed which significantly increases stage or flow velocities. No transportation or recreational facilities will be developed which significantly impedes the ecological function of the floodplain. Other, less-than-significant adverse impacts will be avoided, minimized, or compensated for. Local ordinances regulating development floodplains will conform to recommendations from the Minnesota Department of Natural Resources and the Federal Emergency Management Agency (FEMA).


Karen Oothoudt Photography

For the floodplain of Prairie Lake, flood storage west of MN 38 could be maintained or enhanced by improvements to the culvert between Prairie and Shoal lakes. For the floodplain of Rice River, flood storage on the west side of MN 38, south of Rajala Mill Road, in the City of Bigfork could be maintained or enhanced by providing equalization culverts.

For the floodplain of the Big Fork River, adverse impacts to the hydrological and ecological functions of floodplains will be avoided, minimized, or compensated for. Avoiding adverse impacts by replacing the Big Fork River bridge at or near its current location will be given full consideration. To avoid adverse impacts, replacement of the Big Fork River bridge was completed in a more desirable location.

At the Caribou Lake outlet, the roadway grade and culvert size and elevation will be maintained.

# GROUNDWATER

## Existing Character

Groundwater is used for potable and industrial purposes throughout the corridor. Except in Grand Rapids and Bigfork which have municipal wells, private wells provide residences and commercial establishments with water. MnDOT has compiled information on 200 wells in the corridor. Wells that lack a sufficient confining layer may be susceptible to contamination. Groundwater contamination would be a significant adverse impact to the community and possibly the ecological system.

Lakes in the corridor are typically surface expressions of the groundwater. Lakes are susceptible to

contamination from polluted runoff. Potential contaminates include those associated with transportation, road salt and hazardous waste. Salt is used to deice the highway using standards which limit adverse impacts to water quality. Hazardous materials are transported along the corridor following standard federal and state regulations.

The water table is high through much of the corridor. In various locations the water table is close enough to the road surface to destabilize the road bed, causing frost heave. Existing soils are permeable, decreasing rapid runoff, and contributing to groundwater recharge. Perched water tables with plastic soils are suspected to exist in various locations in the corridor.

Wells from RP 0.0 to RP 13.0 are rated moderately high for susceptibility to contamination, according to the Minnesota Pollution Control Agency (MPCA). Wells in this segment are typically shallow and typically do not have adequate confining layers. The Amoco station at RP 0.1 has a well for pollution contaminant remediation. Its successful operation is dependent on maintaining existing groundwater flow. MN 38 is 500 feet from this well. Hale Lake at RP 0.5 is considered an important part of the ground water resource system. It is most likely connected with an aquifer which supplies Grand Rapids with 60 to 90 percent of its water. MN 38 is 600 feet from Hale Lake.

Karen Oothoudt Photography

Wells from RP 13.0 to 40.0 are classified by the MPCA as moderately susceptible to contamination. Wells typically are fairly deep with adequate confining layers. Groundwater flow is suspected of contributing to embankment instability at RP 18 adjacent to Kremer Lake. Springs at RP 24 near North Star Lake affect stability of embankments adjacent to the highway. It is suspected that these springs contribute to conditions which allow a cedar swamp to exist in this area.

Wells from RP 40.0 to RP 47.0 have low susceptibility to contamination. Wells, including the municipal wells for Bigfork, in this segment are deep and are adequately covered with a confining layer; improvements to the City of Bigfork Water supply system have been completed since the adoption of the original Corridor Management Plan. A geothermal system for air conditioning and heating was installed at Bigfork Valley Hospital.

Particular attention was given to the Hale Lake watershed during Grand Rapids project design and construction activities to avoid contamination of the lake. Additional care was taken to avoid affecting the existing groundwater flow patterns in the vicinity of Amoco Oil Company's pollution contaminant remediation well at RP 0.1.

## Design and Management Guidelines

Care will be taken to identify shallow wells from RP 0.0 to RP 13.0 which may be adversely impacted by contamination or dewatering caused by improving transportation or recreational facilities. Corrective measures to stabilize embankments near Kremer and North Star lakes could be constructed. Groundwater flows to the lakes and the North Star cedar swamp would be maintained.

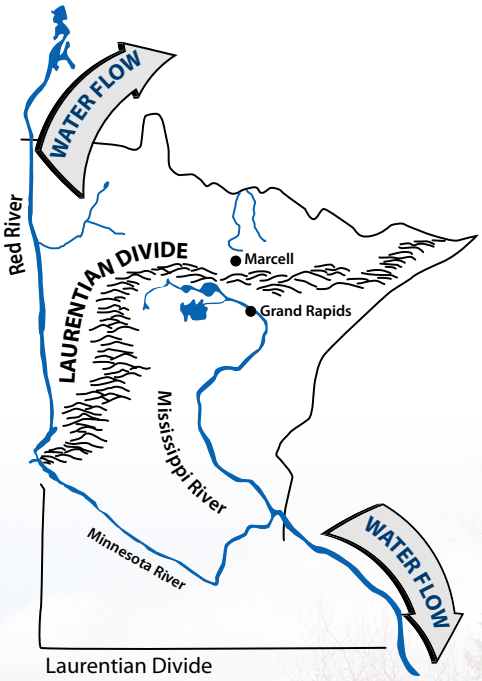



To improve roadbed stability, the highway and paved parking lots could be constructed so they are five feet above surficial water tables. Soil permeability could be maintained. Adverse impacts due to compaction will be avoided, minimized, or compensated for using standard MnDOT construction practices. Inadvertent problems with embankment stability, winter icing, or dewatering of perched wetlands caused by construction through perched water tables will be mitigated. Roadway deicers will be used consistent with maintenance standards and policies. If salt in a particular areas is discovered to have an adverse effect on water quality, measures will be taken to reduce its adverse impact. Routing the shipment of hazardous materials through Chippewa National Forest will be discouraged by MnDOT. Permits will route hazardous cargo over MN 6 whenever possible.

## Existing Character

Geological resources affecting the scenic byway were classified into three categories: aggregate deposits, ore deposits, and glacial landforms.

1) Aggregate: Quantities of aggregate will be required for construction of transportation and recreational facilities associated with the scenic byway. The outwash area from Grand Rapids to Pughole Lake (RP 0.0 to RP 14.0) has finer material. It contains fine sand, sand, and Class 4 gravel. This material lacks the coarser aggregates necessary for construction. An end moraine exists from Pughole Lake to Aspen Lake (RP 37.5). It contains coarser material. These materials, sand, Class 4 gravel, and Class 5 gravel, are more suitable for construction. North of Aspen Lake, a ground moraine (some of it lake modified) and lacustrine deposits occur. These deposits are not suitable for construction material.




2) Ore: Grand Rapids is the western terminus of a recreational drive linking northeastern Minnesota's iron ore region. Deposits of iron ore occur in the southern part of the corridor from RP 1.5 to RP 2.3, a distance of approximately 4,600 feet. This deposit is part of the Biwabik Iron Formation of the Western Mesabi Iron Range. It dips to the south-southeast from 5 to 15 degrees. It is buried under approximately 300 feet of glacial drift. It is considered an ore reserve with no plans for immediate mining. Mining has occurred on the east side of MN 38 at RP 3.5. The mine is no longer active. Piles of waste rock occur in this vicinity. Waste rock was examined as an aggregate source and found unacceptably weak as a construction material.

3) Glacial Landforms: Although the landscape of the whole region is a consequence of glacial action, a few landforms stand out as unusual. These include the braided esker system between RP 31.5 and RP 34.5; the crevasse filling parallel to the shore and highway on the east side of North Star Lake at RP 24; other scattered eskers and kames in the National Forest; the Laurentian Continental Divide; and the lake bottom of Glacial Lake Agassiz north of Bigfork. Erosion caused by foot traffic mars the crevasse filling near North Star Lake.

## Design and Management Guidelines

Aggregate resources for Scenic Byway projects will be attracted in the end moraine area. The braided esker system will not be used for aggregates for highway construction provided alternative resources can be located at a reasonable cost. To mitigate adverse impacts to recreational and visual resource in the braided esker system, extraction will occur only if taken from existing mines. Extraction of aggregates from the crevasse filling near North Star Lake will be avoided.

Adverse impacts to visual quality caused by excavation of aggregate material will be minimized by maintaining landform and vegetative buffers between transportation and recreational facilities of the

scenic byway and the aggregate mine. Following extraction, mines could be regarded and re-vegetated to mimic the native environment. A cooperative project at the Caribou Lake Pit aggregate pit resulted in a vegetative buffer and drainage system being installed. The project stands as an example of addressing and avoiding potential adverse visual impacts from aggregate mining.

Iron ore deposits could continue to be held in reserve. Investments in transportation and recreational facilities will not be affected by this reserve. If mining this ore ever becomes economically feasible and politically possible, adverse impacts to investments in transportation recreational facilities will require mitigation. If mining does occur, tourist interest may be enhanced by providing interpretive opportunities.

Development of the Scenic Byway will avoid adverse impacts to the crevasse filling at RP 24 near North Star Lake and the braided esker system between RP 31.5 and 34.5. Understanding of glacial landscapes could be enhanced by providing interpretive opportunities at the crevasse filling, braided esker, Laurentian Divide, and Glacial Lake Agassiz. Erosion of the crevasse filling should be corrected which would enhance the integrity and visual quality of this feature.

Potential for earthborn vibration effects has been considered, but due to the nature of the foreseeable work involved and the affected environment (no rock blasting), no significant impacts are anticipated.

# LAND USE

## Existing Character

Karen Oothoudt Photography

Land use varies considerably along the corridor. Existing land uses found in the corridor contribute significantly to the visual quality of the scenic byway (see Visual Quality).

This area of the state is viewed by many as desirable for development. The communities are aware of potential pressures developers may create in the future. Itasca County has developed and since updated a Comprehensive Land Use Plan that updated land use maps and provides guidelines for land use planning.

Grand Rapids, the largest city in Itasca County, zones land adjacent to MN 38 for industrial, commercial, residential, institutional, and recreational uses. Arbo Township, essentially a suburb to the north, is primarily rural residential with scattered commercial establishments, agriculture, forestry, and wetlands.

MN 38 extends 22 miles through the Chippewa National Forest. The Chippewa National Forest is managed for multiple purposes including timber production, recreation, and natural habitat. Two semi-primitive areas, Suomi Hills and Trout Lake, would be sensitive to changes in adjacent land use. State and County holdings within the forested area are managed similarly. Private holding within the forest are managed for timber or are used for private residential or recreational use.

Marcell is a small but economically diverse community with industrial, commercial, retail, recreational and residential land uses.


Karen Oothoudt Photography

The area around Marcell is zoned for light industrial commercial uses. Business enterprises are located along MN 38 and would be sensitive to highway realignment. Most residences are located off of MN 38 near lakes.

Bigfork, eleven miles north of Marcell, is the retail and service center for northern Itasca County. It is the fourth largest city in the county, with a variety of land uses including retail, commercial, industrial, residential, and recreational uses. Along MN 38, retail and commercial land uses dominate south of the Big Fork River. North of the river, residential use dominates.

Land between Bigfork an Effie is primarily forest and peat bogs. Zoned for agriculture, it supports considerable cattle production. Bigfork's airport is located here and it was recently improved by paving and lengthening the runway. A new light industrial plant has expanded near the airport.

Effie is a small community with a population of just over 100 residents. Land use in the community is primarily residential with some commercial and retail land uses. A majority of the development has occurred on MN 1, leaving the MN 38 corridor rather undeveloped.

### Design and Management Guidelines

Local units of government should avoid changes in land use which adversely affect the visual quality of the Scenic Byway. Local units of government should encourage the development of existing commercial areas in Grand Rapids, Marcell, Bigfork, and Effie. Minimal alignment changes would avoid adverse impacts to land use in sensitive urban areas, particularly in the commercial districts of Grand Rapids, Marcell, Bigfork, and Effie. The Minnesota Highway 38 Leadership Board has and will continue to work with local units of government on land use and planning.

To avoid adverse impacts to land use in sensitive natural areas, alignment of the road should not be altered in the vicinity of Suomi Hills or Trout Lake semi-primitive areas. Local units of government should work together with the county to define zoning regulations and guidelines that serve the needs of the highway and adjacent communities. Land use planning should be consistent with the Itasca County Land Use Plan and any community Action Plans or community Planning Committees.

## RECREATIONAL RESOURCES

### Existing Character




Recreational opportunities in the corridor are diverse. Gunn Park is near Grand Rapids, Marcell Recreation Area and the Edge of the Wilderness Discovery Site are in Marcell, McGarry Park is in Bigfork, Bigfork School Playground and Recreation Area is in Bigfork, and the Effie Recreation Area/ Park is located in Effie. Recreation activities along the Scenic Byway include hunting, fishing, and non-consumptive uses. These non-consumptive uses include bird watching, camping, hiking, biking, cross-country skiing, snowmobiling, and driving for pleasure.

Itasca County is a destination for recreation. Demand for recreation is expected to continue and increase. The USFS estimates that land based activities, water based activities, and snow/ice based activities could continue to increase substantially in the future.

MN 38 disperses outdoor recreation participants into northern Itasca County. MN 38, as a Scenic Byway, is a tourist attraction itself. Cities and small towns within the corridor are dependent upon recreational tourists that travel the highway. The concentration, variety, and availability of recreational opportunities, make the Scenic Byway attractive to a large audience.

The McKinney Lake access was corrected by design and relocation of the lake's public access.

Interpretive turnouts and rest areas were developed as part of the Scenic Byway. Gateway interpretive sites were developed in Grand Rapids, Marcell, Bigfork and Effie.

A new bridge over the Big Fork River in Bigfork was constructed to provide for safer bicycle, pedestrian, and fishing opportunities. It was completed during the Bigfork Streetscape reconstruction project.

Opportunities for snowmobile routes through the community of Marcell were evaluated in conjunction with the development of the Marcell Streetscape. The snowmobile route through the community of Bigfork was addressed and new routes were developed during Bigfork Streetscape planning and implementation.

The Marcell Ranger Station is on the National Register of Historic Sites. The former USFS Marcell Ranger District Office is found on the northern edge of the community; the site is now called the Edge of the Wilderness Discovery Center and is a partnership between the USFS, Northern Itasca Joint Powers Board, Minnesota Highway 38 Leadership Board, Inc., and the Edge of the Wilderness Lodging Association The site consists of a visitor center, gift shop, interpretive displays, interpretive trail, the Marcell Lodge, a fishing pier, a picnic shelter, and several other contemporary and historic outbuildings.

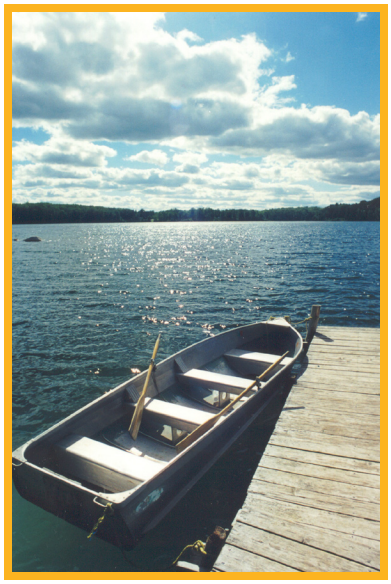
Several other interpretive sites were developed and enhanced through the installation of interpretive displays and other development. There are 14 designated interpretive sites and they are listed and promoted through the Edge of the Wilderness Discovery Guide brochure. They are: Grand Rapids, Lind-Greenway Mine, Black Spruce/Tamarack Bog Habitat, Trout Lake and Joyce Estate, Birch Stand at Pughole Lake, Day Lake CCC Camp, Laurentian Divide, White Cedar Stand, Scenic Overlook at North Star Lake, Marcell, Edge of the Wilderness Discovery Center (former Marcell Ranger Station), Gut and Liver Line, Bigfork, and Effie.

## Design and Management Guidelines

Recreational opportunities could be maintained or enhanced by development of the Scenic Byway. Adverse impacts to recreational facilities should be avoided or minimized. As opportunities for developing recreational facilities arise, land owners, county, state, and federal agencies will be encouraged to participate in the developmental process.

Adverse impacts to lake access areas due to highway reconstruction will be avoided, minimized, or compensated for. Access to Pughole Lake could be enhanced by improving the ramp, providing more parking, and controlling erosion. Access to Kremer Lake could be enhanced by constructing an access road, small parking area, and a carry-in access on the north side of the lake. Further, water quality could be enhanced by stabilizing and restoring the eroded embankment of the existing access area and nearby eroded embankments associated with shoreline fishing. Shoreline fishing could be enhanced by providing scattered boulder piers. Efforts are underway to provide public access to Kremer Lake.

Access to Surprise Lake could be reconfigured or eliminated. Access and parking at Day Lake could be enhanced or relocated. A final configuration is dependent on the final design of TH 38; a carry-in access is preferred. A separate bicycle/pedestrian trail from Bigfork south to Bustic Lake was explored at the time of the Marcell to Bigfork MN 38 reconstruction but was deemed infeasible at the time although it continues to be a possibility. A fishing pier was added to the Edge of the Wilderness Discovery site in Marcell and is open for public use.



Addition of shoulders would enhance safety of left-turn movements into recreational facilities by providing an emergency bypass lane. Currently, there is no apparent need for constructing right or left turn lanes; this could change in the future depending upon traffic volumes and specific locations. Access roads to recreational facilities should be designed to avoid the need for a left-turn bypass lane. Access will be provided only where good sight and stopping distances exist.

Interpretive turnouts and rest areas could be continued to be developed as part of the Scenic Byway. The existing Laurentian Divide Rest Area will be open throughout the year. The parking areas of North and South Soumi Hills Recreation Areas could be expanded by the U.S Forest Service if warranted. Highway and parking lot construction will not impact the vegetation between the highway and the parking lot. A small parking lot for a few vehicles with trailers will be considered at the intersection of MN 38 and Forest Road (FR) 3467 to provide snowmobile and cross-country skiing access to Little Long Lake and associated trails. Relocating the turn-out at North Star Lake to provide better pedestrian access to the top of the crevasse filling will be considered. Opportunities to develop vista/safety turn-outs can be explored on an ongoing basis.

Snowmobiling could be enhanced by modifying highway alignment to accommodate existing trail crossings. Adverse impacts to current snowmobile trails will be avoided and opportunities for new trail construction will be pursued in cooperation with state, county, and federal agencies, and local snowmobile clubs. The abandoned railroad grade from Marcell to Effie will remain open to snowmobiles.

Interpretation of the natural and cultural resources of the corridor will be enhanced by the Scenic Byway. MnDOT was awarded funding for developing a Forest History Interpretive Program from the Federal Highway Administration (FHWA). The program included plans for interpretive sites, designing and fabricating interpretive signs, and designing and printing a brochure on the natural and cultural history of the corridor's forests and forest industries. The Forest History Center on the Great River Road in Grand Rapids, which has tens of thousands of visitors every summer, should be considered a primary resource for information on forest history. One marketing concept was to link the museum with an existing working forest.




Byway interpretive sites were developed and enhanced through the installation of interpretive displays and other development. These sites should continue to be monitored and maintained. The 14 designated interpretive sites are listed and promoted through the Edge of the Wilderness Discovery Guide brochure. They are: Grand Rapids, Lind-Greenway Mine, Black Spruce/Tamarack Bog Habitat, Trout Lake and Joyce Estate, Birch Stand at Pughole Lake, Day Lake CCC Camp, Laurentian Divide, White Cedar Stand, Scenic Overlook at North Star Lake, Marcell, Edge of the Wilderness Discovery Center, Gut and Liver Line, Bigfork, and Effie.

## Existing Character

Forest products have been a major economic force in Itasca County. While Blandin is perhaps the best known, it is certainly not the only forest products company in the county. Rajala Mills is a key industry to the "Edge of the Wilderness" Communities. Itasca County is home to many forest product companies, providing employment within mills, and for a large number of suppliers as well.

Tourism is a vitally important industry for Itasca County. Tens of thousands of visitors from elsewhere in Minnesota, and from outside the state visit the area, sustaining the social and economic well-being of the area. The designation of MN 38 as a scenic byway is significant. It can serve as a potential tourist destination, and play a supporting role in drawing tourists to the region.

There are four communities linked by MN 38; Grand Rapids, Marcell, Bigfork, and Effie. The population of Grand Rapids is approximately 10,500. The Blandin Paper Company is located in Grand Rapids, as well as many large chain stores (Target, Walmart, etc). There are a number of area attractions and small stores for tourists and residents alike. Community growth is targeted toward the south side of town along Highway 169. Highway 2 and Highway 169 are the primary routes through town and long term community development plans support this trend. Highway 38 is utilized primarily by tourists from various directions, trucking interests, and commuters from residences outside the city.

The Chippewa National Forest is a working forest. Timber is produced and harvested regularly. In addition, the forest serves as a destination area for much of the northland's recreation and tourism population. Numerous fishing lakes, scenic wonders, pristine forests, and miles of trails are just a few of the attractive features of the forest.

Marcell, Bigfork, and Effie are all small compared to Grand Rapids, but each of these "Edge of the Wilderness" Communities play a vital role in the sustainment of the area. Each contributes by providing small, tourism based businesses, resorts and retailers. Bigfork has varying degrees of light industry including lumber mills, a switch company that employs in excess of one hundred people, a school, and a large health care campus. These companies are major contributors to the economic viability of the surrounding area. Also, the retirement community and lakehome owners play and important role in the economy of the area.

## Design and Management Guidelines

Grand Rapids planners are discouraging large-scale commercial development north of 6th Street in the Grand Rapids area.

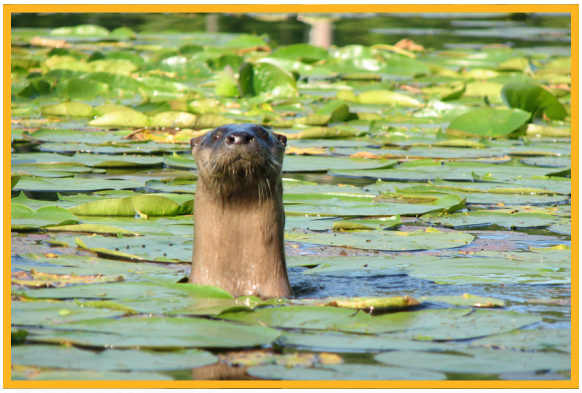
Current weight restrictions make it difficult for many trucks, logging and retail deliveries, to traverse Highway 38 to their given destinations including cutting sites, mill locations, and retail stores. It is anticipated that the forest products industry will remain a vital economic and social force into the foreseeable future. All planning for this corridor should acknowledge the importance of this industry, including the need to design for a 10 ton year-round road, access points, turn lanes, and other measures which may come to be identified in future planning.

It is important that a high volume of tourist traffic mixing with high volumes of logging and delivery trucks do not create an unsafe condition. Shoulders and lane widths must accommodate this traffic mix and volume.

Every opportunity should be taken to enhance the "Edge of the Wilderness" theme with the redevelopment of the highway to benefit the economic vitality of the cities and towns along the route.

## STREAM MODIFICATION

### Existing Character



Mary Shideler

Six creeks and two rivers occur in the Scenic Byway corridor. No recreation project is anticipated to modify any stream except for minor alterations of shoreline to provide access for watercraft. Three creeks and the confluence of two rivers may suffer minor and temporary impacts by highway construction. One creek is unnamed and is located at the confluence of the Rice and Big Fork rivers. Two of these creeks—Burr Creek and the unnamed creek from Pelton Lake to the Rice River support northern pike and white sucker movements for spring time spawning. Highway construction would be timed to avoid impacts to spawning fishes as required by the MN DNR.

The confluence of three streams in one location is a rare natural setting in Minnesota. The confluence area serves as a spawning area for northern pike and muskellunge. It also serves as a place where fry can be protected from extensive predation. Visual quality of the confluence area is excellent.

Culverts at stream crossings should be replaced and sized to provide fish passage and also provide a stable stream and adequate connection to its watershed. Passage for small animals should be a consideration in some culvert locations to provide safe movement along streams.

To avoid adverse impacts, replacement of the Big Fork River bridge was completed in a desirable location. Construction at all stream crossings on MN DNR Protected Waters will require a MN DNR Protected Waters Permit. Provisions of the permits will address hydrology, fish passage, and erosion.

### Design and Management Guidelines

To minimize adverse impacts to flowing water, bridges and culverts will have sufficient hydraulic capacity so water velocities do not impede fish movement.

## Existing Character

Soils vary considerably along the corridor. Suitability of native soils for road construction and recreational development is fair. Slopes are moderately susceptible to erosion. Pockets of saturated fine and organic soils occur. Frost will continue to damage the surface of the highway in these locations. Aggregate deposits for reconstruction are good between RP 14.0 at Pughole Lake and RP 37.5 near Aspen Lake. (See Erosion Control and Geological Resources.)

Native soils are particularly suited for supporting a variety of ecological communities (see Vegetation and Wildlife). Topsoil is valuable for supporting native vegetation which inhibits erosion and provides habitat.

An abandoned aggregate mine has left the artificial landform and disturbed soils near Pughole Lake at MP 15. An active aggregate mine with disturbed soils exists near Caribou Lake. Although currently not visible from MN 38, other disturbed soils from unreclamated aggregate mining exist in the corridor. These sites may become more visible as development of the scenic byway progresses. Other soils have been disturbed by erosion (see Erosion Control).

## Design and Management Guidelines

Soil tests will be conducted during final design to determine the need for altering soil structure to assure a year-round ten-ton road capacity.

Areas disturbed by construction for transportation or recreation projects will be re-graded to mimic natural landforms. The natural stratification of soils could be reconstructed, including adequate aeration and graded transitions between soil horizons. All disturbed areas will be dressed with topsoil.

Topsoil will be conserved on all scenic byway construction projects. Adverse impacts to topsoil will be avoided, or if avoidance is not possible, minimized, or compensated for. Topsoil will be removed and stockpiled in areas which will be disturbed by construction. Topsoil will not be covered by other fill. Erosion will be controlled so topsoil is not adversely impacted by construction (see Erosion Control).

Areas disturbed by abandoned aggregate mining will be reclaimed as part of the development of the highway where practical. Initially these areas will be used for starting construction.

# THREATENED, ENDANGERED, AND SENSITIVE SPECIES




## Existing Character

The US Fish and Wildlife Service (USFWS) listed the Canada Lynx as threatened and the USFWS has proposed the northern long-eared bat as endangered. At the time of this update, Gray Wolves were delisted due to population recovery in Minnesota. The State of Minnesota has a Gray Wolf management plan in place but the Gray Wolf status may be revisited and revised in the future and is currently being debated in the court system. All three of the above mentioned species may occur in the Corridor. In addition to these species listed by the Endangered Species Act, the USFS has listed the following animal species as regionally sensitive, which could occur within the

corridor: Northern Goshawk, Nelson's Sharp-tailed Sparrow, Red-shouldered Hawk, Olive-sided Flycatcher, Trumpeter Swan, Bay-breasted Warbler, Bald Eagle, Connecticut Warbler, Black-backed Woodpecker, Great Gray Owl, Four-toed Salamander, Gray Wolf, Little Brown Myotis, and Northern Lemming. The following plant species are also listed as sensitive by the USFS, which could occur in the corridor: Triangle Moonwort, Scalloped Moonwort, Lanceleaf Grapefern, Goblin Fern, Blunt-lobed Grapefern, Pale Moonwort, Ternate Grapefern, Fairy Slipper, Ram's Head Ladyslipper, Squirrel-corn, Goldie's Wood-fern, Olivaceous Spike-rush, Few-flowered Spike-rush, Limestone Oak Fern, White Adders-mouth Orchid, Bog Adder's-mouth Orchid, One-flowered Broomrape, Club-spur Orchid, Northern Bur-reed, and Canada Yew. The MN DNR, through the Minnesota Natural Heritage Information System, has listed thirty-four rare species or other significant natural features that are known to occur within an approximate one-mile radius of the corridor. Osprey nests, eagle nests and Ram's Head Ladyslippers exist within the highway corridor and these are of particular concern.

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The US Fish and Wildlife Service (FWS) removed bald eagles from the list of threatened and endangered species. However, it is still protected by the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. Both laws prohibit killing, selling, or otherwise harming eagles, their nests, or eggs.

See the MN DNR Minnesota Natural Heritage Information System Index Report that lists rare features occurring within a 1 mile corridor of Highway 38 for more detailed information.

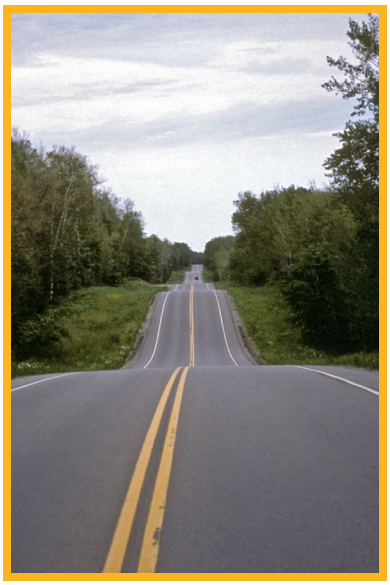
## Design and Management Guidelines

Adverse impacts to species which may occur in the corridor and are listed as threatened or endangered by the USFWS will be avoided.

Other wildlife species which are not endangered or threatened but considered rare or of special concern by the USFS or MN DNR will be managed to maintain ecological diversity. Project activities proximate to USFS sensitive species will be mitigated to reduce potential impacts. Construction activities should be planned and scheduled to avoid disturbance as directed by USFWS, USFS, or MN DNR wildlife biologists. To avoid adverse impacts to sensitive species, development of transportation and recreational facilities will not create any new fragmentation of the existing sensitive habitat. Encroachment on sensitive habitat by MN 38 will be minimized by limiting the width of the shoulders and increasing the acceptable steepness of embankments to 2:1 where soil stability allows.

Opportunities, identified by the USFWS, USFS, MN DNR, or MnDOT wildlife biologists, to enhance the habitat for these species will be incorporated into construction plans of the scenic byway where practical.

## Existing Character



Highway 38 is a key travel way for the communities it serves. The highway from Grand Rapids to Effie is 47 miles long. The roadway was originally graded in the 1920's; surfaced in the 1940's; and resurfaced in the 1970's. Portions have been resurfaced and reconstructed since. Generally the highway consists of two 12 foot driving lanes. The gravel shoulders typically range from one to 6 feet wide. Ditch inslopes and backslopes range from 1:1 to 3:1. Ditches in the rural and forest segments of the corridor are two to three feet deep with a "V" shaped bottom.

The highway conforms to the topography. Near Grand Rapids and Effie, it is relatively straight and flat. From Pughole Lake to the Big Fork River it twists and climbs, with sharp horizontal and vertical curves, over rolling terrain. Speed advisories are common.

The highway is a conduit for commuters and commerce. Average Daily Traffic (ADT) drops progressively from Grand Rapids to Effie except for the blips caused by local traffic in Marcell and Bigfork. In Grand Rapids 7,900 vehicles use the highway on an average day. Near, County Road 49, the figure drops to 1,850, 970 after County Road 60, spikes to 1,300 in Marcell, and 1,000 between Marcell and Bigfork. In Bigfork, 1,500 trips are made daily on MN 38. The number gradually declines to 670 in Effie. These figures were based on 2011 traffic volumes.

The character of the highway and the adjacent landscape could be radically altered by utilizing typical design standards therefore projects along Highway 38 will use context sensitive design standards and take the intrinsic qualities under consideration.

See project implementation summary for construction projects completed since the original CMP plan was adoped in 1995 through 2013 and for proposed 2017 project information.

## Design and Management Guidelines

Existing alignment (horizontal curves) and profile (vertical curves) will usually be maintained unless spot improvements would significantly improve safety. Spot improvements may occur, for example, at intersections which, due to poor visibility and short stopping distances, generate substantial unsafe turning movements. MnDOT will determine the location of spot improvements based on safety, while developing the construction plans for each segment.It is intended that the road will be constructed to a 10-ton year-round capacity. Speed advisory signs may be posted as necessary. Two twelve-foot bituminous driving lanes will be constructed. The two driving lanes may be separated with a continuous double-yellow no-passing stripe except where MnDOT standards can be met. Based on the MnDOT standards, passing sight distance is based on design speed; 30 mph = 1,080 feet, 40 mph = 1,470 feet, and 50 mph = 1,835 feet. To enhance safety, a rumble strip will be considered adjacent to the driving lane. MnDOT traffic engineers and statewide guidance are utilized to determine if rumble strips are appropriate.




Due to financial restraints, the 2017 reclaim project for the segment from County Road 19 north to Marcell deviates significantly in design from the original CMP proposed reconstruction of this segment.

The 2017 reclaim project will include bituminous reclamation and bituminous surfacing. Funds are being sought to add limited reconstruction in very small sections for specific safety and driving surface concerns. From County Road 19 north to Marcell, shoulders should be stabilized or widened with a portion paved and the remainder gravel; vegetative seeding and other methods should be utilized to reduce erosion. Ditch inslopes from County Road 19 to Marcell will vary and remain unchanged for the most part. A solid white edge line with a continuous rumble strip should be considered as a separation of the shoulder from the driving lane.

On certain sections of Highway 38, the safety for turning may be enhanced by a shoulder which can act as an emergency bypass lane. Existing right turn lanes will be perpetuated or upgraded as needed. Approach roads that become paved at a later date could incorporate right turn lanes on MN 38 as part of the approach road improvement project. Left-turn bypass lanes will be constructed if recommended by the District Traffic Engineer.

To assist traffic flow, pull-offs to recreational sites or vistas for slower moving tourist traffic could be developed. Inviting pull-offs for slow moving non-commercial vehicles could be developed as part of the recreation program of a scenic byway. The USFS will assist in selecting turn-out locations which have intrinsic recreational value, such as wildlife, plant, or ecological interpretation. Parking lots should be kept small with vegetative screens.

Newly constructed ditches may be shallow, but generally not be lower than three feet below the surface of the highway. Inslope and backslope ratios (horizontal:vertical) will vary as needed. Most inslopes from Grand Rapids north to County Road 19 were constructed to be 4:1; from Marcell north to Bigfork inslopes were constructed to be 3:1; and from Bigfork to Effie 4:1. Inslopes and backslopes may be steepened to 2:1 if necessary to mitigate adverse social, economic , or environmental impacts and if soil structure allows stable slopes to be constructed at that ratio.

Maintenance: continue adequate and timely snow removal, pothole repairs, and removal of tree deadfall in a timely manner when it poses a risk.

Where necessary and cost effective, geogrid slope reinforcement, geotextile pillows, rock-faced retaining walls, or other innovative solutions will be used to limit impacts caused by cuts and fills. To accommodate errant vehicles, innovative crash barriers could be used (such as shrubs, guardrail, or rock-faced barriers with wood rubrails). These innovative crash barriers will also be used as necessary to reduce the need for cutting and filling. Shrubs could be planted where the inslopes will be steeper than 3:1 to reduce crash forces. These shrub beds should be perpetually maintained to be free of stems larger than 6 inches in diameter.

## VEGETATION

### Existing Character

An Edge of the Wilderness National Scenic Byway: TH 38 Vegetation Management Plan was completed in 2009 and is an addendum to this plan.

Vegetation, particularly trees, are important economically (see Social an Economic Resources section). Trees support two of the region's main businesses: wood production and recreation. According to public land surveys done at the time of European settlement, the corridor was 64% boreal hardwood conifer

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forest, 34% pine forest, and 2% peat lands. The boreal forest was comprised of aspen, birch, balsam fir, white spruce, and white cedar. The pine forest was dominated by white and red pine. From the late 19th century to the early 20th century, pine was harvested in large quantities. Today, the forest is 78% boreal, 14% hardwood, 5% pine, and 3% peat lands. The boreal forest, dominated by aspen an fir, supplies much of today's timber production, primarily for pulp, pallet cut stock, oriented strand board, furniture, cabinets, and pallet lumber. Boughs of coniferous species are harvested to produce wreaths. The hardwood forest is dominated by maple and basswood.

Logs from the hardwood forest are primarily used for furniture, flooring, paneling, and pallet cut stock. The autumnal color display provided by the hardwood forest is a significant tourist attraction. Pine is managed primarily for furniture, molding and trim, and construction dimension lumber. Groves of big white pines occur at Walter Pine and Mallard Point along Prairie Lake. Lands from R.P. 17 to Kremer Lake are managed by Boundary Co. and include both super-canopy and white pine and extensive amounts of white pine seedlings in the underplanting. This stretch will be receiving some of the highest white pine regeneration attention anywhere in the country.

The highway passes through abundant areas of "working forest". Along with showcasing some of Minnesota's best "Northwoods" views, MN 38 exhibits how the forest resource can simultaneously provide great beauty and a valuable economic resource for one of the state's major industries-forest products. Any attempt to hide this synergy would negate one of the best and most unique qualities of the corridor and general area. The key will be harmonizing all the features and activities without compromising any. This will be significantly cast by the design and construction of the highway.

Throughout the forest, vegetation provides food and shelter for animals. Berries, nuts, grains, and roots which provide food for animals are also harvested by people, both recreationally and commercially. Wildlife, for which the forest is habitat, provides many recreational opportunities for people from observation to hunting (see Wildlife).

Vegetation occurs throughout the corridor. Public land consists of federal, state, and county forests. Municipalities own parks, boulevards, and open space. Vegetation on private land is associated with many small residential lots and a few large commercial forest holdings. The scattered locations of specimen pine are valued by tourists.

Peat lands are low in sphagnum content and relatively small. It is not harvested. Vegetative species which have been identified by either federal or state agencies as being endangered, threatened, or otherwise sensitive are discussed in the Threatened and Endangered Species section.

Adverse impacts to the pine plantation at Gunn Park were avoided or minimized during reconstruction. Utility lines were buried during reconstruction projects along the highway. To enhance visual quality, the Rice Lake vista, north of Marcell, was developed as part of the Scenic Byway reconstruction.




## Design and Management Guidelines

An Edge of the Wilderness National Scenic Byway: TH 38 Vegetation Management Plan was completed in 2009 and is an addendum to this plan.

Vegetation on public lands adjacent to the highway and other scenic byway facilities should be managed to maintain or enhance existing visual quality. Forest management should be a tool to help achieve this goal. The amount of long lived mixed conifers and hardwoods species should be increased whenever

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feasible, although species composition will vary according to soil and hydrological conditions. As an example, where the highway parallels Johnson Creek, special attention should be given during highway construction to sustain the diversity of pines, hardwoods, aspen, and lowland conifers.

To minimize adverse impacts to visual quality, all forest land owners within the Scenic Byway corridor will be encouraged to follow the Visual Quality Best Management Practices. Public agencies may be following more stringent guidelines. Visual Quality Best Management Practices manuals will be available through the Minnesota Department of Natural Resources.

To avoid adverse impacts to vegetation, changes to highway alignment and profile will be minimized. Adverse impacts caused by improving the shoulder could be minimized by reducing the shoulder width between County Road 19 near Pughole Lake and MN 1 in Effie (see Transportation Resources section). Grading will be minimized for highway embankments. Standard embankments in heavily vegetated segments, where soils are stable, will be 3:1. To avoid adverse impacts to specimen trees, unusual herbaceous vegetation, or wetlands, embankments as steep as 2:1 will be allowed. These areas will be allowed by MnDOT biologists working with the USFS and MN DNR biologists before the development of construction drawings. Where one side of the highway has already been cleared as a utility corridor, construction activities should occur only on that side. To minimize adverse impacts to specimen trees, protective fencing, root pruning, and granular fill will be used in accordance with advice from the MnDOT forester. Adverse impacts to residential landscaping will be avoided, minimized, or compensated for.

Adverse impacts to the cedar swamp near North Star Lake will be avoided or minimized. Adverse impacts to the vegetative screens between Kremer Lake and the highway; between Pughole Lake and the highway; between the South Suomi Hills parking lot and the highway; and between the North Suomi Hills parking lot and the highway will be avoided or minimized. Adverse impacts to the vegetation between the old abandoned “Gut and Liver” railroad and the highway will be avoided, minimized, or compensated for.

After construction limits have been marked, transplanting of herbaceous groundcovers, shrubs, and young trees will be permitted in areas which will be disturbed by construction. Special provisions in the construction documents will be written to permit people to remove vegetation prior to construction. A major landscaping planting was done following Highway 38 reconstruction from Grand Rapids to County Road 19. The contract was administered by MnDOT.

The vegetative cover on the embankment between the highway and North Star Lake could be enhanced during highway construction. To enhance visual quality, the naturally declining birch trees near Pughole Lake should be managed to maintain their long term character. Hazard tree removal will be addressed during construction.

To further enhance visual quality, native wildflowers and grasses will be planted along MN 38 and near recreational facilities; trees planted for reforestation will not be placed in rows; and vegetation may be managed in certain locations to create better views of lakes or other features; boulevards plantings could occur in cities along the corridor (see Visual Quality).

Work with the US Forest Service. the Minnesota Department of Natural Resources, Itasca County and other appropriate parties to monitor and control harmful invasive species.

## Existing Visual Character

Both nature and culture combine to give the traveler a scenic experience. The rolling terrain and diverse vegetation of the scenic byway corridor creates a visually appealing driving experience for the tourist. The road twists and turns following the natural contour of the landscape winding through dense forests with trees practically forming an overhead canopy. It sweeps around lakes and wetlands. Like a roller-coaster, it rides over glacial moraines, gliding to a stop in the plain of an ancient glacial lakebed. In the fall, the vegetation changes to vibrant yellows, reds, and oranges, complementing the black and white tree trunks. The experience is so spectacular that the road has been rated one of "Minnesota's Ten Best Autumn Roads Trips" by a state tourist magazine and is one of the first designated State Scenic Byways.

The highway passes also through towns rich in evidence of their logging roots. Large industrial shapes and quiet neighborhoods greet the tourist in Grand Rapids. Marcell, Bigfork, and Effie are active with businesses dedicated to logging and recreation.

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## Design and Management Guidelines

To enhance visual quality on MN 38 in the municipalities of Grand Rapids, Marcell, Bigfork, and Effie, plans for roadway improvements will include coordinated improvements to sidewalks, crosswalks, boulevard plantings, lighting, and other pedestrian fixtures. Municipalities and civic organizations will assist businesses in coordinating their curbside appearance, including identifying signs, for the scenic byway market. MnDOT will assist municipalities and civic organizations in designing parking lots which are screened from the highway. To enhance the health of boulevard trees, MnDOT and USFS foresters could assist municipalities prior to conducting tree maintenance activities. To avoid adverse impacts to visual quality, MnDOT will continue to regulate billboards according to state and federal law. To enhance visual quality and conform to Federal Highway Administration requirements, municipalities electing to become part of the scenic byway will be encouraged to adopt an ordinance prohibiting the erection of off-premise billboards oriented to the MN 38 traveler.

"Edge of the Wilderness" Scenic Byway markers were installed by MnDOT. Directional signs to the Scenic Byway were placed at the intersections with US 2 and MN 1 by MnDOT; and at the intersection of MN 286 with MN 6. With assistance from Itasca County, directional signs from the Great River Road and the Forest History Center to the Scenic Byway could be installed. An alternative way of recognizing participants in MnDOT's "Adopt A Highway" program, other than signing along the highway, could be developed and implemented. Interpretive and feature identification signs will be graphically coordinated by the USFS and MnDOT. An Itasca County Highway 38 Sign Ordinance provides standards for commercial on-premise signs in the corridor. Similar ordinances were enacted in Bigfork, Effie, and Grand Rapids and should be continued to be used as guidance for sign control.To avoid and minimize adverse impacts to visual quality, adverse impacts to vegetation will be avoided and minimized (see Vegetation). To compensate for areas disturbed by Scenic Byway development, the landscape will be graded to appear natural and replanted with native vegetation. To enhance visual quality in rural areas, native wildflowers will be planted on the roadside and near recreational facilities. Where the existing highway has created artificial landforms or caused erosion,

such as on the shorelines of McKinney and North Star Lakes, corrective grading and revegetation will enhance visual quality.

Additional burying of utility lines should occur during future construction projects. Where possible, utility lines constructed in the future on federal and state property should be concealed form the highway. It is recommended that jurisdictions electing to become part of the scenic byway adopt similar standards for utility lines. MnDOT will coordinate its construction with utility companies.

Area disturbed by aggregate mining should be reclamated. Scenic easements could be purchased to compensate land owners where mining or logging on private land would adversely affect visual quality. Scenic easements will be posted, but may not grant public access. Visual quality will be enhanced by providing scenic and interpretive opportunities along the route (see Recreational Resources).

Numerous other opportunities exist for enhancement of visual quality. Thinning vegetation may enhance views of lakes and wetlands throughout the highway corridor such as Pughole Lake. “Park Like” views in several red pine sawtimber stands could be created in areas near RP 25, RP 30.8, RP 34.8, and RP 36. To enhance visual quality, scenic overlooks at the snowmobile trail shelter on the crevasse filling near North Star Lake may be developed as part of the Scenic Byway. Views of Ranier Lake could be established to enhance the visual quality of Marcell.

When possible, address residential and commercial blight issues along the Byway by enforcement of existing ordinances and working in collaboration with property owners.

While addressing the needs for cellular phone coverage, work with providers, land agencies, MnDOT, and local units of government to place communication towers in suitable locations.

## WATER QUALITY

### Existing Character

Mary Shideler

There are 36 lakes, six streams, and two rivers in the corridor. All of these water bodies have potential to be impacted by highway or recreational development associated with the Scenic Byway. Approximately one-third may be affected by improvements to MN 38. Most water quality impacts would occur during construction.

The water quality of twelve lakes: Crystal, Hale, McKinney, Pughole, Johnson, Kremer, Surprise, Day, Caribou, North Star, Ranier, and Rice may be impacted by improvements to MN 38. HaleLake is directly connected to an aquifer which supplies Grand Rapids with municipal water. Improvements to MN 38 may also affect the water quality of three streams. The three streams are: the stream from Burr Lake to the Rice River in Bigfork Township Section 5; the stream from Pelton Lake to the Rice River in Bigfork Township Section 17; and the stream between Shoal and Prairie lakes. Construction that was completed to date addressed issues related to Crystal, Hale, McKinney, Ranier, and Rice Lakes and the three streams as described above. Erosion issues at McKinney Lake were corrected.

The Big Fork River is also a special area of concern. To avoid adverse impacts to water quality

during construction near the Big Fork River, construction of the Big Fork River bridge was completed and it was located away from the confluence of the Big Fork and Rice rivers. The location of the bridge and construction methods reduced potential negative impacts to the River.

Various toxic inorganic pollutants and petroleum related products are deposited on the roadway by motor vehicles. Every effort will be made to capture these pollutants in ditches and vegetation before they enter surface waters. The major pollutants from the operation of a highway are littering, sand from winter deicing, and deicing chemicals. Sodium chloride is the primary deicing chemical used in winter operations. Sodium is generally trapped by soils adjacent to the roadside. Chlorides are more mobile and wash into surrounding watersheds where they are diluted by local water volumes and warm season rains.

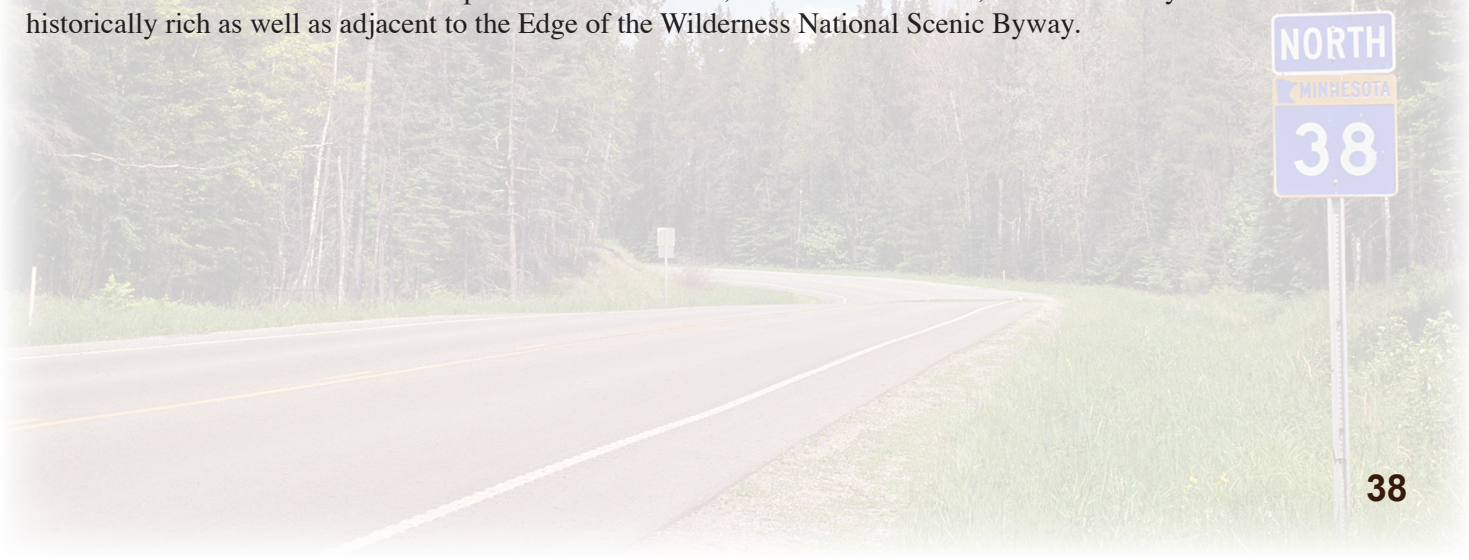
## Design and Management Guidelines

Adverse impacts to water quality will be avoided, minimized, or compensated for. To avoid and minimize adverse impacts to water quality, standard MnDOT erosion control measures will be implemented during highway or recreation/ interpretive site construction (see Erosion Control). A General Permit to "discharge storm water associated with construction to waters of the state" will be required from the Minnesota Pollution Control Agency under the National Pollutant Discharge Elimination System Permit Program. The permit will require a plan using Best Management Practices (BMP) to control erosion and sedimentation during construction. These temporary controls will remain in effect until the entire site has stabilized.

In addition, the NPDES permit will require a permanent erosion and sediment control plan using appropriate BMP's. Wet sediment control basins may be required in some areas. However, in most areas, the impervious watershed will be less than one acre precluding construction of sedimentation basins. In most cases, grass swales or other appropriate BMP's will be used to control sediment in storm water runoff from the highway surface. Overland sheet drainage will be encouraged. Concentration discharge to lakes, streams, and wetlands will be avoided if possible.

To enhance water quality, existing erosion problems at Kremer Lake, Surprise Lake, North Star Lake, and the glacial landform adjacent to North Star Lake, will be corrected if possible (see Erosion Control). Work with the Itasca Coalition of Lake Associations and specific Lake Associations throughout the corridor. Work with the US Forest Service, MN DNR, and Lake Associations to monitor and control harmful invasive species.

The Chippewa National Forest is actively seeking to acquire a 43 acre parcel of land on the north side of Kremer Lake. Acquisition of the Kremer Lake parcel would preserve greenspace by avoiding development, protect the watershed and riparian habitat, provide public access to Kremer Lake and conserve a tract adjacent and within the National Forest. This parcel contains over 4,500 feet of lakeshore, and is culturally and historically rich as well as adjacent to the Edge of the Wilderness National Scenic Byway.



## Existing Character

The Scenic Byway Corridor is rich in quantity and variety of wetlands. From Grand Rapids to Pughole Lake, large sloughs associated with drainage ways or the fringes of lakes dominate the relatively flat terrain. From Pughole Lake to Jaynes the rolling terrain confines wetlands to small basins and the fringes of lakes. North of Jaynes, and covering the flat ancient glacial lakebed are wetlands associated with drainage ways. These wetlands include palustrine emergent, palustrine aquatic bed, palustrine open water, palustrine scrub shrub, and palustrine forested-including bogs.

Wetlands are an integral part of the scenic experience, providing variety seasonal color and textures. Wetlands provide habitat to many animal species which people find visually intriguing.

To avoid adverse impacts to wetlands along the Big Fork River and its tributaries, the Big Fork River bridge was reconstructed and it was located away from the confluence of the Big Fork and Rice rivers.

## Design and Management Guidelines

Development of transportation and recreational facilities will avoid adverse impacts to wetlands where practical. Where adverse impacts cannot be avoided they will be minimized or compensated for. Adverse impacts caused by development of transportation or recreational facilities will be avoided on the the south end of Day Lake, the south end of North Star Lake, and the west side of English Lake.

To avoid adverse impacts, standard erosion control procedures will be used during the construction of recreation and transportation facilities. To avoid adverse impacts, existing patterns of water flow need to be carefully considered during design and construction.

Adverse impacts to wetlands will be minimized by choosing design alternatives which lessen physical encroachment into wetlands, maintain existing water flow patterns, use proper erosion prevention measures, and maintain water quality. There are several areas where current drainage patterns will be maintained to ensure wetland viability. These include the wetland complex southwest of Pughole Lake, the wetland complex along Caribou Lake, the springs along North Star Lake, and two bog areas (see Work Team Report for property descriptions). To minimize adverse impacts caused by highway construction, the existing alignment will be followed with little alteration. The existing profile of the highway could be changed to raise the surface of the roadway five feet above the watertable. Exact locations where this will occur will not be known until soil borings are completed during the final design phase of the project. Adding shoulders and raising the profile may create some adverse impacts to wetlands.


To minimize these adverse impacts, the slopes of highway embankments adjacent to wetlands will range from 2:1 to 4:1. Embankment stability will dictate the slope of embankments. The steepest stable slope, with 2:1 the maximum, will be used to lessen wetland encroachment where practical. Stable slopes are necessary to maintain the structural integrity of the highway and to minimize potential erosion of the embankment and sedimentation of the wetland.

Adverse impacts to wetlands which were not avoided or minimized will be compensated by off-site replacement or wetland banking as governed by State and Federal agencies.

To enhance wetlands, road alignment may be shifted away from wetland fringes, where practical. Wetland interpretation could be enhanced by providing wetland vistas and interpretive information. Interpretation of the North Star Spring will be considered. To enhance wetlands the restoration of previously disturbed water flows will be considered.

## WILD AND SCENIC RIVERS

### Existing Character

There are no wild and Scenic Rivers within the Scenic Byway Corridor. The Big Fork River has been studied for classification as a National Wild and Scenic river. The Big Fork River Board manages the river. The Board was formed to retain local control of the river, while ensuring preservation of the river's scenic qualities.

The Board adopted the "Big Fork River Plan: A Shoreline Management Plan for the Big Fork River". The primary goal of the plan is "to ensure the preservation of the natural character of the river, including both the waters and adjacent shorelands." The plan is being implemented through local zoning ordinances, compatible recreational development, scenic easements for critical lands, and proper management of public lands along the river. Of equal importance to the Board is protection of private property rights, and resident and visitor use of the river. The management responsibility is jointly shared by MN DNR, the counties, and cities exercising land use controls within the river corridor. MnDNR manages the river as a designated boat and canoe route. MN DNR provides primitive camping opportunities and maintains several boat access areas along the river.

### Design and Management Guidelines

As dictated by the Big Fork River Board, to avoid adverse impacts to the Big Fork River and its shoreline, construction of the new Big Fork River bridge was completed and was designed and built to restore and maintain the character of the River. The Bigfork River Board should and will continue to be consulted for any projects that affect the Bigfork River.

## WILDLIFE




### Existing Character

The Scenic Byway corridor from Grand Rapids to Effie has a variety of habitats which support a wide range of wildlife. The USFS has identified 239 birds, 19 Amphibians and Reptiles; and 57 mammals as possibly existing in the corridor. These 315 species represent only the non-fish vertebrate population. Invertebrates, such as insects and shell-fish have not been identified except if listed as endangered, threatened, or otherwise sensitive by federal or state agencies. Those species which are listed as threatened, endangered, or sensitive are discussed in the Threatened and Endangered section of the report. Common land-living vertebrate species are discussed in this section.

MN 38 acts as a dispersal corridor for recreationists. Game species most commonly sought by hunters are deer, ruffed grouse, black bear, and waterfowl. Itasca County is a nationally renowned destination for ruffed grouse hunters. Large population of eagles, loons, songbirds and wolves attract non-consumptive recreationists. Five lakes in the Scenic Byway corridor, Lawrence, Hill, Orange, Day, and Lundeen, have been identified by the USFS as loon lakes.

At RP 16.5 recreationists, primarily hunters and snowmobilers, use Little Long Lake Road (FR 3467) as access into Little Long Lake. Some recreationists park on the shoulder of MN 38 when conditions do not permit driving on the forest road, including winter when the road is not plowed. This creates a hazard.

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### Design and Management Guidelines

Habitat for vertebrate populations, and the consumptive and non-consumptive uses of those populations by people, will be maintained or enhanced by the development of the Scenic Byway.

Karen Oothoudt Photography

The design of the highway will attempt to not increase the likelihood of deer being killed by vehicles. In particular, plants which attract deer to roadsides, legumes and cool-season grasses, will be used sparingly. MnDOT's botanist will work with USFS and MN DNR biologists to select appropriate herbaceous species for the highway right-of-way.

Back-in boat access and other adverse impacts to loon lakes will be prohibited on public land and discouraged on private land. As part of the Scenic Byway development, a parking lot may be established adjacent to the Little Long Lake Road (FR 3467) to accommodate recreationists.

# IMPLEMENTATION

## INTRODUCTION

Implementation of the Scenic Byway Management Plan involves many considerations. These considerations include:

1. Developing priorities for project scheduling and implementation that are responsive to public needs and remain consistent with the Plan's goals and objectives.
2. Marketing efforts to promote interest in the Byway area consistent with resource protection, user safety and maintenance of the desired character.
3. Developing funding support, partnerships and cooperative ventures with other agencies, business interests, communities, service organizations, public interest groups, private citizens, as well as through private grants and donations.

4. Coordination with other ongoing management programs that affect the goals and objectives of this Plan.

5. Monitoring of Byway use and implementation activities to assure the accommodation of public needs and interests and the protection and maintenance of Byway values.

An integral part of project implementation is providing the necessary environmental review documentation as required by the federal and state government. The Minnesota Department of Transportation is required to complete an Environmental Assessment Worksheet (EAW) or other permitting process as part of the planning and design process for state projects. Projects with potential impacts to federal lands, such as National Forest lands, must have an Environmental Assessment (EA) completed in accordance with the National Environmental Policy Act (NEPA). The inventories, analysis and documentation that were completed as part of this Corridor Management Plan may provide some information in the preparation of any environmental documents that are required in the future.

## SCHEDULING/PRIORITIES

Byway project scheduling and priorities should be responsive to public needs and consistent with the Plan's goals and objectives. The following project listings categorize projects and identify projects by relative priorities within each category. Because of the uncertainty of when funding may be available, actual dates for completion of the individual projects are not included. The varying opportunities to obtain funding for different types of projects may result in lower priority projects being implemented ahead of higher priority projects. In many instances projects could be combined or scheduled concurrently for increased cost efficiency and improved coordination. Projects listed that do not have an estimated cost displayed would be implemented as part of another project. Some of the recommendations identified in the resource reports were mitigation requirements or considerations involving other proposed projects.

### I. Transportation Improvement

*SEE PROJECT IMPLEMENTATION SUMMARY FOR MORE DETAIL ON CONSTRUCTION PROJECTS COMPLETED SINCE ORIGINAL CMP PLAN WAS ADOPTED IN 1995 THROUGH 2013 AND FOR PROPOSED 2017 PROJECT INFORMATION.*

A. Jaynes to Bigfork – Reconstructed roadway to provide wider shoulders, improved safety and ten ton design loading. (Cost of $3,207,273.57)

B. Grand Rapids to County Road 49 – Reconstructed roadway to provide wider shoulders, improved safety, defined entrances in and near Grand Rapids, also provide ten ton design loading capacity. Included landscaping project. (Cost of $6,139,010.99)

C. Bigfork Bridge – Replaced the bridge over the Big Fork River at Bigfork as part of the Bigfork streetscape project.

D. Bigfork Streetscape – Reconstructed roadway in Bigfork to define entrances and parking, sidewalks, improve safety and drainage, and provide a ten ton design loading. (Cost of $2,962,586.31)

E. Marcell Streetscape – Reconstructed roadway in Marcell to define entrances and parking, sidewalks, improve safety and drainage, and provide a ten ton design loading. (Cost of $3,093,913.36)

F. Marcell to Jaynes – Reconstructed roadway to provide wider shoulders, improved safety and ten ton design loading. (Cost of $2,556,677.39)

G. County Road 49 to County Road 19 – Reconstructed roadway to provide wider shoulders, improved safety and a ten ton design loading capacity. Included landscaping project. From reference point 6.5 to 13.0. (Estimated cost of $2,925,000)

H. County Road 19 to Marcell - Reclaim and in certain sections reconstruct roadway to improve slope stability, drainage and safety while maintaining scenic quality and a ten ton design loading capacity. (Estimated cost of $14,200,000)

I. Pughole Lake Vicinity – Reconstruct roadway to improve slope stability, drainage and safety while maintaining scenic quality and a ten ton design loading capacity. From reference point 13.0 to 17.0. (Estimated cost of $1,800,000)

J. Effie Streetscape - Reclaimed and reconstructed sections of roadway in Effie to define entrances and parking, added sidewalks, lighting, and benches improved safety and drainage, and provide a ten ton design loading. (Cost of $2,100,000)

## II. Trail Development

A. Bustic Lake Trail - Enhance bicycle and pedestrian movement in the Bigfork Community by constructing a separate trail from the city of Bigfork to the Bustic Lake swimming beach. (Estimated cost = $70,000)

B. Marcell-Bigfork Trail – Enhance bicycle and pedestrian movement throughout the corridor by constructing a separate path along the "Gut and Liver" railroad grade from Marcell to Bigfork. (Estimated cost of $600,000)

C. Bigfork RiverWalk Trail – Enhance non-motorized trail movement through the City of Bigfork by constructing a 2.3 mile paved trail in Bigfork, Minnesota. (Estimated cost of $1,100,000)

D. Gunn Park Trail – Enhance bicycle and pedestrian movement in the Grand Rapids/Arbo area by providing a separate bicycle trail from Gunn Park to County Road 49. (Estimated cost = $150,000)

E. Marcell Community Trail – As part of the Marcell Streetscape project bicycle and pedestrian movement was enhanced by providing a sidewalk through the Marcell Community. The sidewalk includes access to all businesses, the Marcell recreation area, and the Edge of the Wilderness Discovery Center. In addition a 1.5 mile paved mult-use trail was constructed in the Marcell recreation area. Snowmobile trail traffic was also addressed as part of the project.

## III. Interpretive Facilities and Sites




A. Comprehensive Plan – Completed the development of a comprehensive Forest History interpretive plan for the corridor. Significance of the Civilian Conservation Corps activities at north Suomi Hills Recreation Area, Day Lake, and Edge of the Wilderness Discovery Center (former Marcell Ranger Station was included. Continue to implement (Cost 182,400)

B. Gateway – Provided scenic byway entrance sites with signing, parking and interpretive kiosks at Grand Rapids, Marcell, and Effie. (Cost $225,000)

C. Bigfork Wayside - Constructed an interpretive kiosk in Bigfork.

D. Ranger Station – The former USFS Marcell Ranger District Office is found on the northern edge of Marcell; the site is now called the Edge of the Wilderness Discovery Center and is a partnership between the USFS, Northern Itasca Joint Powers Board, Minnesota Highway 38 Leadership Board, Inc., and the Edge of the Wilderness Lodging Association The site consists

of a visitor center, gift shop, interpretive displays, interpretive trail, the Marcell Lodge, a fishing pier, a picnic shelter, and several other contemporary and historic outbuildings. Continue to operate the site as a venue for environmental education, area information, and recreation opportunities.

E. Braided Esker - Enhance the scenic and recreational use of the braided esker system between RP 31.5 and 34.5. Provide for pull-off access and interpretation of braided eskers. (Estimated cost = $60.000)

F. Lind-Greenway Mine Site – Developed an interpretive and recreational pull-off access to interpret iron ore mining at the junction of County Road 61 and Highway 38.

## IV. Recreation Sites

A. Kremer Lake Access – Enhance Kremer Lake by constructing a suitable, safe, carry-in access and parking area, as well as stabilizing the shoreline and enhancing shoreline fishing. (Estimated cost = $120,000)

**Note** The Chippewa National Forest is actively seeking to acquire a 43 acre parcel of land on the north side of Kremer Lake. Acquisition of the Kremer Lake parcel would preserve greenspace by avoiding development, protect the watershed and riparian habitat, provide public access to Kremer Lake and conserve a tract adjacent and within the National Forest. This parcel contains over 4,500 feet of lakeshore, and is culturally and historically rich as well as adjacent to the Edge of the Wilderness National Scenic Byway.

B. McKinney Lake Access – Enhanced access to McKinney Lake for boaters, and ice fishing. Safety was the number one priority.

C. Little Long Lake Parking - Enhance dispersed recreation by constructing a separate parking area at reference point 16 (FR 3467 – Little Long Lake Road). Parking should be large enough for snowmobile trailers to pull off safely. (Estimated cost = $10,000)

D. Day Lake Access – Reconstruct/relocate Day Lake carry-in access. (Estimated cost = $60,000)

E. Pughole Lake Access – Provide for continued access to Pughole Lake by improving the ramp, providing parking and correcting erosion problems at the existing location. (Estimated cost = $70,000)

F. Suomi Hills Parking – Expand the parking at north and south Suomi Hills Recreation Areas while maintaining the vegetative screening. (Estimated cost = $20,000)

G. North Star Lake Overlook – Create scenic overlook at snowmobile shelter on the crevasse filling near North Star Lake. (Estimated cost = $70,000)

H. Bustic Lake Fishing Pier – Construct fishing pier at Bustic Lake (near swimming beach). (Estimated cost = $30,000)

## V. Byway Signing




A. An Itasca County Highway 38 Sign Ordinance was adopted that provides standards for commercial signs in the corridor. Similar ordinances were enacted in Bigfork, Effie, and Grand Rapids.

B. Portal Signs – Constructed “Scenic Byway” stone-based and wood routed portal signs in Grand Rapids, Marcell, and Effie

C. Laurentian Divide Wayside Sign –Constructed a stone-base, a wood routed entrance sign at the entrance to the Laurentian Divide Wayside Rest Area.

D. Adopt-a-Highway Recognition – Begin implementation of program for “Adopt-a-Highway” recognition other than signs at two mile intervals.

E. Portal Sign Parking – Create safe pull-offs for photographers for Scenic Byway and National Forest portal signs. (Estimated cost = $80,000)

## VI. Visual Quality/Vegetation Enhancement

A. Vegetation Management Plan – Developed a comprehensive vegetative management plan for the byway corridor involving the agencies and private land owners managing forest lands along the byway.

Consider the following projects as part of the plan:

1. Pughole Lake Birch – Stimulate regeneration of birch stands in the vicinity of Pughole Lake by patch cutting.
2. Red Pine Vistas – Create "park-like" views in several red pine stands (reference points 25, 30.8, and 36) through the use of thinnings and understory vegetation control.
3. Visual BMP's – Educate forest land owners about Visual Quality Best Management Practices (BMP's)
4. Landscaping – Provided landscape plantings and lighting adjacent to the highway in Grand Rapids, Marcell and Bigfork.
5. Rice Lake Vistas – Enhanced Rice Lake vista as viewed from the highway.
6. Ranier Lake Vistas – Establish views of Ranier Lake through Marcell.

## VII. Wildlife Enhancement

Wildlife Boxes – Installation of wildlife boxes along highway right-of-way for cavity nesting species. (Estimated cost = $5,000)

## MARKETING

Marketing efforts should be planned and coordinated to inform the public about Byway opportunities and to promote interest in the Byway area. This marketing should be consistent with resource protection and the maintenance of the desired character. Marketing efforts should utilize the "Edge of the Wilderness" theme to provide consistency. Successful marketing should maintain interest and a sense of ownership among Byway users and supporters. These marketing efforts should maintain a high level of communication, cooperation and awareness concerning the Byway between the agency managers and users. Efforts to market the recreational and interpretive potential should remain consistent with the capacity of the Byway to accommodate use and maintain safety.

Marketing efforts should be directed both within and outside the local region of the Byway. Marketing within the local area should engage the Chambers of Commerce, tourism and convention bureaus, local newspapers and local government entities to promote the Byway and distribute information. Marketing outside the local area should encourage distribution of information by the State Office of Tourism and private travel directories and publications.

A comprehensive marketing plan should be developed to guide the overall marketing efforts within the corridor. This plan should be developed or coordinated by a local committee including representatives from the primary public agencies, Chambers of Commerce and the local tourism industry. This committee should also oversee and monitor the ongoing marketing efforts within the Byway.

## FUNDING SOURCES

Efforts to secure funding for implementation of Byway management projects should be coordinated between the public agencies. This Plan and the subsequent Marketing, Interpretation, Signing, and Vegetative Management Plans should provide support and direction in obtaining funding through the various sources available. In many instances projects may be cost shared between the local government agencies and private businesses.

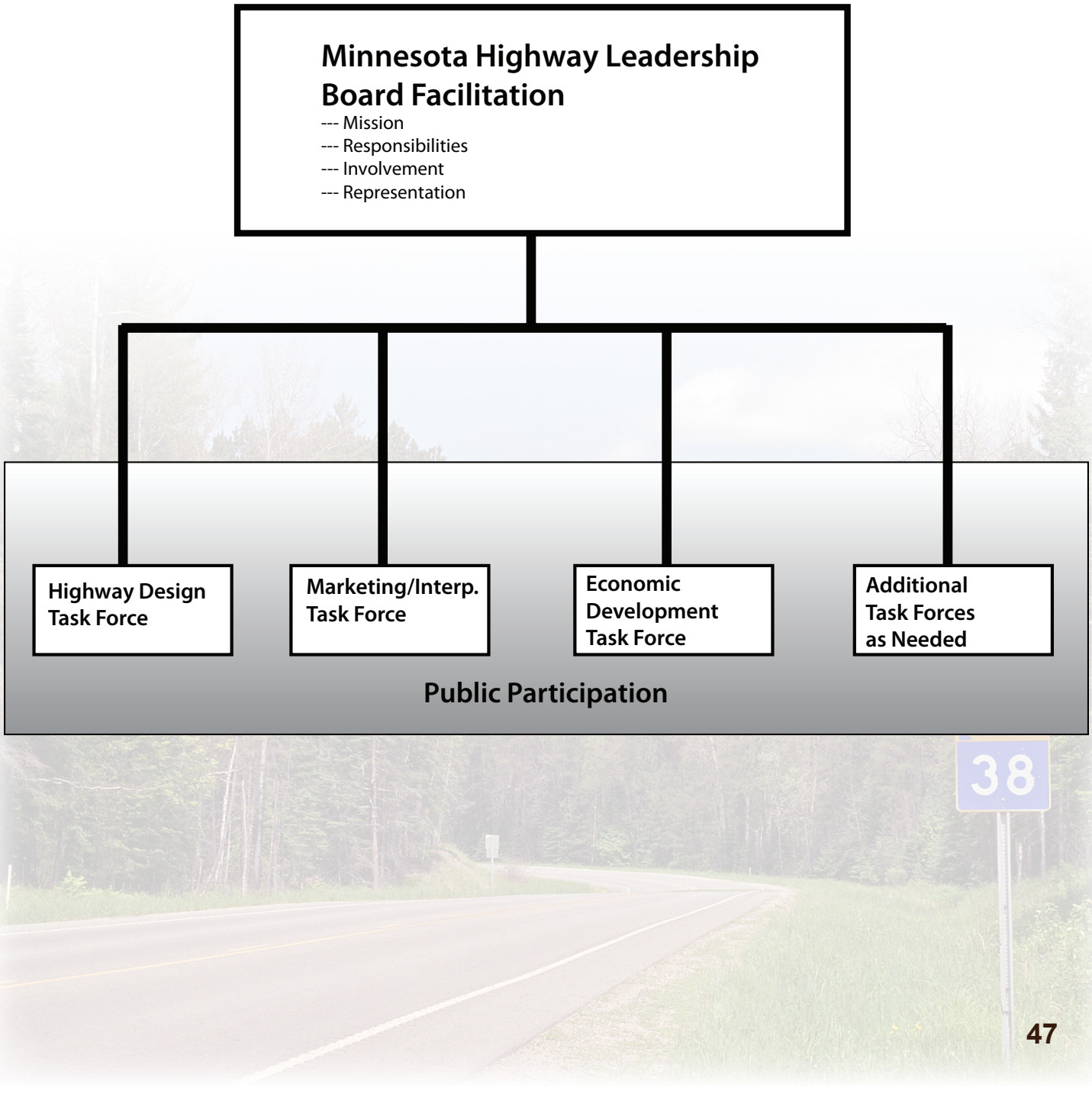
A primary potential source for funding for many of the proposed projects are Federal Transportation Bill funds. In Minnesota, projects are identified and proposed through local Areawide Transportation Partnerships (ATP's). Priority projects identified for the Byway should be considered for proposal to the ATP.

## PROGRAM COORDINATION

Activities within the Byway corridor are essential. To provide for this coordination, the Minnesota Highway 38 Leadership Board, Inc. should continue oversight to the various proposals in this Plan. This Minnesota Highway 38 Leadership Board includes representatives from local units of government, local businesses, citizens at large and other stakeholders from along the corridor and welcomes and solicits participation from representatives of the Minnesota Department of Transportation, U.S. Forest Service and Minnesota Department of Natural Resources. The responsibilities of this committee include actively pursuing support and funding for implementing the proposed projects, ensuring coordination between agencies, maintaining an awareness of the status of ongoing plan and projects, and overseeing specific task forces that are created for specific areas of responsibilities. Proposed task forces include Highway Design, Marketing and Interpretation, Economic Development and Facilities/ Amenity Sites. Additional task forces could be created by the Leadership Board as needs arise. The following graphic depicts the concept of the Leadership Board.

## MONITORING

As with program coordination, monitoring of the overall effectiveness and success of this Corridor Management Plan is essential. At least annually the status and condition of the byway corridor needs to be assessed and compared to the goals and objectives of this Plan. Inconsistencies between what is occurring within the byway and the goals and objectives of the plan need to be addressed. In addition, the direction and proposals within the Corridor Management Plan need to be reviewed to ensure that they are still relevant and consistent to the goals and objectives of the Plan. The responsibilities for ensuring that ongoing monitoring is accomplished would be assumed by the Leadership Board as described above. The Leadership Board may choose to create a specific task force to address monitoring on a periodic basis.



# PROJECT IMPLEMENTATION SUMMARY

## Transportation

| Year | S.P. Number | Description | Construction Costs | Location |
|---|---|---|---|---|
| 1997 | 3108-48 | Grading, bituminous surfacing, and drainage (includes box culv br # 96750 extension) | $ 3,207,273.57 | From 83 m S of JCT CSAH43 to 214 m S of JCT CSAH 7 in Bigfork Jaynes (County Road 43) to Bigfork |
| 1997 | 3108-51 | Bituminous overlay and culvert replacements | $ 469,421.24 | From JCT TH6 in Bigfork to TH1 in Effie |
| 1997 | 3108-54 | Bituminous spot repair | $ 45,942.40 | From 28.97 km N of Grand Rapids to 12.87 km S of Marcell |
| 1998 | 8821-16 | Placement of culvert liner, culvert replacement, and bituminous spot repair | $ 516,389.74 | From 7.08 km N of Grand Rapids to 3.11 km S of Marcell |
| 1998 | 3108-41, 58 | Grading, surfacing, lighting, and interpretive siteand Br#31014 | $ 2,962,586.31 | On TH 38 in Bigfork - Bigfork Streetscape and Bridge |
| 2000 | 3108-61 | Pavement resurfacing and rehab | $ 696,807.71 | CSAH 19 to TH 286 |
| 2002 | 3108-55 | Grading, bituminous surfacing, lighting and temp. signal system | $ 6,139,010.99 | From Jct. TH2 & TH38 in Grand Rapids to 0.2 miles N JCT CSAH 49 Grand Rapids to County Road 49 |
| 2003 | 3108-63 | Grading, bituminous surfacing, and drainage | $ 2,556,677.39 | From 0.08 miles N of CSAH45 to 0.47 miles N of CSAH 43 County Road 45 to Jaynes (County Road 43) |
| 2003 | 3108-56 | Grading, bituminous surfacing, and drainage | $ 4,231,411.73 | From 0.18 miles N of CSAH49 to 0.18 miles N of CSAH19 County Road 49 to County Road 19 |
| 2005 | 3108-62 | Grading, bituminous surfacing, and drainage | $ 3,093,913.36 | From 1.38 miles S of TH286 to 0.08 miles N of CSAH45 Marcell Streetscape |
| 2006 | 3108-71 | Landscaping | $ 113,870.00 | From JCT TH2 in Grand Rapids to CR 45 in Marcell |
| 2008 | 3108-72 | Bituminous reclamation and bituminous surfacing | $ 1,436,107.85 | From 0.284 miles S of JCT CSAH14 to JCT of TH1 - Bigfork to Effie |
| 2013 | 3108-77 | Spot Overlays | $ 344,000.00 | 2.5 Miles of Spot Overlays from Pughole Lake to Marcell |
| | | **Total** | **$ 25,813,412.29** | |
| | * Completed Projects | | | |
| 2017 | 3108-70 | Pavement resurfacing and rehab * | $ 12,200,000.00 | From Pughole Lake to Marcell |
| 2017 | 3108-76 | Pavement resurfacing and rehab* | $ 3,900,000.00 | From 0.17 miles S JCT Horse Shoe Lake Rd. to S limits of Bigfork |
| | | **Total** | **$ 16,100,000.00** | |
| | * Programmed Projects | | | |

## Trails

| Year | Length | Description | Costs |
|---|---|---|---|
| 1997 | 1.5 miles | Marcell Community Trail - Paved in the Marcell Town Hall Recreation Area and Park | $450,000.00 |
| | | Bustic Lake Trail | $70,000.00 |
| | | Marcell to Bigfork | $750,000.00 |
| 2015-17 | 2.3 miles | Bigfork RiverWalk Trail - City of Bigfork | $1,200,000.00 |

## Interpretation

| Year | Length | Description | Costs |
|---|---|---|---|
| 1997 | Varies | Interpretive Plan and Interpretive Panels at 14 Discovery Sites | $182,400.00 |
| 1992 | | Edge of the Wilderness Scenic Byway (TH38): Laurentian Divide Interpretive Rest Area | $200,000.00 |
| | | Interpretive Kiosks and Interpretive Panels in Grand Rapids, Bigfork, and Effie | $225,000.00 |
| 2009-2014 | | Marcell Ranger Station/Edge of the Wilderness Discovery Center | $1,150,000.00 |
| | | Lind-Greenway Mine Site | $60,000.00 |
| | | Braided Esker Interpretive Site | $60,000.00 |

## Recreation

| Year | Length | Description | Costs |
|---|---|---|---|
| | | McKinney Lake Access | $125,000.00 |
| | | Little Long Lake Parking Lot | $10,000.00 |
| | | Kremer Lake Access | $150,000.00 |
| | | Day Lake Access | $60,000.00 |
| 2016 | 2.3 miles | Bigfork RiverWalk Trail | $1,200,000.00 |
| | | North Star Lake Overlook | $70,000.00 |
| | | Pughole Lake Acesss | $160,000.00 |

## Planning, CMP Implementation, and Marketing

| Year | Length | Description | Costs |
|---|---|---|---|
| 2000 | | Edge of the Wilderness Marketing Campaign | $14,400.00 |
| 2002 | | Edge of the Wilderness Scenic Byway - Seed Gra | $25,000.00 |
| 2003 | | Edge of the Wilderness Scenic Byway - Corridor Management Plan Implementation | $25,000.00 |
| 2004 | | Edge of the Wilderness Scenic Byway - Corridor Management Plan Implementation | $25,000.00 |
| 2005 | | Edge of the Wilderness Scenic Byway - Corridor Management Plan Implementation | $25,000.00 |
| 2006 | | Edge of the Wilderness - Corridor Management Plan Implementation & Vegetation Management Plan | $30,400.00 |
| 2007 | | Edge of the Wilderness Scenic Byway - Corridor Management Plan Implementation | $24,000.00 |
| 2008 | | Edge of the Wilderness Scenic Byway - Corridor Management Plan Implementation | $24,000.00 |
| 2010 | | Edge of the Wilderness National Scenic Byway CMP Update | $30,400.00 |
| | | Explore MN Tourism, Itasca County, Bigfork Lions Club, Blandin Foundation, Operation Round Up | $25,000.00 + |

## Grants (National Scenic Byway Program Unless noted)

| | | | |
|---|---|---|---|
| 1992 | | Edge of the Wilderness Scenic Byway (TH38): Laurentian Divide interpretive rest area | $200,000.00 |
| 1994 | | Laurentian Divide Rest Area | $40,198.00 |
| 1995 | | Edge of the Wilderness Scenic Byway (TH 38) - Forest History Interpretive Program | $182,400.00 |
| 1995 | | TH 38 Multi-use Trail Gunn Park to CSAH 60 | $105,000.00 |
| 1996 | | TH 38 Multi-use Trail Right of Way | $17,000.00 |
| 2000 | | Edge of the Wilderness Marketing Campaign | $14,400.00 |
| 2000 | | Interpretive Kiosks and Interpretive Panels in Grand Rapids, Bigfork, and Effie | $225,000.00 |
| 2002 | | Edge of the Wilderness Scenic Byway: Lind-Greenway Mine Interpretive Site Enhancement | $40,000.00 |
| 2002 | | Edge of the Wilderness Scenic Byway - Seed Grant | $25,000.00 |
| 2003 | | Edge of the Wilderness Scenic Byway - Corridor Management Plan Implementation | $25,000.00 |
| 2004 | | Edge of the Wilderness Scenic Byway - Corridor Management Plan Implementation | $25,000.00 |
| 2005 | | Edge of the Wilderness Scenic Byway - Corridor Management Plan Implementation | $25,000.00 |
| 2005 | | Edge of the Wilderness Scenic Byway - McKinney Lake Recreation Area | $75,000.00 |
| 2006 | | Edge of the Wilderness Discovery Center | $10,000.00 |
| 2006 | | Edge of the Wilderness - Corridor Management Plan Implementation & Vegetation Management Plan | $30,400.00 |
| 2007 | | Edge of the Wilderness Scenic Byway - Corridor Management Plan Implementation | $24,000.00 |
| 2007 | | Edge of the Wilderness Discovery Center - Phase II | $10,000.00 |
| 2008 | | Edge of the Wilderness Scenic Byway - Corridor Management Plan Implementation | $24,000.00 |
| 2009 | | Edge of the Wilderness Byway MN: Discovery Center; Interpretive and Recreational Facilities | $140,000.00 |
| 2010 | | Edge of the Wilderness National Scenic Byway - CMP Update | $30,400.00 |
| 2012 | | Edge of the Wilderness Bigfork RiverWalk Trail | $275,500.00 |
| 2012 | | Effie Streetscape | $116,690.00 |
| | | Explore MN Tourism, Itasca County, Bigfork Lions Club, IRRRB, Blandin Foundation, Operation Round Up | $40,000.00 |
| | | **Total** | **$1,699,988.00** |

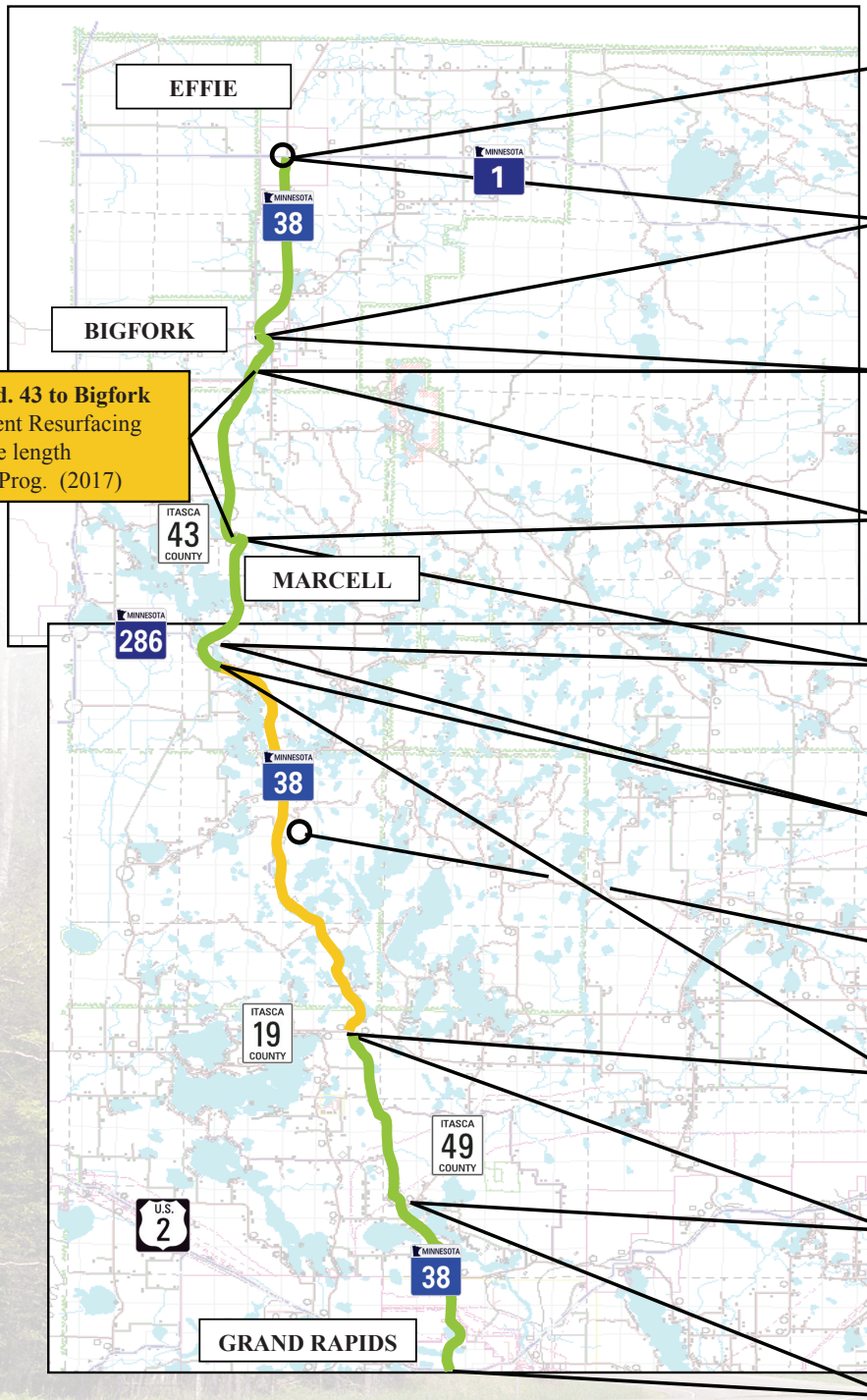
Transportation Enhancement Grant
Proposed Projects
Completed Projects
Funds Turned Back - Not Completed
Other Grants

***Due to the uncertainty of funding - proposed projects are subject to change.***

# HIGHWAY 38 EDGE OF THE WILDERNESS NATIONAL SCENIC BYWAY

**Grand Rapids to Effie**

*Corridor Work Plan*




**Effie Streetscape**
- Reconstruction in 2012
- 0.5 mile length
- $2.1 million (Hawkinson)

**Bigfork to Effie**
- Reclaimed/resurfaced in 2008
- 6.4 mile length
- $1.4 million (Hawkinson)

**Bigfork Urban Reconstruction**
- Reconstructed in 1999
- 0.8 mile length
- $3.0M cost (Lakeview Const.)

**Cty. Rd. 43 to Bigfork**
- Pavement Resurfacing
- 6.3 mile length
- $2.2M Prog. (2017)

**Cty. Rd. 43 to Bigfork**
- Reconstructed in 1997
- 6.4 mile length
- $4.3M cost (Leustek & Sons)

**Cty. Rd. 45 to Cty. Rd. 43**
- Reconstructed in 2004/2005
- 4.4 mile length
- $2.6M cost (Kern & Tabery)

**Marcell Urban Reconstruction**
- Reconstructed in 2005
- 1.8 mile length
- $3.1M cost (KGM Contractors)

**Laurentian Divide Rest Area**
- Constructed in 1994
- $245K cost (Stamson & Blair)

**Cty. Rd. 19 to Marcell**
- 14.3 mile length, reclaim
- $12.2M Programmed (2017)

**Cty. Rd. 49 to Cty. Rd. 19**
- Reconstructed in 2004/2005
- 6.5 mile length
- $4.2M cost (Gladen Construction)

**Grand Rapids to Cty. Rd. 49**
- Reconstructed in 2003/2004
- 6.7 mile length
- $6.2M cost (Hawkinson Construction and Rajala Construction)

02-03-2014

# Edge of the Wilderness National Scenic Byway
# CMP Management Contacts

**Minnesota Department of Transportation District 1**
**Duluth Office:**
**1123 Mesaba Ave**
**Duluth, MN 55811**
**218.725.2700**

**Virginia Office:**
**101 N. Hoover Road**
**Virginia, MN 55792**
**218.742.1100**

**Minnesota Department of Natural Resources**
**Northeast Region Office**
**1201 E. Highway 2**
**Grand Rapids, MN 55744-3296**
**218.999.7833**

**US Forest Service - Chippewa National Forest**
**Deer River Ranger District:**
**1037 Division Street**
**Deer River, MN 56636**
**218.246.2123**

**Supervisor's Office:**
**200 Ash Avenue NW**
**Cass Lake, MN 56633**
**218.335.8600**

**Minnesota Highway 38 Leadership Board, Inc.**
**49554 State Highway 38**
**PO Box 93**
**Marcell, MN 56657**
**218.832.3161**

# Edge of the Wilderness National Scenic Byway
# CMP Update Advisory Committee

**CMP Update Committee**
Michael Kalnbach, Minnesota Department of Transportation
Jeff Tillman, Minnesota Department of Transportation
Bryan Anderson, Minnesota Department of Transportation
Rian Reed, Minnesota Department of Natural Resources
Samantha Bump, Minnesota Department of Natural Resources
Lisa Joyal, Minnesota Department of Natural Resources
Chad Kirschbaum, US Forest Service
Christine Brown, US Forest Service
Jason Kuiken, US Forest Service
Kelly Barrett, US Forest Service
Bud Sage, Wabana Chain of Lakes
Tarry Edington, Arbo Township
Sharon Miller, Stokes Township
Diane Coppens, Marcell Township
Mike Flaherty, Johnson Lake Association
Terry Snyder, Itasca County
Paul Andersen, Suomi Lakes Association
Tim Stewart, Citizen at Large and Grand Rapids Business Owner
JoAnn Krickhahn, City of Effie
Kent Gustafason, Gustafson Facilitation, LLC
Tim Johnson, TJ Consulting, Inc.
Other Byway stakeholders

# Original Edge of the Wilderness National Scenic Byway
# CMP Management and Work Teams

**Management Leaders**
Jim Miner, Mn/DOT
Howard Zeman, USFS
Jim Tarbell, MN DNR

**Project Managers**
Kevin Rohling, Mn/DOT
Craig Churchward, Mn/DOT
Greg Busacker, Mn/DOT
Paul Hanson, USFS
Dennis Parker, USFS
Robert Peterson, USFS

**Work Teams**

*Air Quality*
Norm Mellem, Mn/DOT

*Bikes/Peds/Trails*
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Paul Hanson, USFS
Ben Moore, MN DNR
Robert Peterson, USFS
Kevin Rohling, Mn/DOT

*Energy*
Norm Mellum, Mn/DOT

*Erosion Control*
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Lori Belz, Mn/DOT
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Roger Sadecki, Mn/DOT
Nancy Salminen, USFS

*Threatened and Endangered Species*
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Jack Mooty, MN DNR
Bill Penning, Mn/DOT
Paul Rundell, MN DNR
Sarma Straumanis, Mn/DOT

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Jeff Ericson, Mn/DOT
Gerry Larson, Mn/DOT
Art Norton, SCS

*Fish and Wildlife*
Greg Bushacker, Mn/DOT
Jeremy Cable, USFS
Chantel Cook, USFS
Dave Holmbeck, MN DNR
Bill Penning, Mn/DOT
Jim Scheeweis, MN DNR
Sarma Stramanis, Mn/DOT

*Floodplains*
Howard Christman, MN DNR
Rob Ege, Mn/DOT
Nancy Salminen, USFS
Nick Tiedeken, Mn/DOT

*Groundwater, Geology, Vibration*
Rudy Ford, Mn/DOT
Mike Kamnikar, Mn/DOT
Gary Schulze, Material Engineer, USFS

*Hazardous Waste/Contamination Sites*
Nancy Radle, Mn/DOT

*Highway Geometric Definition*
Craig Churchward, Mn/DOT
David Bonnin, Mn/DOT
Jim Miner, Mn/DOT
Dennis Parker, USFS
Dave Pckett, Mn/DOT
Kevin Rohling, Mn/DOT

*Historical/Archeology*
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Joe Hodack, MN DNR
Joe Hukak, Mn/DOT
Bill Yourd, USFS

*Landuse*
Craig Churchward, Mn/DOT
Jeff Erickson, Mn/DOT OES
Terry Greenside, Itasca County
Gerry Larson, Mn/DOT
Dennis Parker, USFS
Robert Peterson, USFS
Mel Roseen, Mn/DOT OES

*Parks and Recreation*
Roger Clark, Itasca County
Paul Hanson, USFS
Bob Moore, MN DNR
Robert Peterson, USFS
Tom Saxhaug, Grand Rapids

*R/W and Relocation*
Bill Hink, USFS
Mike Stensberg, Mn/DOT

*Social and Economic*
Craig Churchward, Mn/DOT
Jeff Erickson, Mn/DOT
Gerry Larson, Mn/DOT
Dennis Parker, USFS
Robert Peterson, USFS

**Work Teams (cont)**

*Stream Modification*
Greg Busacker, Mn/DOT
Howard Christman, MN DNR
Roger Sedecki, Mn/DOT
Nancy Salminen, USFS
Nick Tiedeken, Mn/DOT

*Vegetation*
Scott Bradley, Mn/DOT
Howard Christman, MN DNR
Paul Hanson, USFS
Dale Sutherland, Mn/DOT
Jim Tarbell, MN DNR Forestry

*Visual Quality*
Craig Churchward, Mn/DOT
Dennis Parker, USFS
Robert Peterson, USFS

*Water Quality*
Greg Busacker, Mn/DOT
Howard Christman, MN DNR
Roger Sadecki, Mn/DOT
Nancy Salminen, USFS

*Wetlands*
Howard Christman, MN DNR
Howard Maki, Mn/DOT
Bill Penning, Mn/DOT
Nancy Salminen, USFS
Sarma Straumanis, Mn/DOT
Al Waller, SCS

*Wild and Scenic Rivers*
Roger Clark, Itasca County
Paul Hanson, USFS
Bob Moore, MN DNR
Robert Peterson, USFS
Nick Tieseken, Mn/DOT

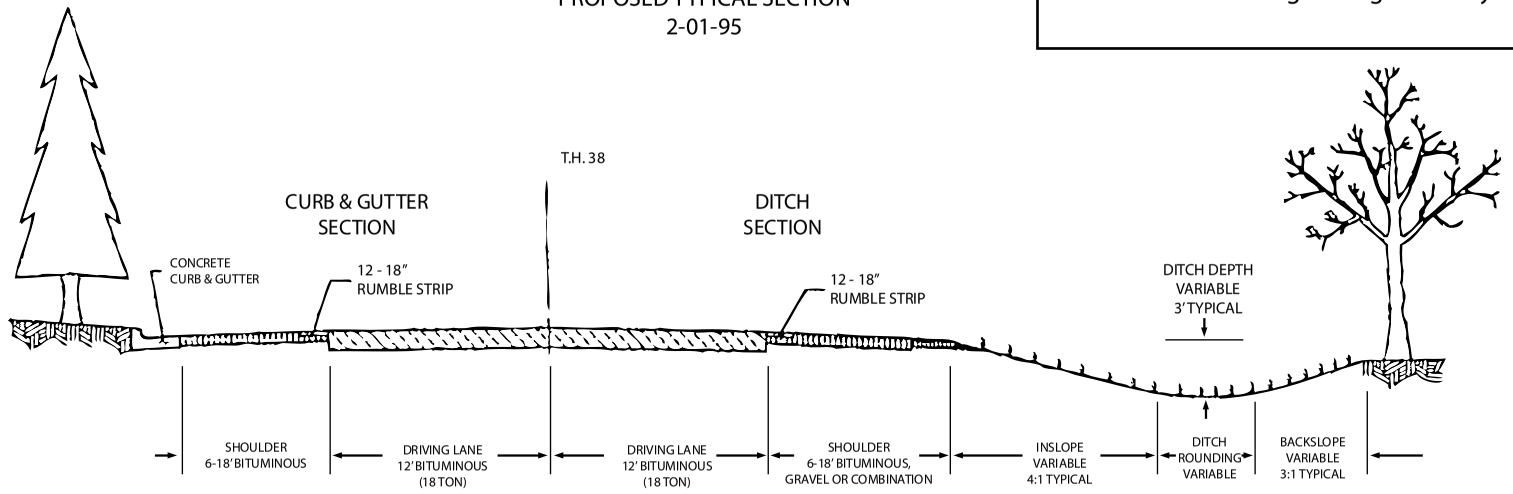
## Original Edge of the Wilderness National Scenic Byway CMP Advisory Committee

John Adams, Highway 38 Task Force
Jodi Abelin, Tourism Committee/Grand Rapids Chamber of Commerce
Ron Radecki, Wabana Chain of Lakes Coalition
Paula Davidson, Grand Rapids Visitor Convention Bureau
Matt Huju, Itasca County Commissioner
Les Ollila, Trails Task Force, Grand Rapids
Jack Rajala, Landowners
Floyd Hovarter, Industry
Jim Gustafson, Industry
Bob Wolfe, Northern Itasca Joint Powers Board
Warren Youngdahl, Itasca County Resort and Tourism Association
Chad Haatvedt, City of Grand Rapids
Polly Edington, Local Interests
Tarry Edington, Marcell Business
Barb Ryan, Local Interests
Tom Ryan, Local Interests
Tom Saxhaug, Trails Task Force, Grand Rapids
Jeff Ortman, City of Bigfork

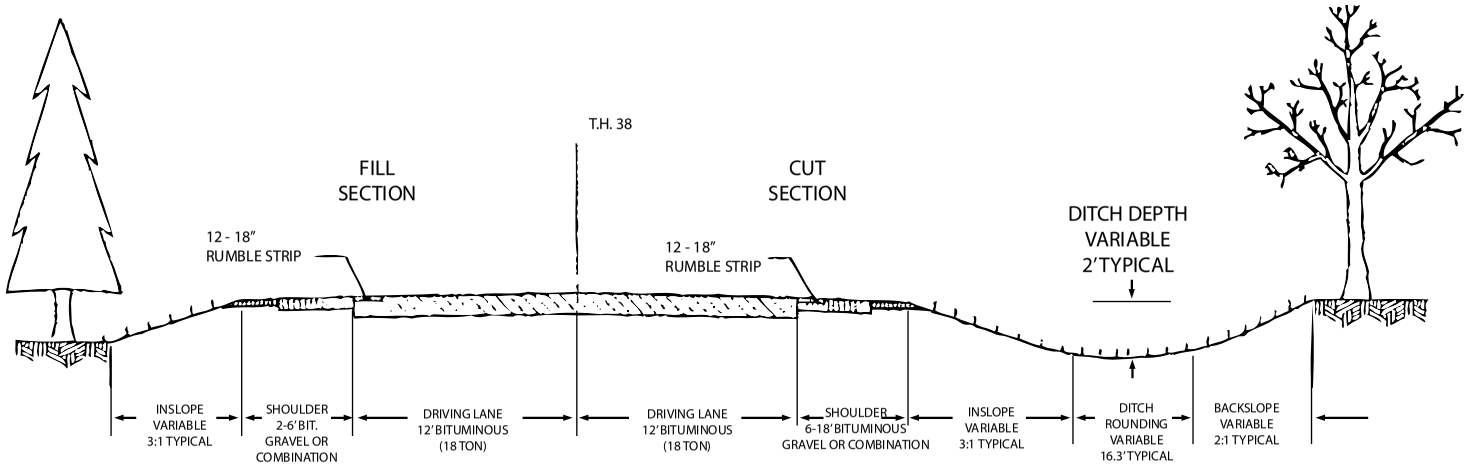
# Additional Illustrations

**Representation Only:**
Right-of-way limits will be variable based on location. The goal is for a full service road with minimal clearing and right-of-way aqyisition.

SEGMENT ONE
PROPOSED TYPICAL SECTION
2-01-95



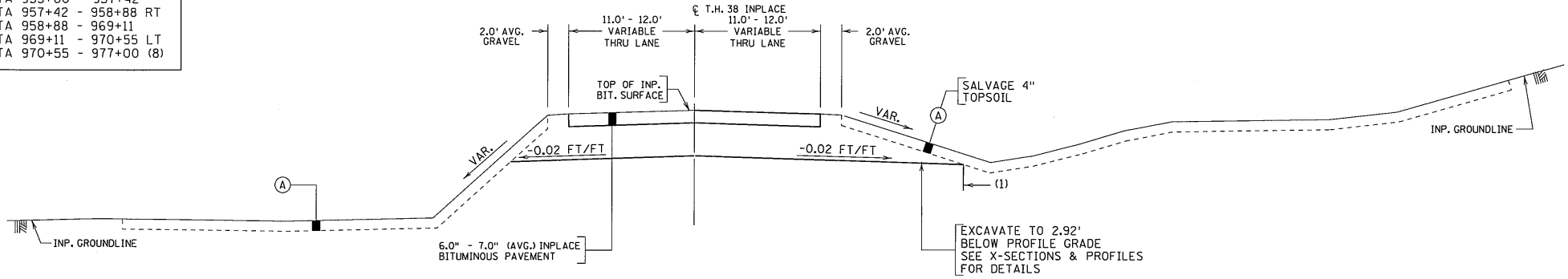

SEGMENTS TWO, THRR & FOUR
PROPOSED TYPICAL SECTION
2-01-95



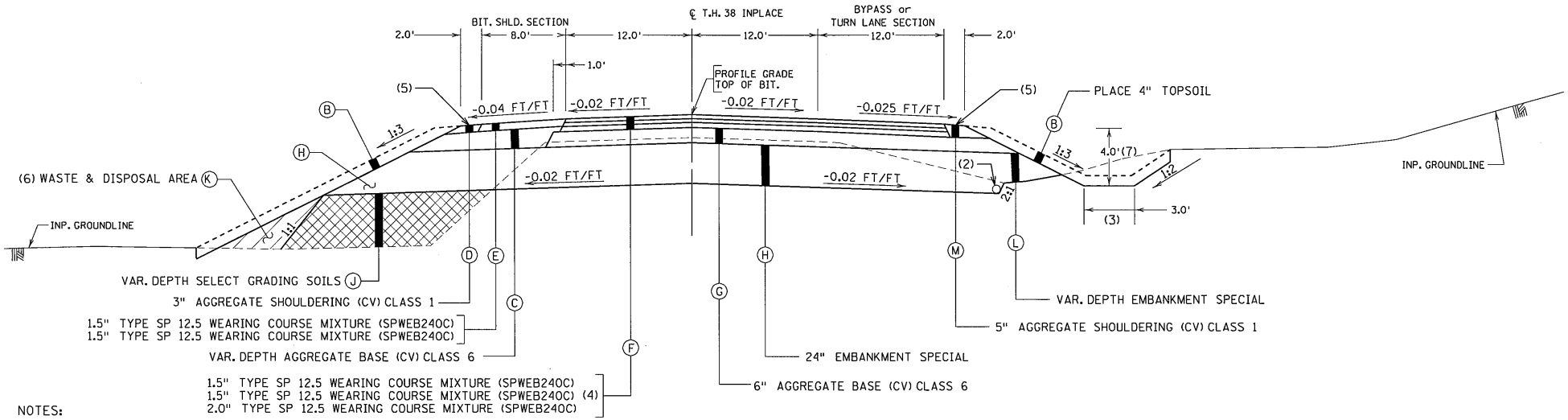
APPLIES:

STA 947+00 - 949+00
STA 953+60 - 957+42
STA 957+42 - 958+88 RT
STA 958+88 - 969+11
STA 969+11 - 970+55 LT
STA 970+55 - 977+00 (8)

## TYPICAL RURAL SUBCUT (w/o C&G) SECTION (STAGE 1) (1)




## TYPICAL RURAL SUBCUT (w/o C&G) SECTION (STAGE 2) (1)




NOTES:

ALL EXCAVATION SHOWN IS EXCAVATION SPECIAL I.

(1) WIDTH OF SUBCUT BOTTOM IS THE DIFFERENCE FROM THE C/L TO THE FINISHED SHOULDER P.I.

(2) FOR SUBSURFACE PIPE DRAIN DETAIL SEE SHEETS 48 & 49. SEE SHEET 16 FOR PLACEMENT.

(3) FOR SPECIAL DITCH GRADES AND WIDTHS SEE CROSS-SECTIONS & PROFILES FOR DETAILS.

(4) BITUMINOUS TACK COAT SHALL BE APPLIED BETWEEN PAVING LAYERS AT A RATE OF 0.03 TO 0.05 GAL / SQ YD.

(5) COMPACTION OF THE SHOULDER AGGREGATE IN THE ROLLOVER AREA BEYOND THE SHOULDER PI, SHALL BE ACCOMPLISHED WITH A PNEUMATIC TIRED ROLLER, AS APPROVED BY THE ENGINEER.

(6) SELECT GRADING SOILS, AS APPROVED BY THE ENGINEER. EARTHWORK QUANTITIES BASED ON CONSTRUCTION WITH GRADING SOILS.

(7) DEPTH MEASURED TO BOTTOM OF TOPSOIL IN DITCH BOTTOM. SEE SPECIAL DITCH GRADE CHART ON SHEET 16 FOR SPECIAL DITCH GRADES.

(8) BEGIN TRANSITION FROM 2' SUBCUT TO 3' SUBCUT AT STATION 976+50.

| NO | DATE | APPR | REVISION |
|---|---|---|---|
| 1 | 11/11/02 | | INITIAL PLOT |
| 2 | 01/14/03 | | 60% PLAN REVIEW COMMENTS |
| 3 | 04/07/03 | | 90% PLAN REVIEW COMMENTS |
| 4 | 09/30/03 | | 100% PLAN REVIEW COMMENTS |

FILENAME: D310856.TSI

DRAWN: BRB
DESIGNED: HAL
CHECKED: TLR
COMM. 200-99-100

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

NAME TERRY RAGAN LICENSE 41163


Bonestroo Rosene Anderlik & Associates
Engineers & Architects
Rochester Branch Office
112 7th Street NE
Rochester, MN 55906

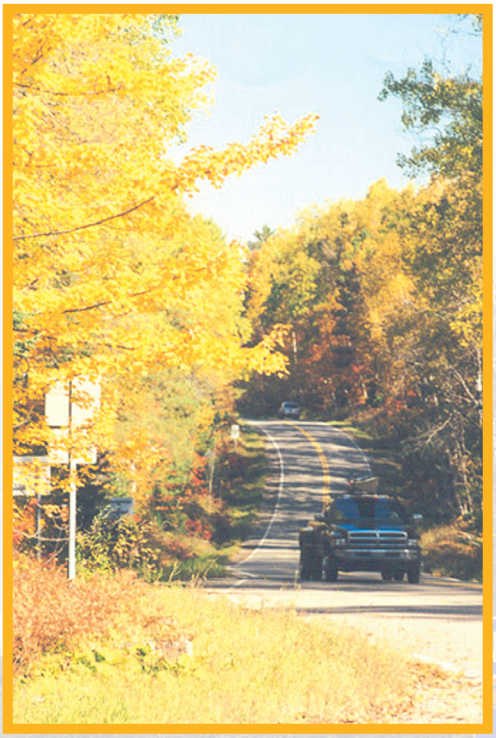

TYPICAL SECTION

MINNESOTA DEPARTMENT OF TRANSPORTATION

STATE PROJ. NO. 3108-56 (TH 38)

SHEET 25 OF 308

# A. Maps



Edge of the Wilderness

A National Scenic Byway

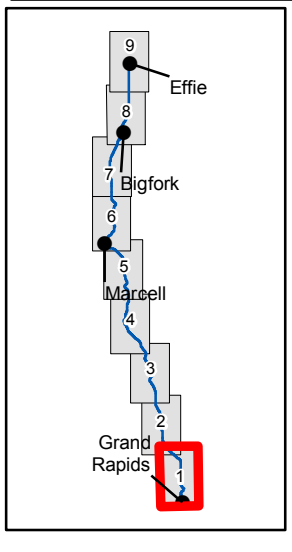
AMERICA'S BYWAYS

# a. Aerial Photos of Highway 38 Corridor: Grand Rapids to Effie

Edge of the Wilderness

A National Scenic Byway

AMERICA'S BYWAYS


***Aerial Photos of MN Highway 38 Corridor: Grand Rapids To Effie***

Map Number 1
Mile Markers 1 - 6

N
W E
S

0 0.125 0.25 0.5 0.75 1 Miles

* Aerial photos are from May, 2013

**Legend**

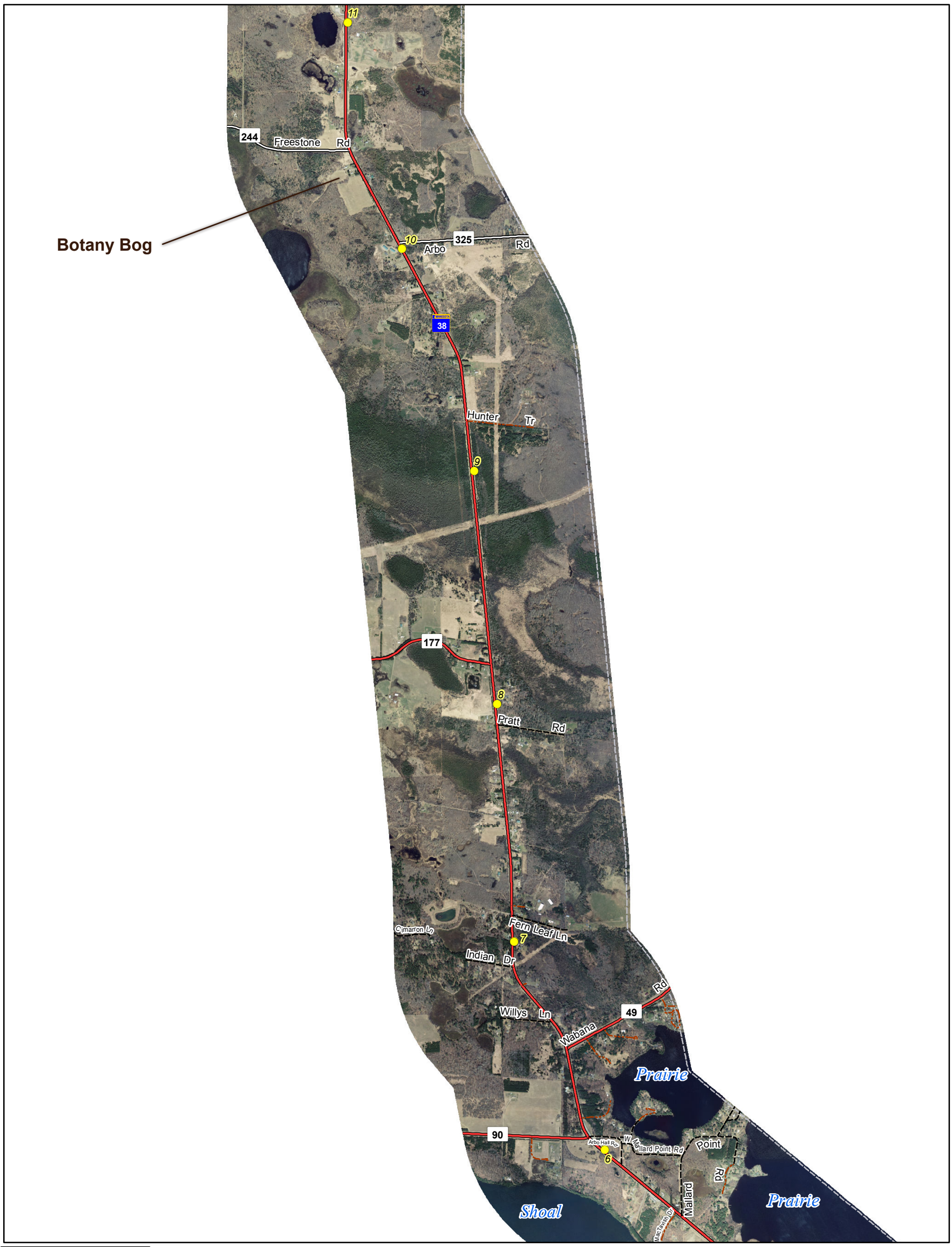
- Mile Markers
- Highways - Paved
- Highways - Gravel
- Township Roads
- Municipal
- Forest Trails
- Private or Unkown Jurisdiction

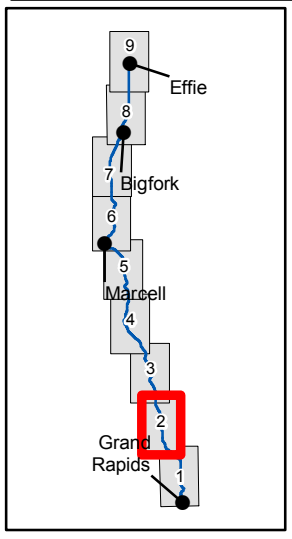
This information is a compilation of data from different sources with varying degrees of accuracy and requires a qualified field survey to verify.

Itasca Geographic Information System
"Decision support through automation"



IGIS




## *Aerial Photos of MN Highway 38 Corridor: Grand Rapids To Effie*

Map Number 2
Mile Markers 6 -11

N
W
E
S

0 0.125 0.25 0.5 0.75 1 Miles

* Aerial photos are from May, 2013

**Legend**

- Mile Markers
- Highways - Paved
- Highways - Gravel
- Township Roads
- Municipal
- Forest Trails
- Private or Unkown Jurisdiction

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**County Road 19 to Marcell**
Reclaim project with spot reconstruction. Improve slope stability, change road surface, and safety while maintaining scenic quality and a ten ton design loading capacity.

**Soumi Hills parking**
Expand the parking of north and south Suomi Hills Recreation Areas while maintaining vegetative screening.

**South Suomi Parking Lot**

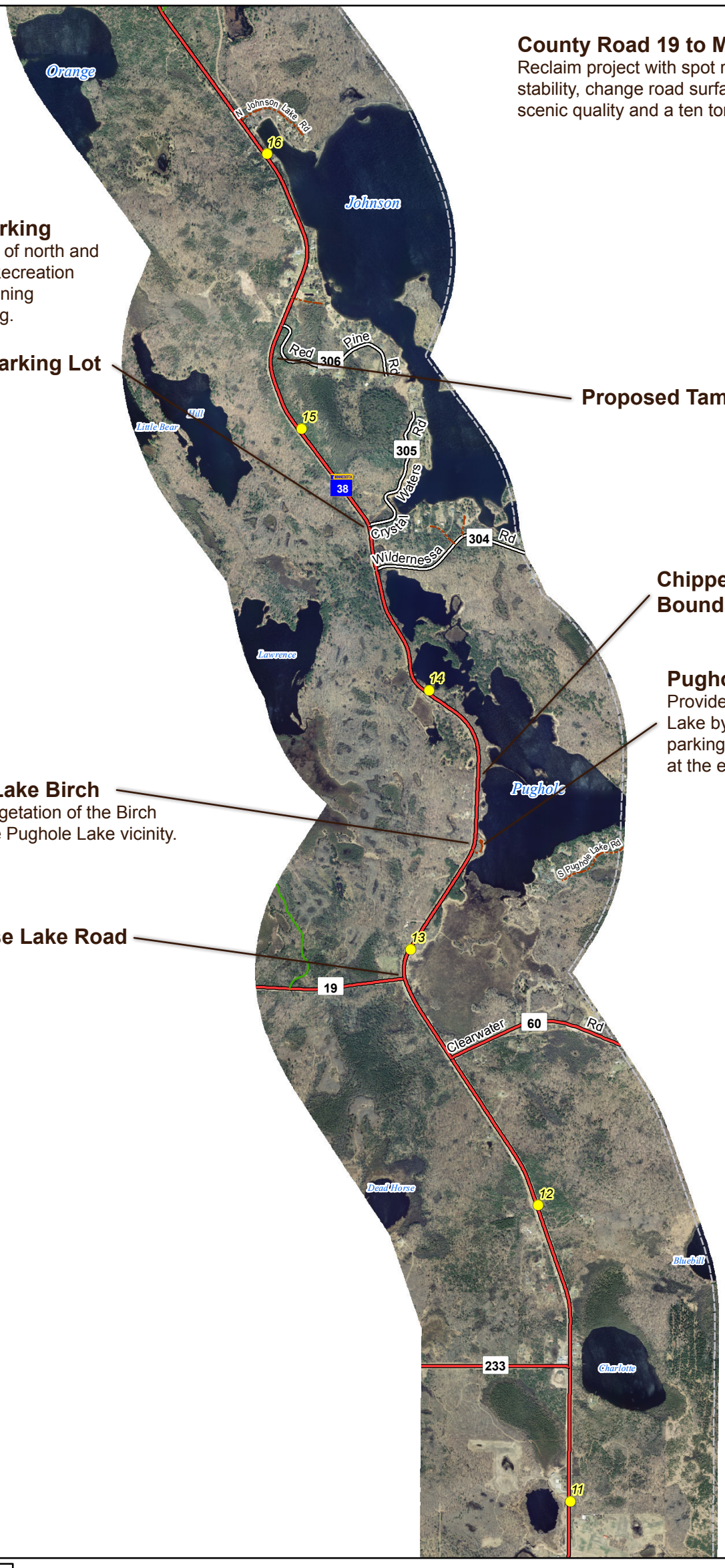
**Proposed Tamarack Vista**

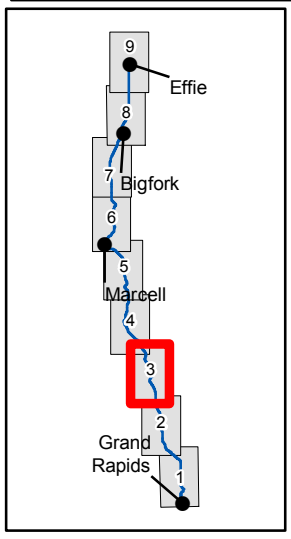
**Chippewa National Forest Boundary (portal sign)**

**Pughole Lake Access**
Provide for continued access to Pughole Lake by improving the ramp, providing parking, and correcting erosion problems at the existing location.

**Pughole Lake Birch**
Stimulate vegetation of the Birch stands in the Pughole Lake vicinity.

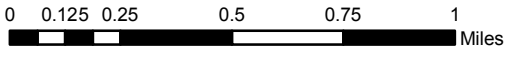
**Deer Moose Lake Road**



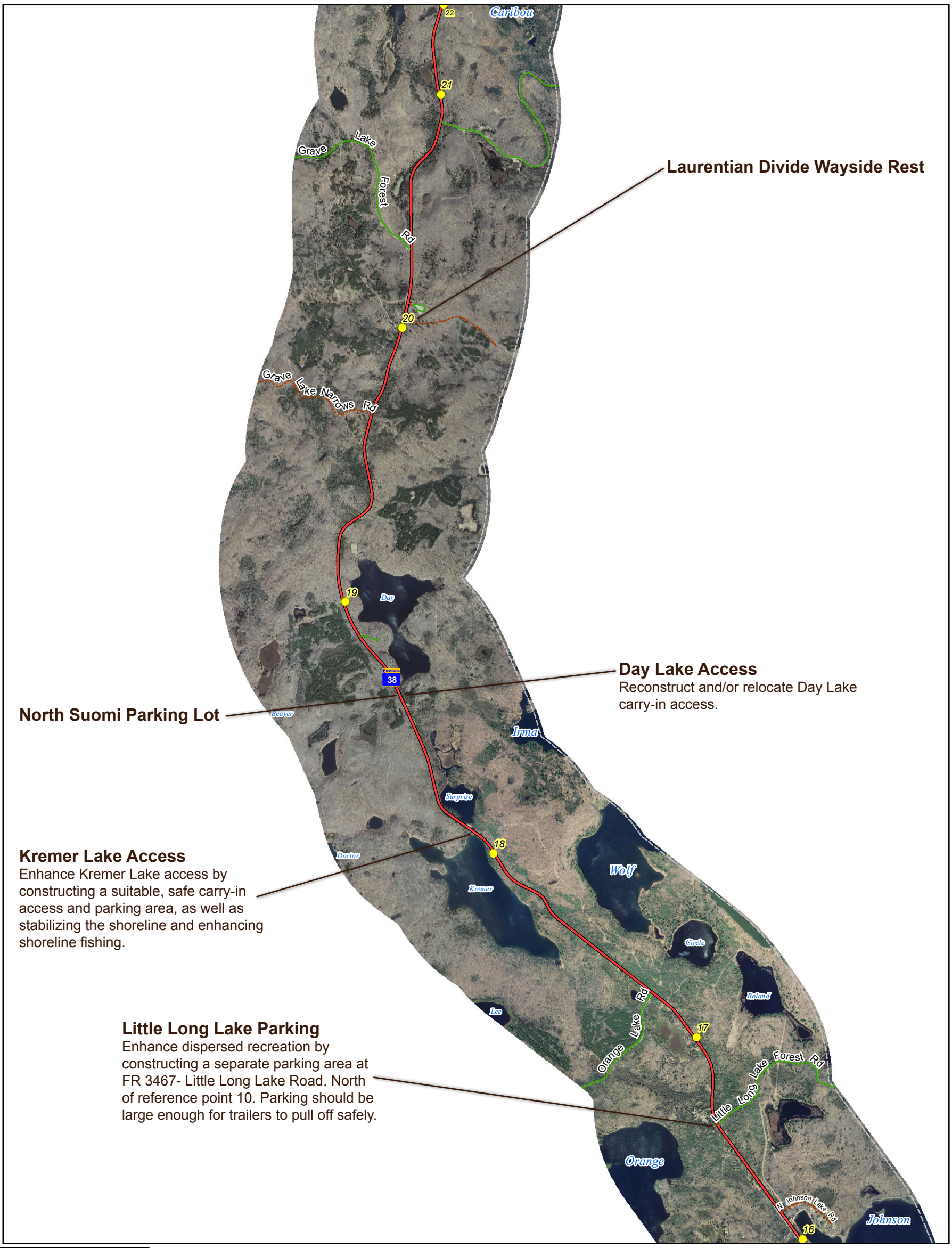

***Aerial Photos of MN Highway 38 Corridor: Grand Rapids To Effie***

Map Number 3
Mile Markers 11 - 16


* Aerial photos are from May, 2013

**Legend**
- Mile Markers
- Highways - Paved
- Highways - Gravel
- Township Roads
- Municipal
- Forest Trails
- Private or Unkown Jurisdiction



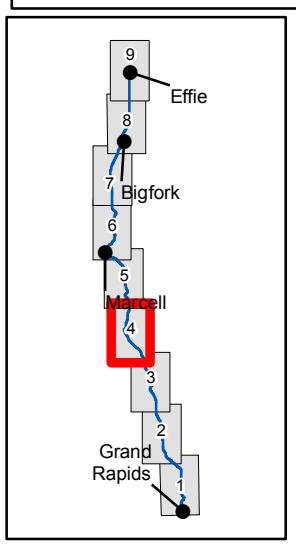

**Laurentian Divide Wayside Rest**

**Day Lake Access**
Reconstruct and/or relocate Day Lake carry-in access.

**North Suomi Parking Lot**

**Kremer Lake Access**
Enhance Kremer Lake access by constructing a suitable, safe carry-in access and parking area, as well as stabilizing the shoreline and enhancing shoreline fishing.

**Little Long Lake Parking**
Enhance dispersed recreation by constructing a separate parking area at FR 3467- Little Long Lake Road. North of reference point 10. Parking should be large enough for trailers to pull off safely.




***Aerial Photos of MN Highway 38 Corridor: Grand Rapids To Effie***

Map Number 4
Mile Markers 16 - 22

N
W E
S

0 0.125 0.25 0.5 0.75 1
Miles

* Aerial photos are from May, 2013

**Legend**
- Mile Markers
- Highways - Paved
- Highways - Gravel
- Township Roads
- Municipal
- Forest Trails
- Private or Unkown Jurisdiction

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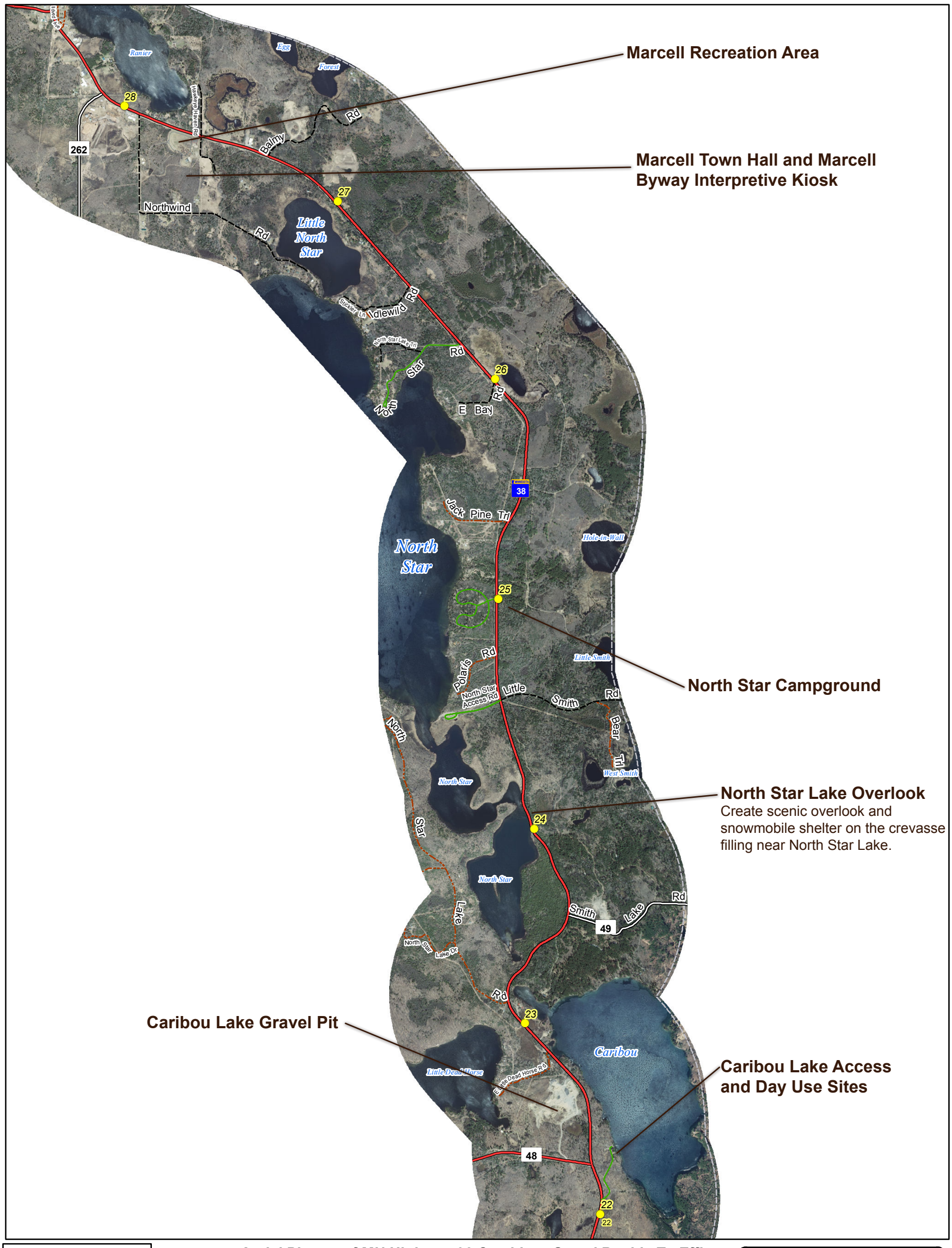
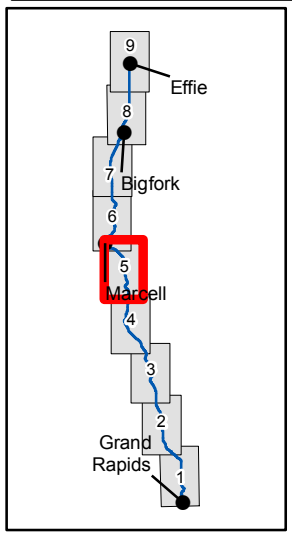
Itasca Geographic Information System
"Decision support through automation"



IGIS




***Aerial Photos of MN Highway 38 Corridor: Grand Rapids To Effie***

Map Number 5
Mile Markers 22 - 28

0 0.125 0.25 0.5 0.75 1 Miles

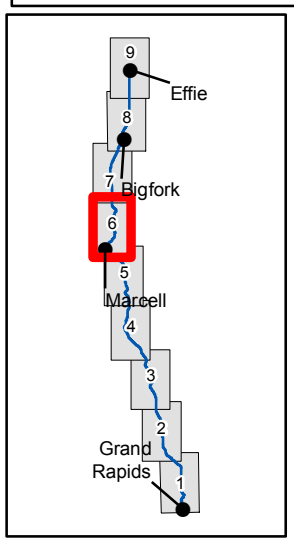
* Aerial photos are from May, 2013

**Legend**

- Mile Markers
- Highways - Paved
- Highways - Gravel
- Township Roads
- Municipal
- Forest Trails
- Private or Unkown Jurisdiction

## Marcell – Bigfork Trail

Monitor the need to enhance bicycle and pedestrian movement throughout the corridor and consider constructing a separate path along the “Gut and Liver” railroad grade from Marcell to Bigfork.


***Aerial Photos of MN Highway 38 Corridor: Grand Rapids To Effie***

Map Number 6
Mile Markers 28 - 33


0 0.125 0.25 0.5 0.75 1 Miles

* Aerial photos are from May, 2013

**Legend**

- Mile Markers
- Highways - Paved
- Highways - Gravel
- Township Roads
- Municipal
- Forest Trails
- Private or Unkown Jurisdiction

This information is a compilation of data from different sources with varying degrees of accuracy and requires a qualified field survey to verify.

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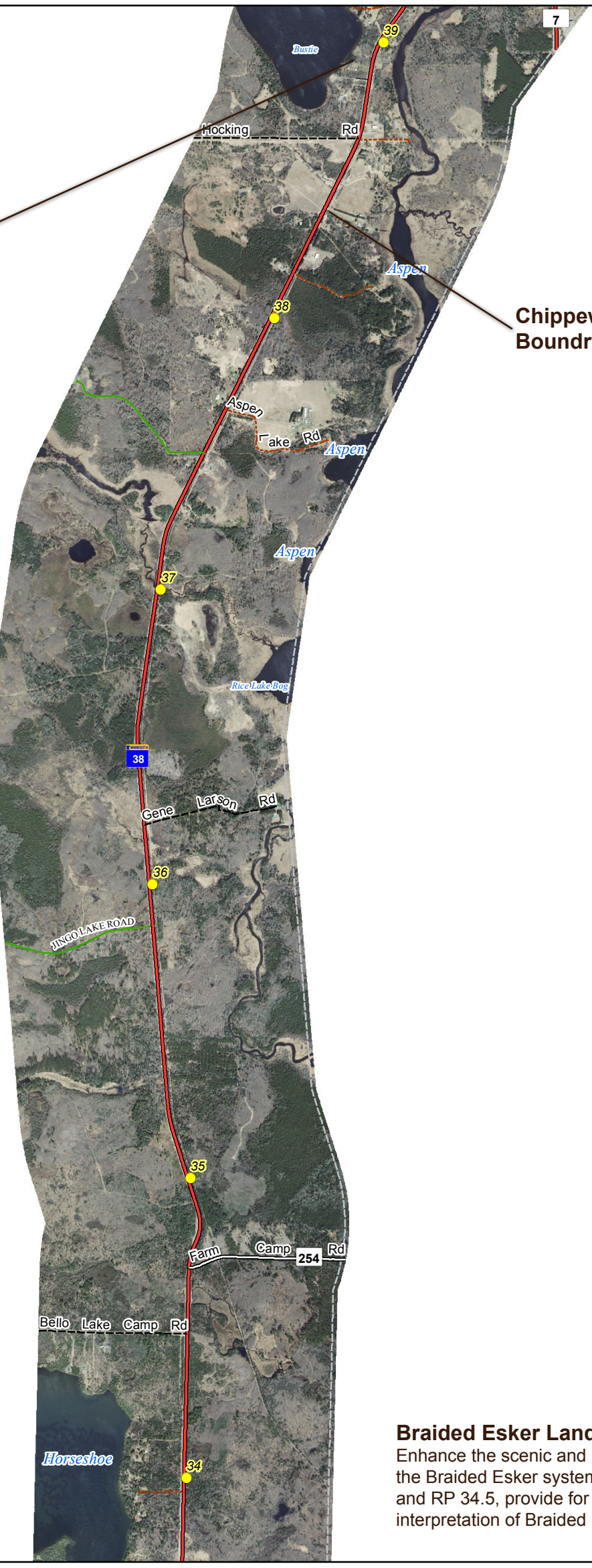
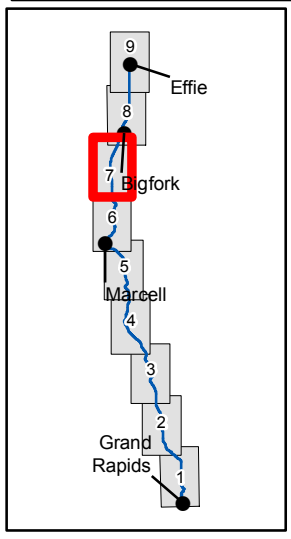
IGIS




**Bustic Lake Fishing Pier**
Construct fishing pier at Bustic Lake (near swimming beach).

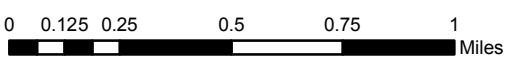
**Chippewa National Forest Boundry (Portal Sign)**

**Braided Esker Land Form**
Enhance the scenic and recreational use of the Braided Esker system between RP 31.5 and RP 34.5, provide for pull-off access and interpretation of Braided Eskers.




***Aerial Photos of MN Highway 38 Corridor: Grand Rapids To Effie***

Map Number 7
Mile Markers 34 - 39


* Aerial photos are from May, 2013

**Legend**
- Mile Markers
- Highways - Paved
- Highways - Gravel
- Township Roads
- Municipal
- Forest Trails
- Private or Unkown Jurisdiction

Bergquist Industries

Bigfork Airport

Bigfork River Access and Picnic Area

Bigfork Byway Interpretive Park and Kiosk Area

Snowmobile Trestle Bridge

Pedestrian Bridge

**Bigfork RiverWalk Trail**

Construct a 2.3 mile paved multi-use trail that connects entire city.


***Aerial Photos of MN Highway 38 Corridor: Grand Rapids To Effie***

Map Number 8
Mile Markers 39 - 44

0 0.125 0.25 0.5 0.75 1 Miles

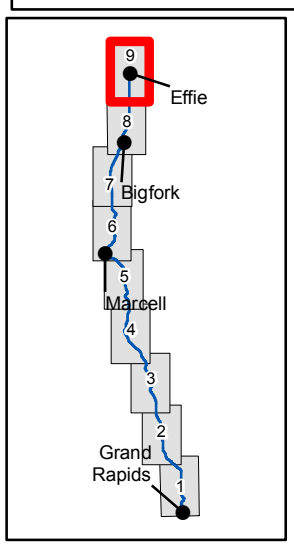
* Aerial photos are from May, 2013

**Legend**

- Mile Markers
- Highways - Paved
- Highways - Gravel
- Township Roads
- Municipal
- Forest Trails
- Private or Unkown Jurisdiction

Effie
Byway Interpretive Kiosk

Effie City Hall
and Byway Gateway Structure


## *Aerial Photos of MN Highway 38 Corridor: Grand Rapids To Effie*

Map Number 9
Mile Markers 45 - 46

N
W E
S

0 0.125 0.25 0.5 0.75 1
Miles

* Aerial photos are from May, 2013

**Legend**

- Mile Markers
- Highways - Paved
- Highways - Gravel
- Township Roads
- Municipal
- Forest Trails
- Private or Unkown Jurisdiction

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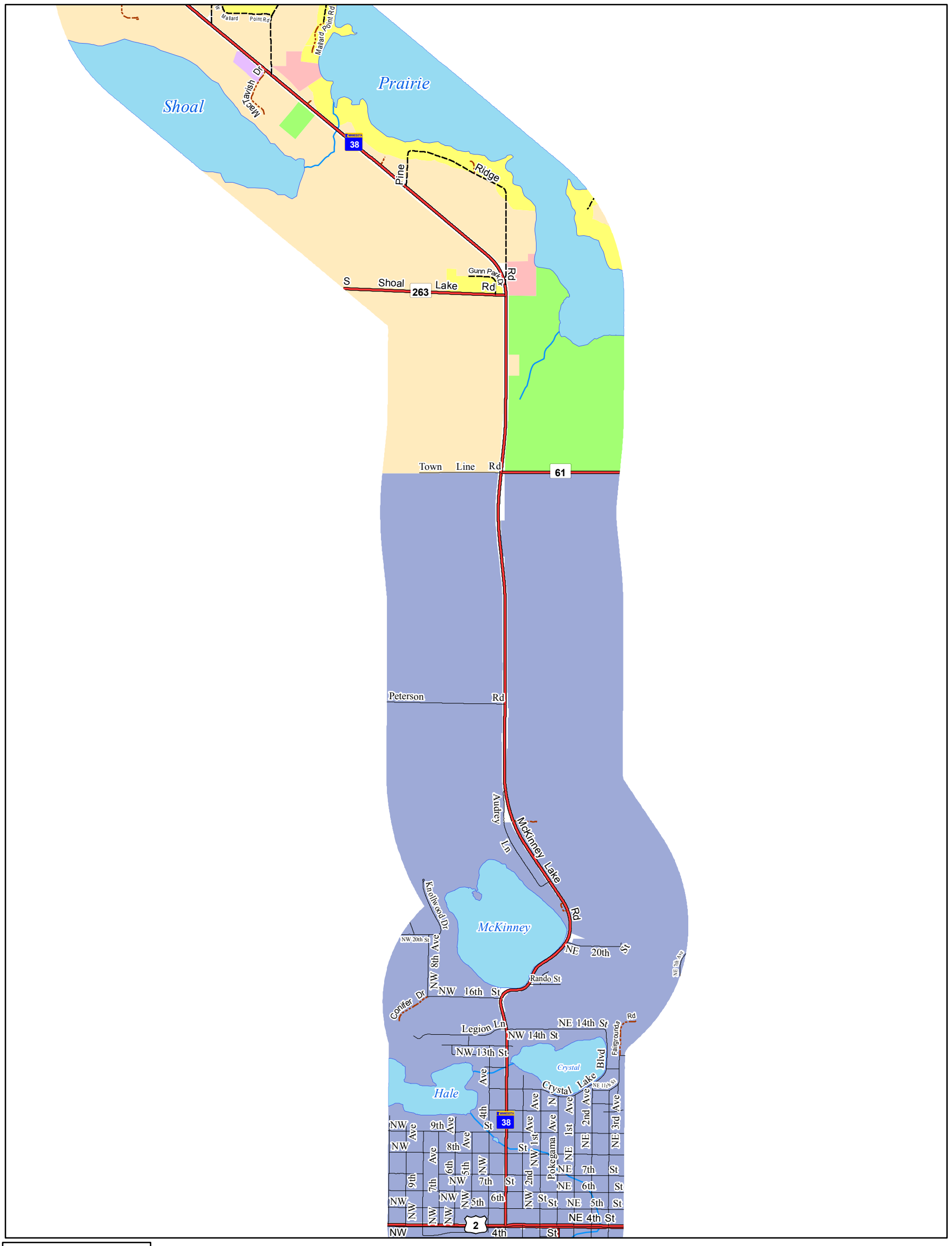
IGIS

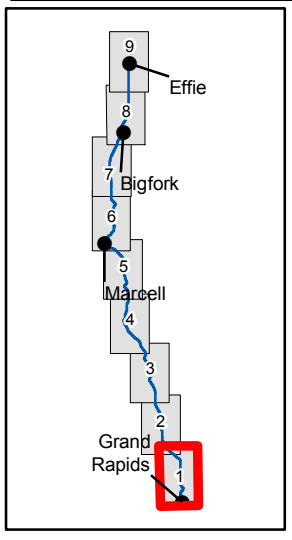
# b. Zoning Overlay Map


Edge of the Wilderness

A National Scenic Byway

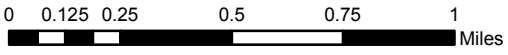
AMERICA'S BYWAYS




***Zoning Along The MN Highway 38 Corridor: Grand Rapids To Effie***

Map Number 1


**Legend**

| | |
|---|---|
| Highways - Paved | **Zoning** |
| Highways - Gravel | **Zoning Districts** |
| Township Roads | 1 - Rural Residential |
| Municipal | 2 - Farm Residential |
| Forest Trails | 3 - Recreational Commercial |
| Private or Unkown Jurisdiction | 4 - Light Industrial / Commercial |
| Lakes | 5 - Industrial |
| Rivers | 6 - Public |
| | M - Municipal |

This information is a compilation of data from different sources with varying degrees of accuracy and requires a qualified field survey to verify.

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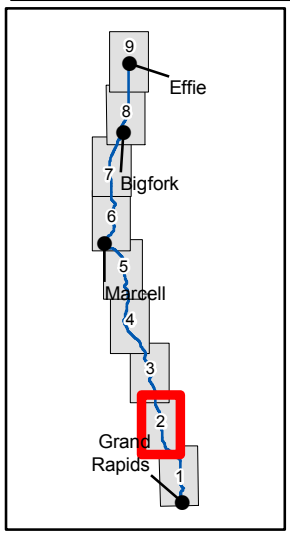
IGIS


***Zoning Along The MN Highway 38 Corridor: Grand Rapids To Effie***

Map Number 2

N
W
E
S

0 0.125 0.25 0.5 0.75 1 Miles

**Legend**

- Highways - Paved
- Highways - Gravel
- Township Roads
- Municipal
- Forest Trails
- Private or Unkown Jurisdiction
- Lakes
- Rivers

**Zoning**

**Zoning Districts**

- 1 - Rural Residential
- 2 - Farm Residential
- 3 - Recreational Commercial
- 4 - Light Industrial / Commercial
- 5 - Industrial
- 6 - Public
- M - Municipal

This information is a compilation of data from different sources with varying degrees of accuracy and requires a qualified field survey to verify.

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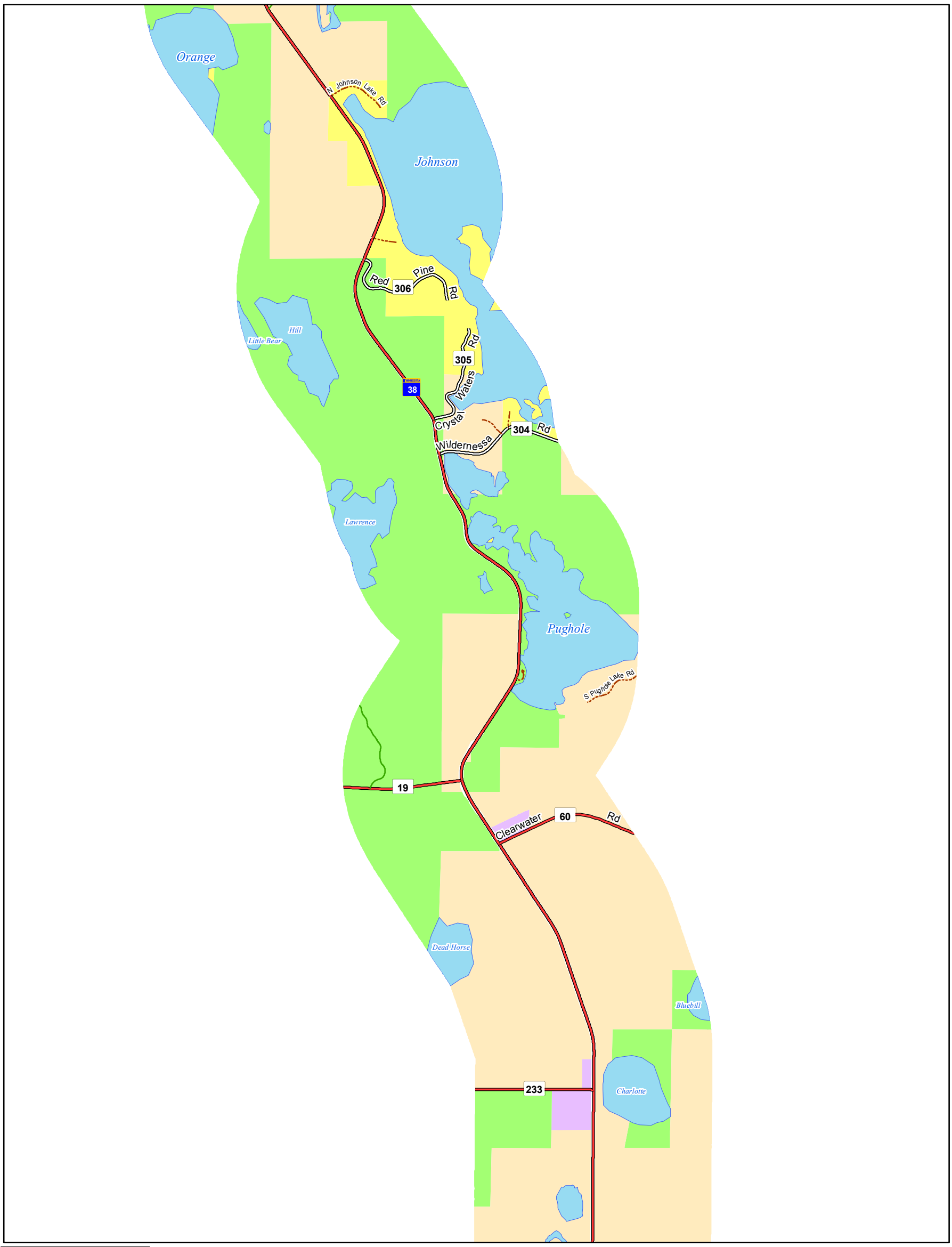
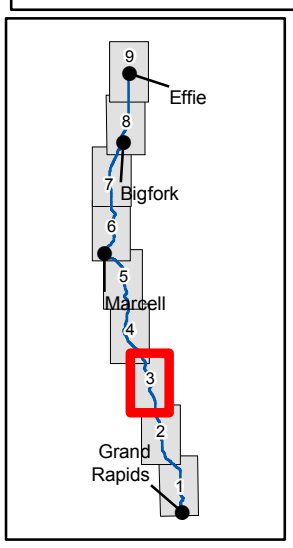
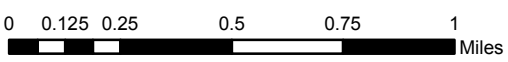
IGIS




***Zoning Along The MN Highway 38 Corridor: Grand Rapids To Effie***

Map Number 3


**Legend**

- Highways - Paved
- Highways - Gravel
- Township Roads
- Municipal
- Forest Trails
- Private or Unkown Jurisdiction
- Lakes
- Rivers

**Zoning**

**Zoning Districts**

- 1 - Rural Residential
- 2 - Farm Residential
- 3 - Recreational Commercial
- 4 - Light Industrial / Commercial
- 5 - Industrial
- 6 - Public
- M - Municipal

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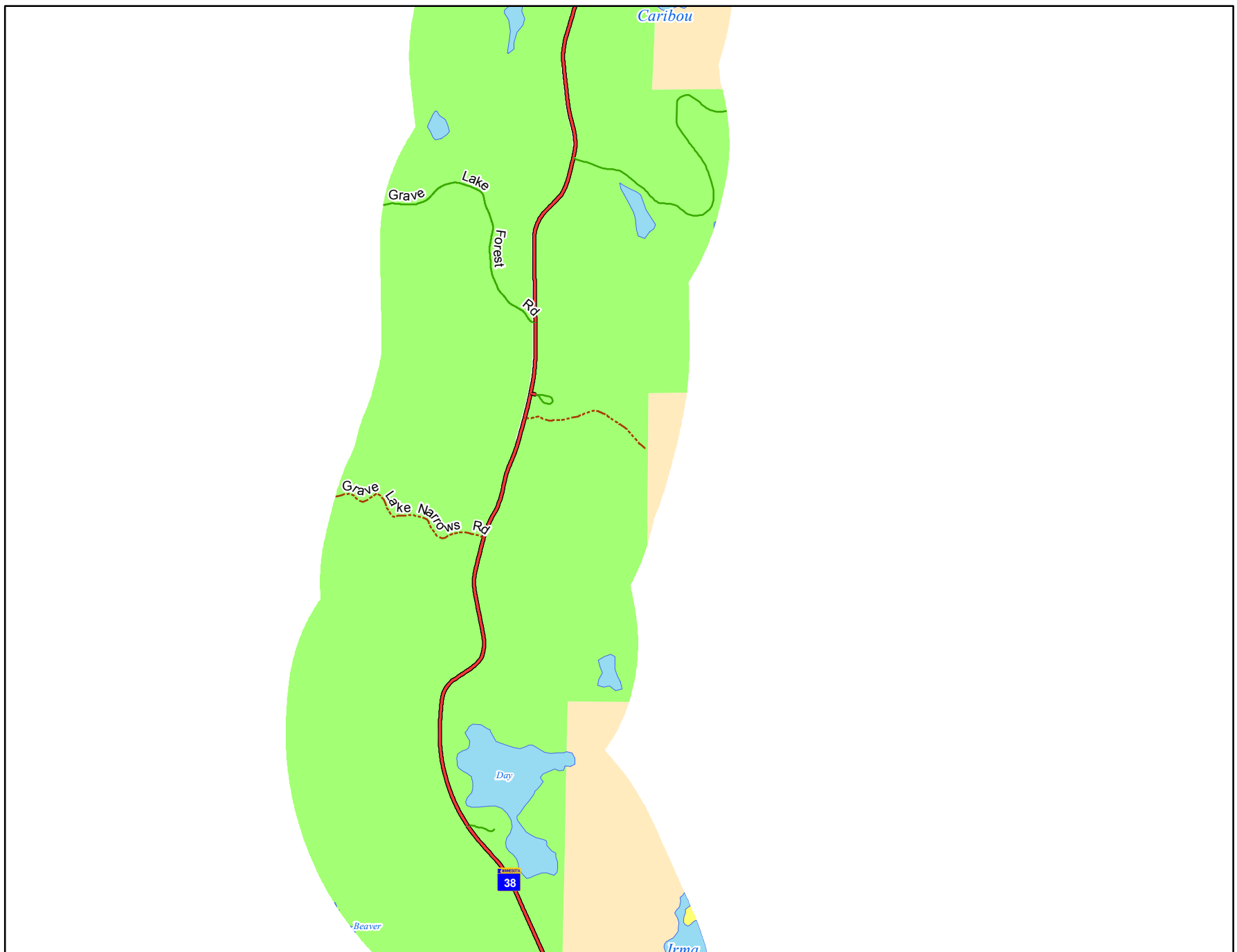
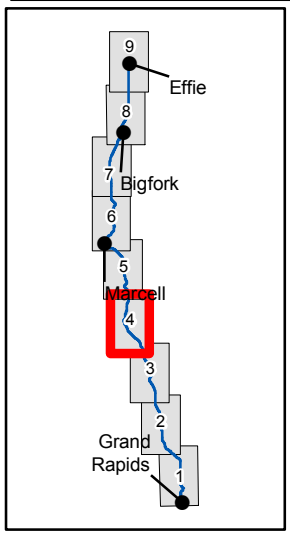
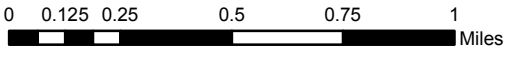
IGIS




***Zoning Along The MN Highway 38 Corridor: Grand Rapids To Effie***

Map Number 4


**Legend**

| | |
|---|---|
| Highways - Paved | **Zoning** |
| Highways - Gravel | **Zoning Districts** |
| Township Roads | 1 - Rural Residential |
| Municipal | 2 - Farm Residential |
| Forest Trails | 3 - Recreational Commercial |
| Private or Unkown Jurisdiction | 4 - Light Industrial / Commercial |
| Lakes | 5 - Industrial |
| Rivers | 6 - Public |
| | M - Municipal |

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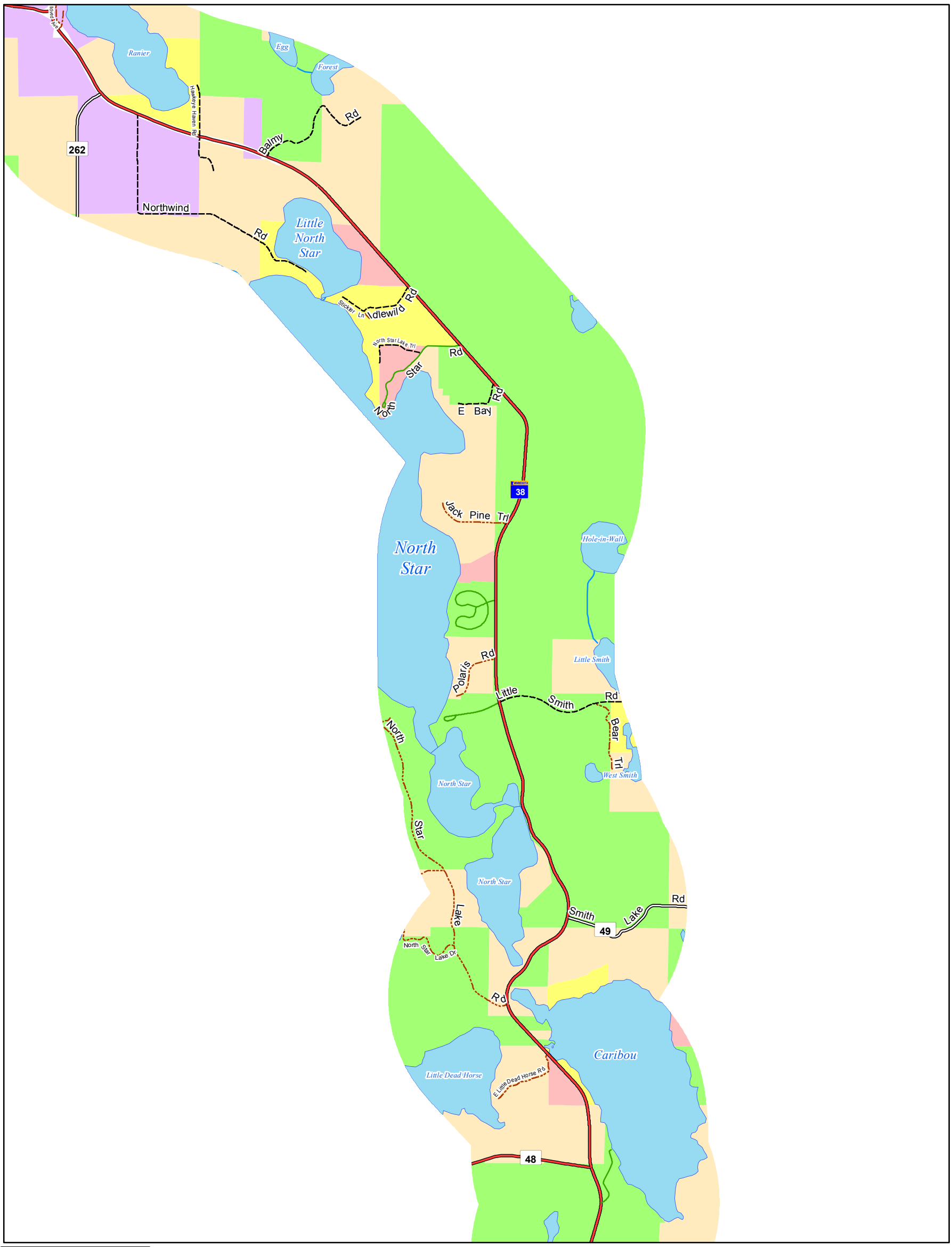
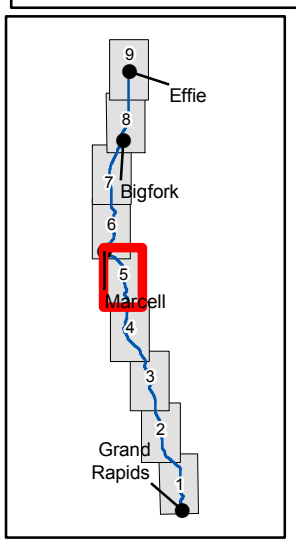
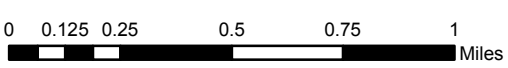
IGIS




## *Zoning Along The MN Highway 38 Corridor: Grand Rapids To Effie*

Map Number 5


**Legend**

| | |
|---|---|
| Highways - Paved | **Zoning** |
| Highways - Gravel | **Zoning Districts** |
| Township Roads | 1 - Rural Residential |
| Municipal | 2 - Farm Residential |
| Forest Trails | 3 - Recreational Commercial |
| Private or Unkown Jurisdiction | 4 - Light Industrial / Commercial |
| Lakes | 5 - Industrial |
| Rivers | 6 - Public |
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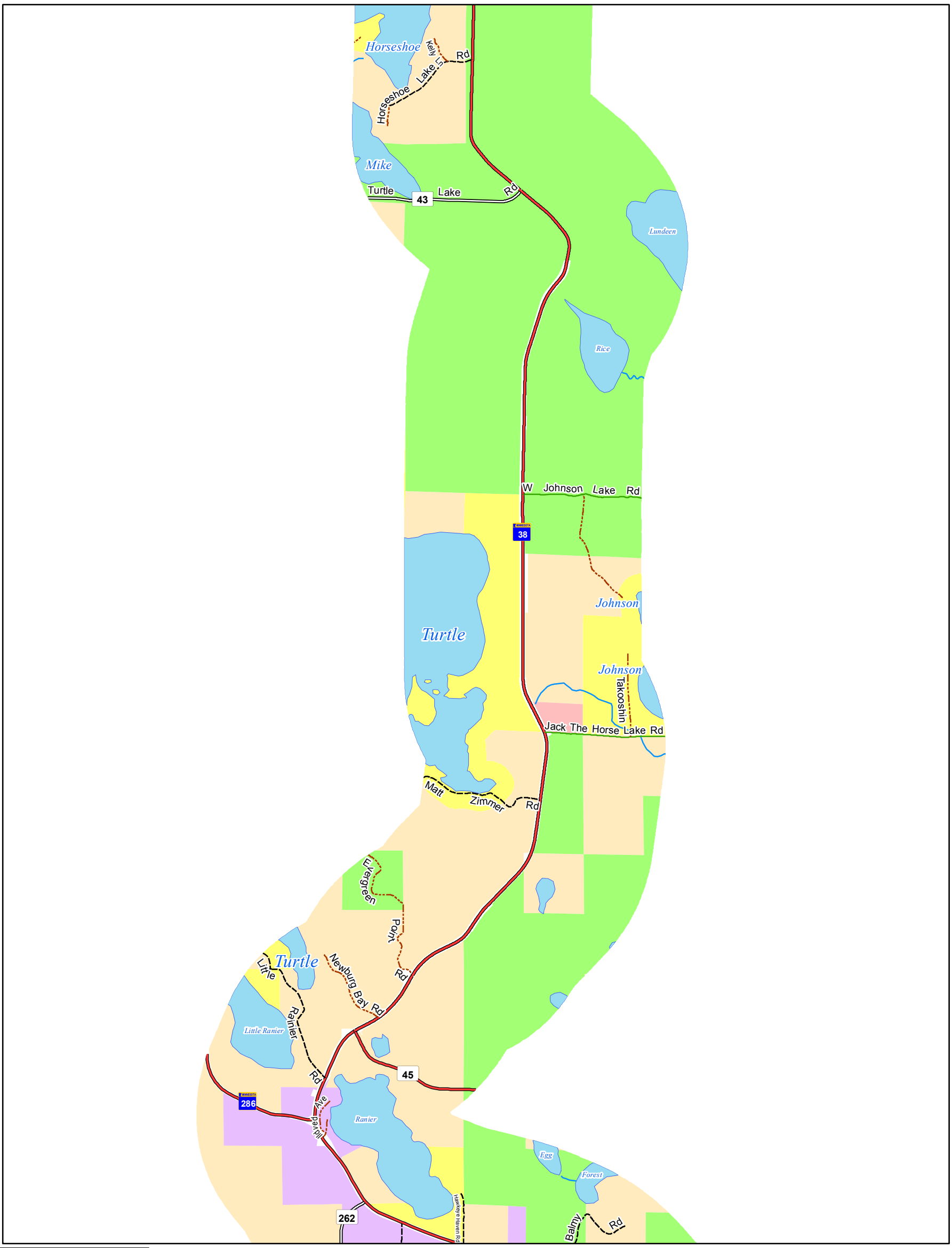
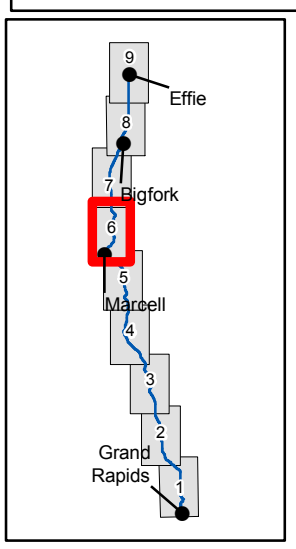
IGIS




***Zoning Along The MN Highway 38 Corridor: Grand Rapids To Effie***

Map Number 6


0 0.125 0.25 0.5 0.75 1 Miles

**Legend**

| | |
|---|---|
| Highways - Paved | **Zoning** |
| Highways - Gravel | **Zoning Districts** |
| Township Roads | 1 - Rural Residential |
| Municipal | 2 - Farm Residential |
| Forest Trails | 3 - Recreational Commercial |
| Private or Unkown Jurisdiction | 4 - Light Industrial / Commercial |
| Lakes | 5 - Industrial |
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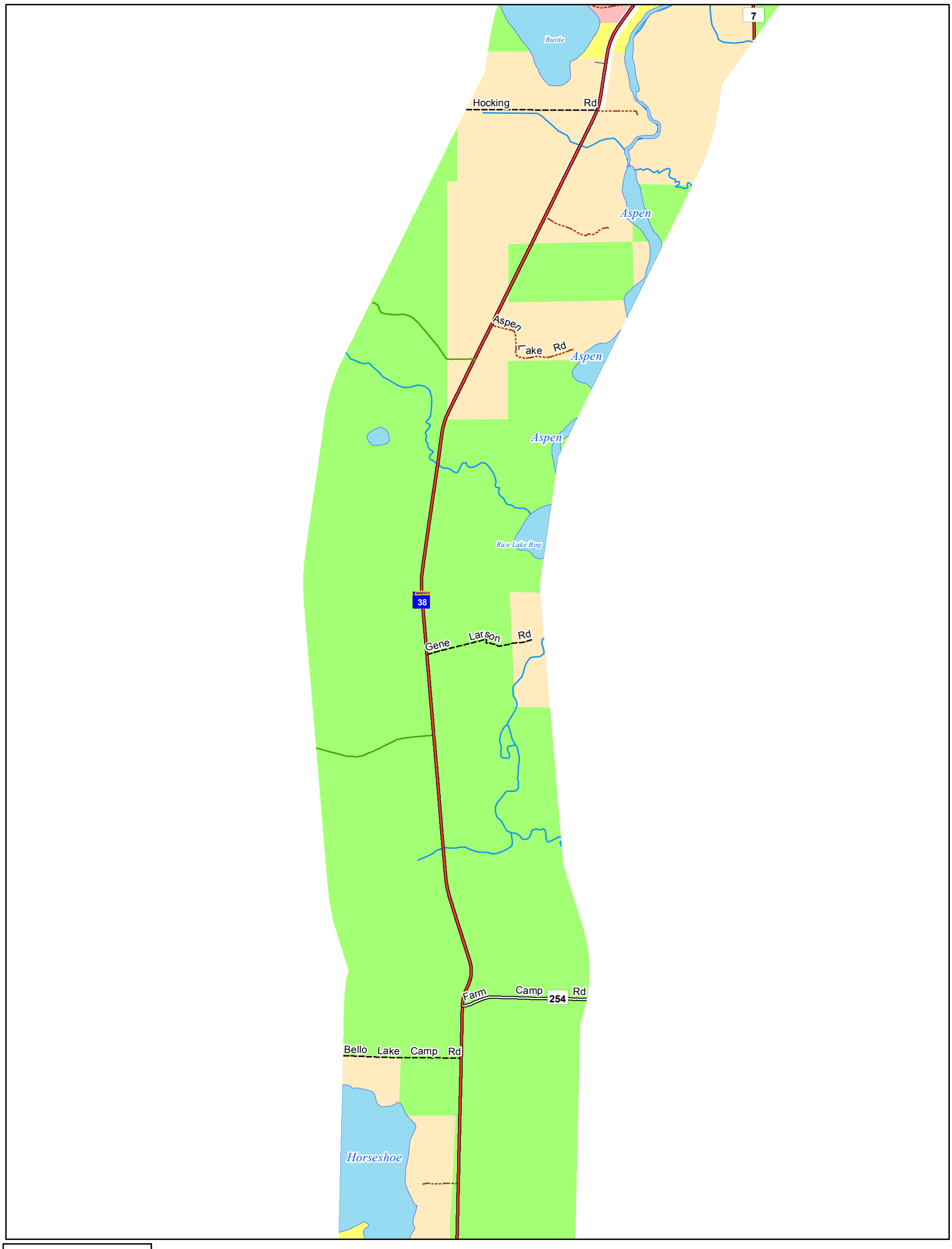
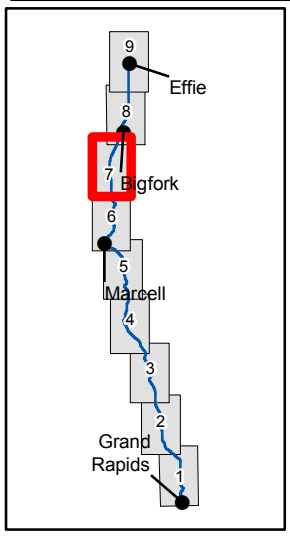
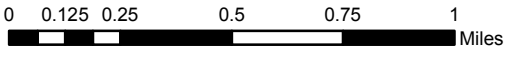
IGIS




## *Zoning Along The MN Highway 38 Corridor: Grand Rapids To Effie*

Map Number 7


**Legend**

| | |
|---|---|
| Highways - Paved | **Zoning** |
| Highways - Gravel | **Zoning Districts** |
| Township Roads | 1 - Rural Residential |
| Municipal | 2 - Farm Residential |
| Forest Trails | 3 - Recreational Commercial |
| Private or Unkown Jurisdiction | 4 - Light Industrial / Commercial |
| Lakes | 5 - Industrial |
| Rivers | 6 - Public |
| | M - Municipal |

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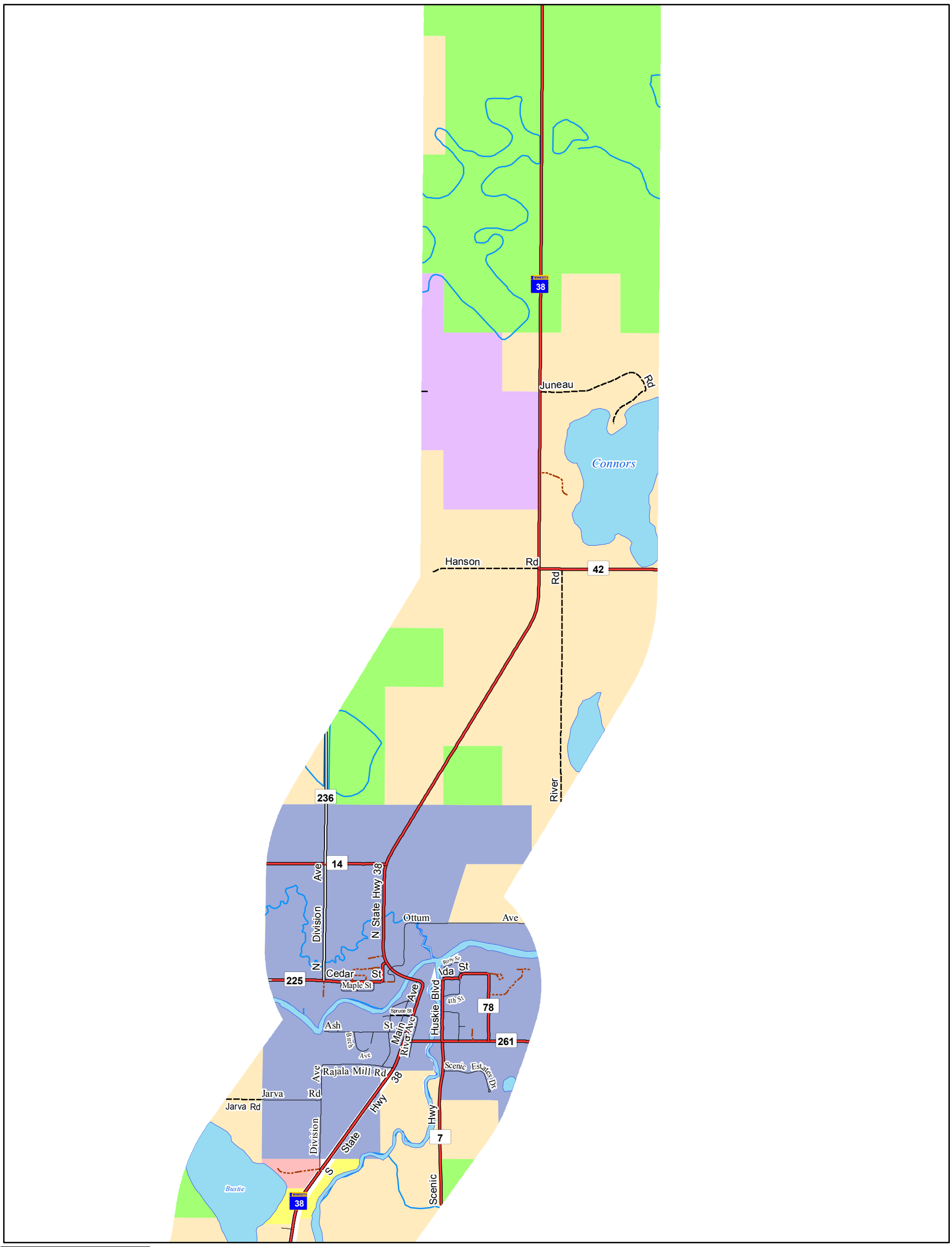
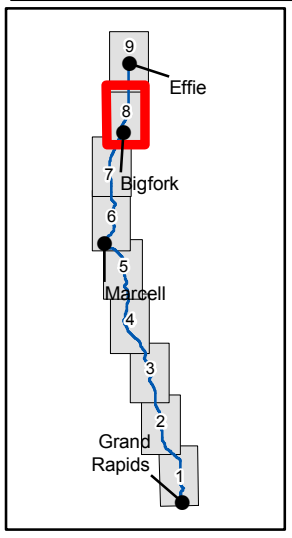
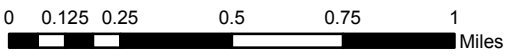
IGIS




## *Zoning Along The MN Highway 38 Corridor: Grand Rapids To Effie*

Map Number 8


**Legend**

- Highways - Paved
- Highways - Gravel
- Township Roads
- Municipal
- Forest Trails
- Private or Unkown Jurisdiction
- Lakes
- Rivers

**Zoning**

**Zoning Districts**

- 1 - Rural Residential
- 2 - Farm Residential
- 3 - Recreational Commercial
- 4 - Light Industrial / Commercial
- 5 - Industrial
- 6 - Public
- M - Municipal

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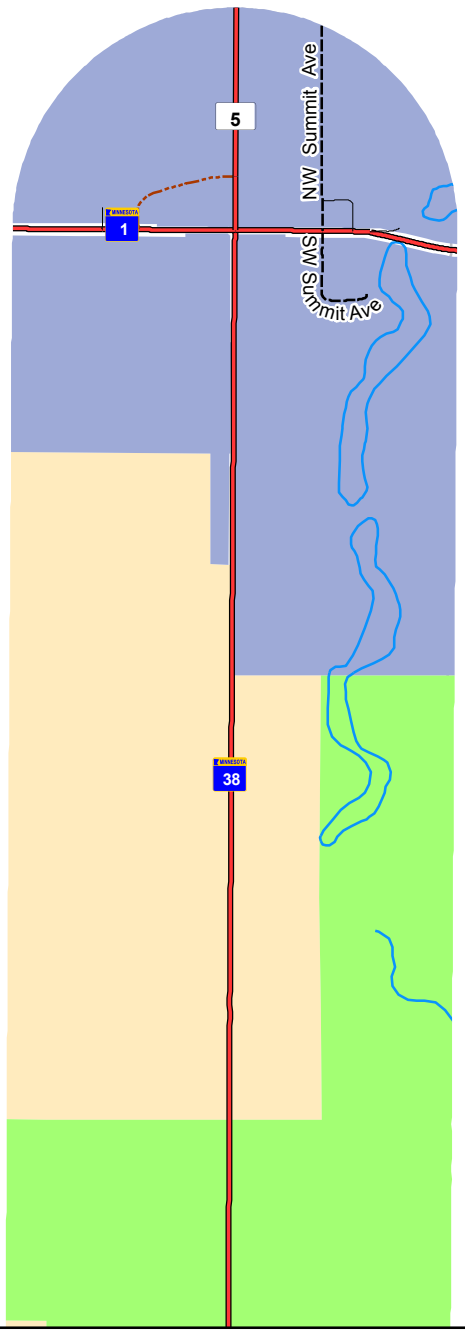
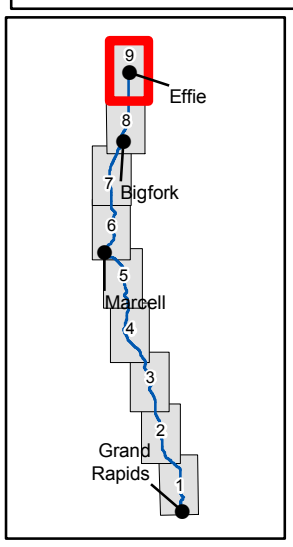
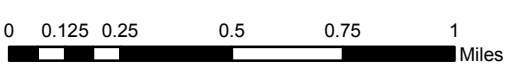
IGIS




## *Zoning Along The MN Highway 38 Corridor: Grand Rapids To Effie*

Map Number 9


**Legend**

- Highways - Paved
- Highways - Gravel
- Township Roads
- Municipal
- Forest Trails
- Private or Unkown Jurisdiction
- Lakes
- Rivers

**Zoning**

**Zoning Districts**

- 1 - Rural Residential
- 2 - Farm Residential
- 3 - Recreational Commercial
- 4 - Light Industrial / Commercial
- 5 - Industrial
- 6 - Public
- M - Municipal

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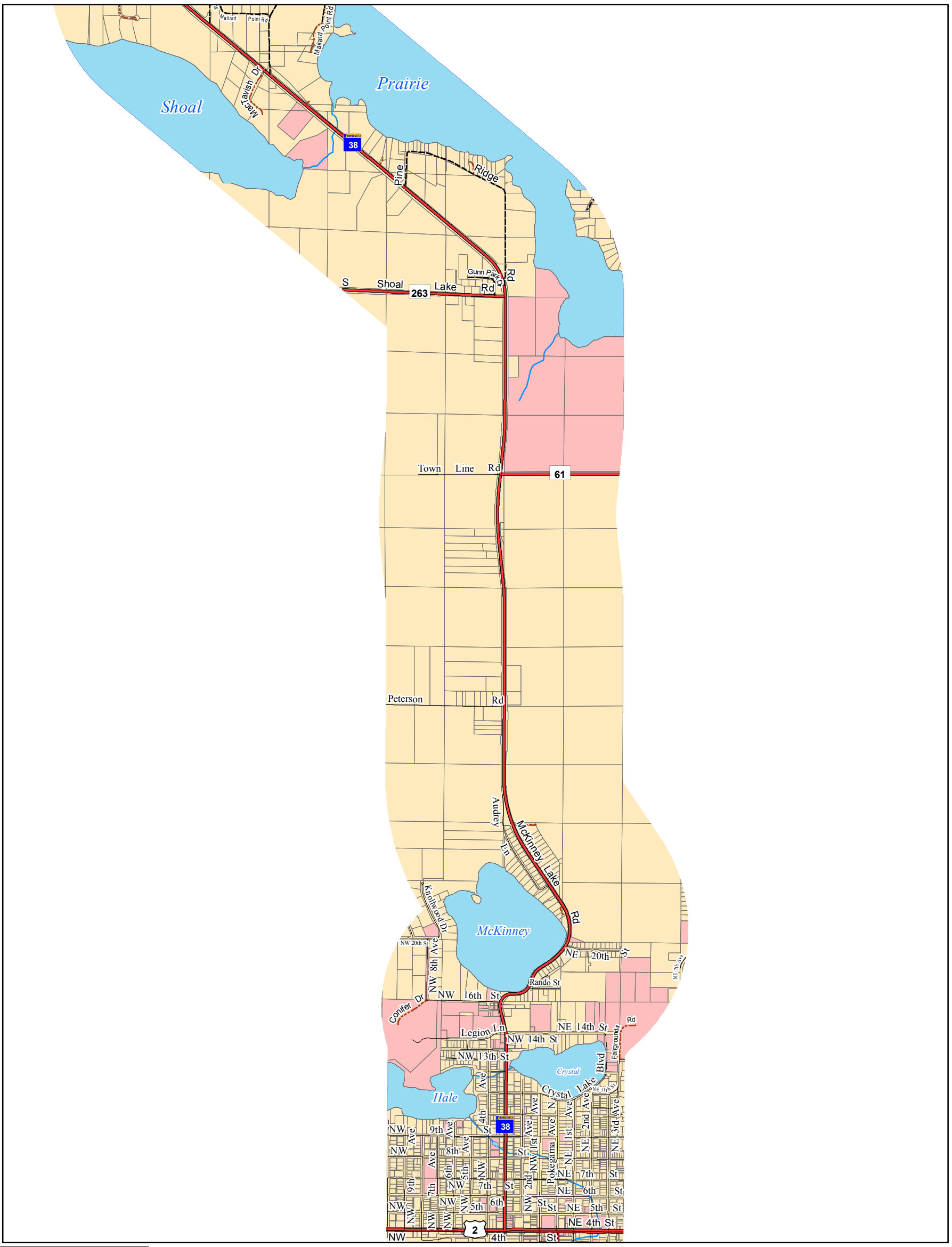
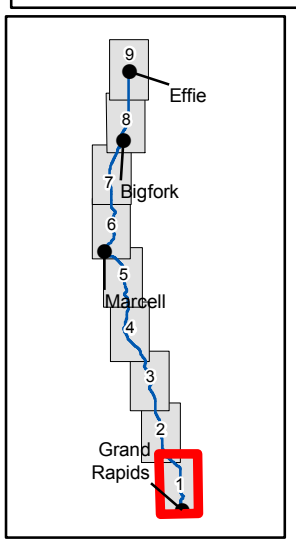
IGIS

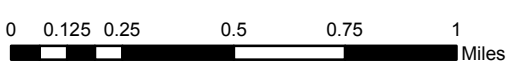
# c. Land Ownership Map




***Land Ownership Along The MN Highway 38 Corridor: Grand Rapids To Effie***

Map Number 1


**Legend**

- Highways - Paved
- Highways - Gravel
- Township Roads
- Municipal
- Forest Trails
- Private or Unkown Jurisdiction
- Lakes
- Rivers

**Parcel Ownership**

- Private
- Public

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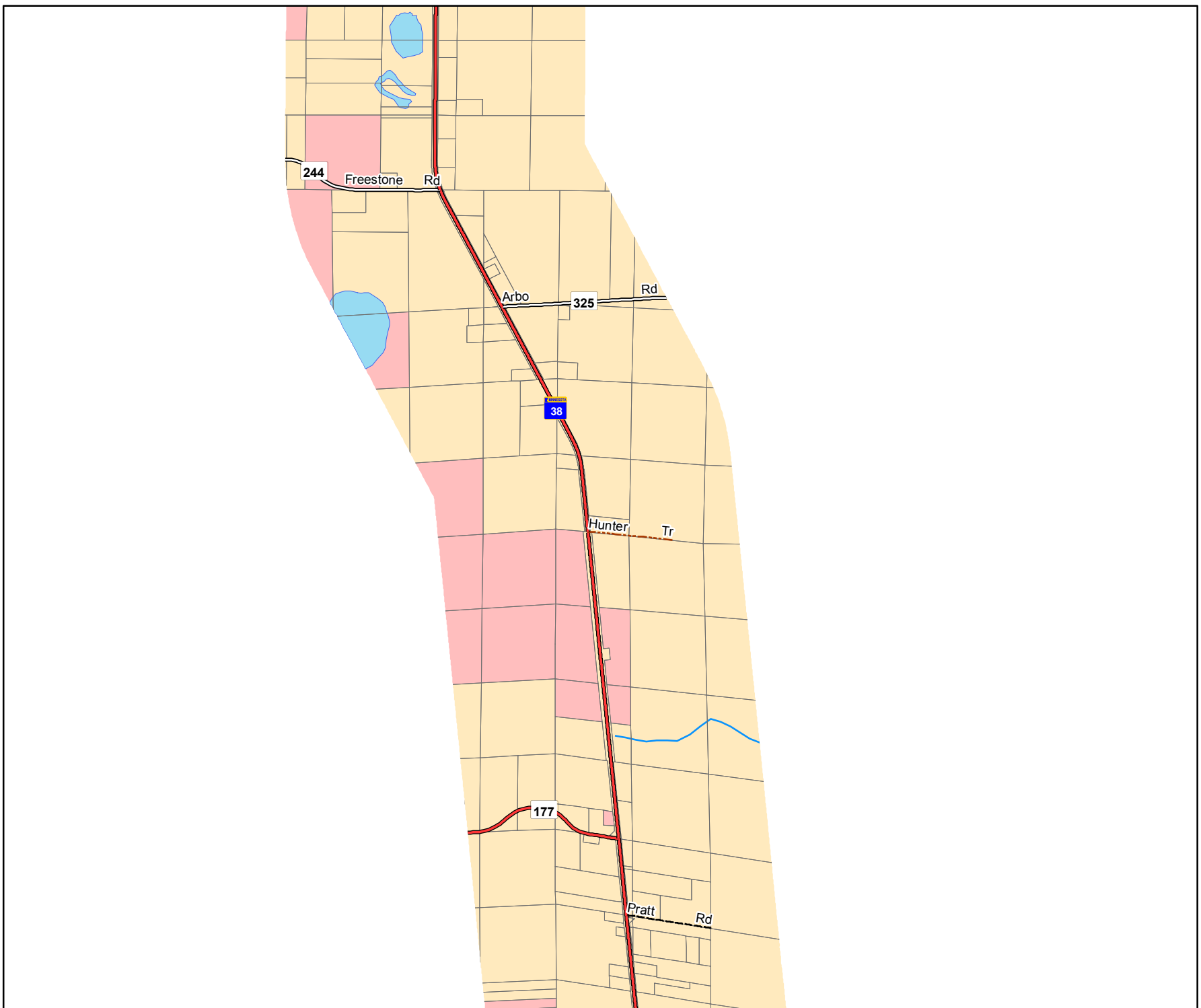
IGIS

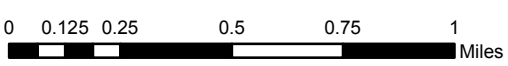






***Land Ownership Along The MN Highway 38 Corridor: Grand Rapids To Effie***

Map Number 2


**Legend**

- Highways - Paved
- Highways - Gravel
- Township Roads
- Municipal
- Forest Trails
- Private or Unkown Jurisdiction
- Lakes
- Rivers

**Parcel Ownership**

- Private
- Public

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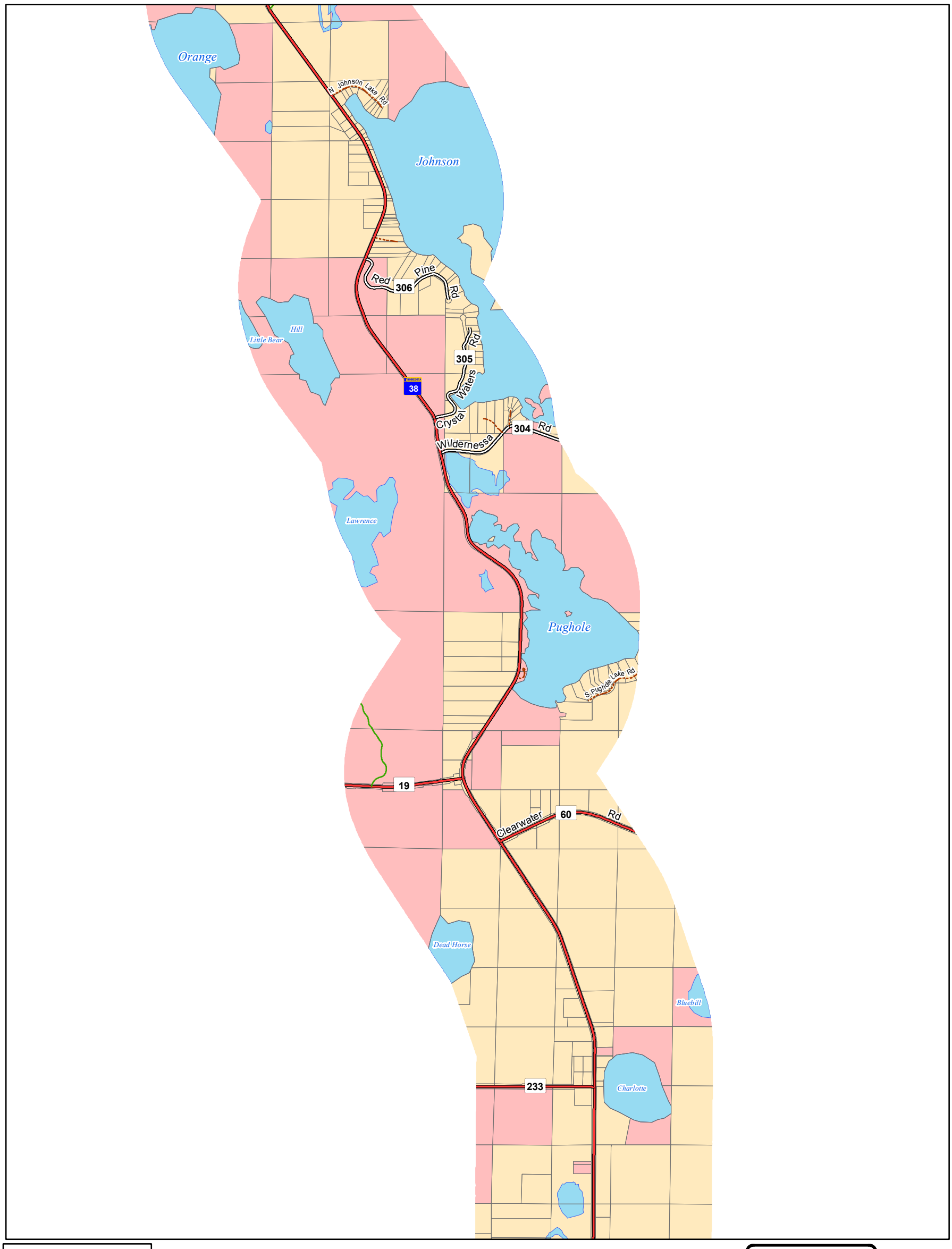
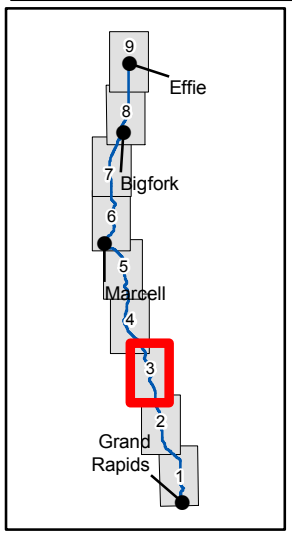
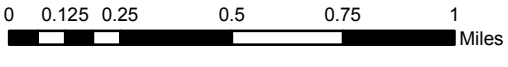
IGIS




***Land Ownership Along The MN Highway 38 Corridor: Grand Rapids To Effie***

Map Number 3


**Legend**

- Highways - Paved
- Highways - Gravel
- Township Roads
- Municipal
- Forest Trails
- Private or Unkown Jurisdiction
- Lakes
- Rivers

**Parcel Ownership**

- Private
- Public

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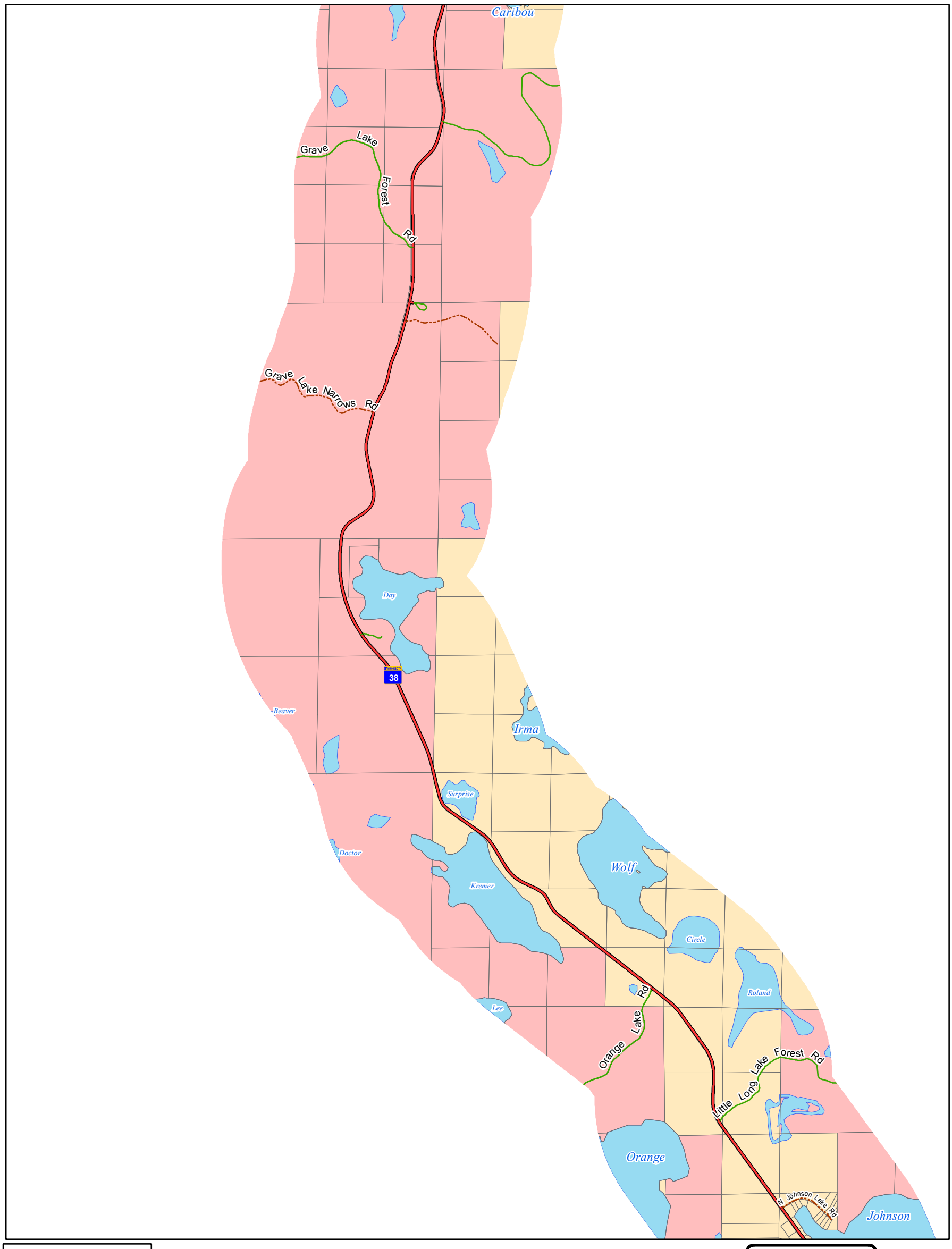
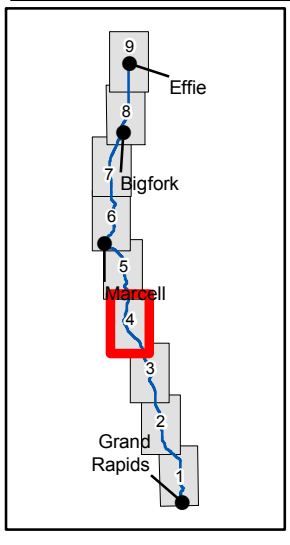
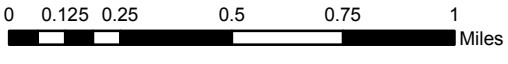



## *Land Ownership Along The MN Highway 38 Corridor: Grand Rapids To Effie*

Map Number 4


**Legend**

- Highways - Paved
- Highways - Gravel
- Township Roads
- Municipal
- Forest Trails
- Private or Unkown Jurisdiction
- Lakes
- Rivers

**Parcel Ownership**

- Private
- Public

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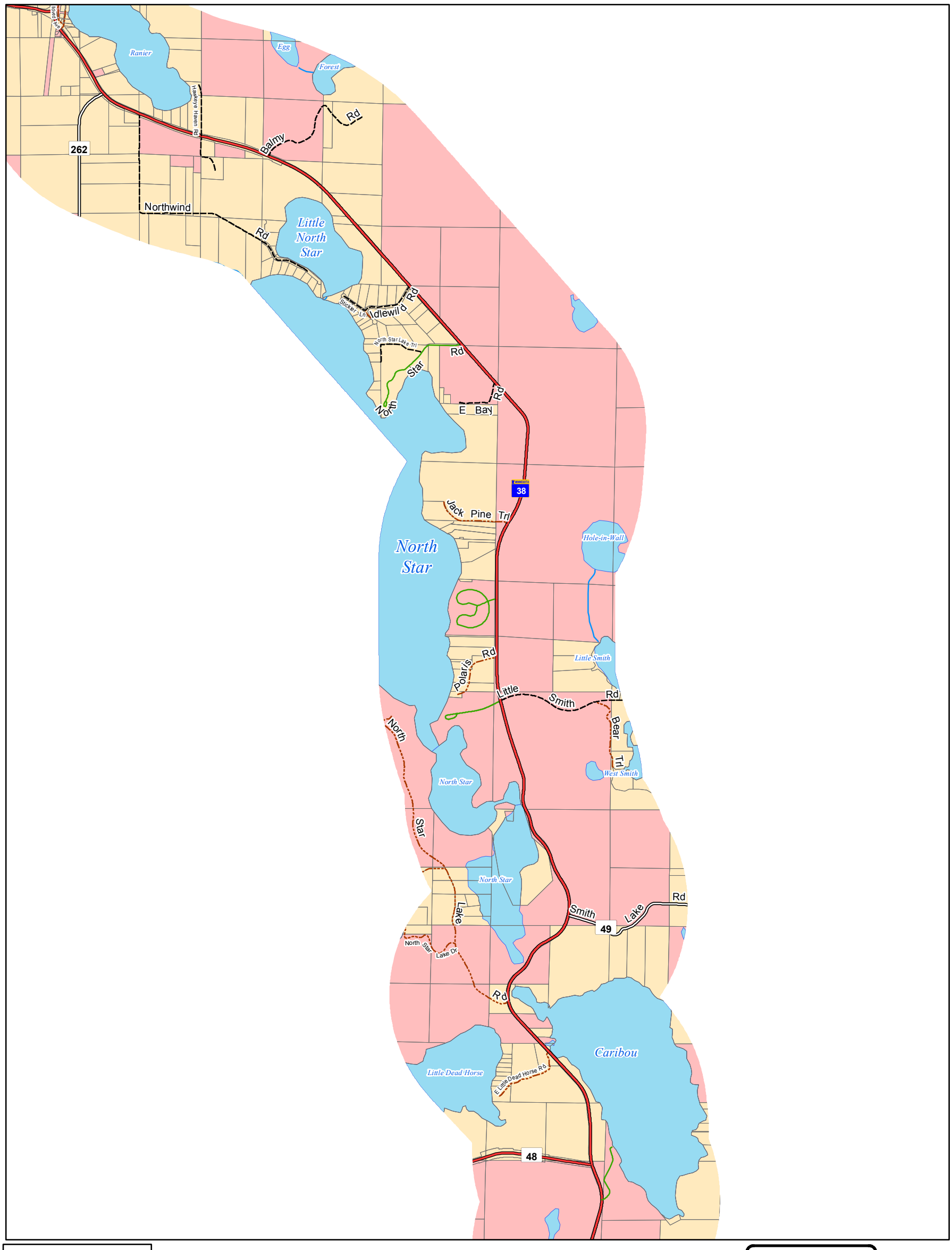
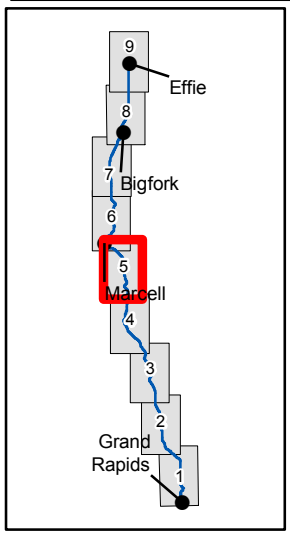
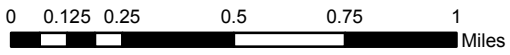
IGIS




***Land Ownership Along The MN Highway 38 Corridor: Grand Rapids To Effie***

Map Number 5


**Legend**

- Highways - Paved
- Highways - Gravel
- Township Roads
- Municipal
- Forest Trails
- Private or Unkown Jurisdiction
- Lakes
- Rivers

**Parcel Ownership**

- Private
- Public

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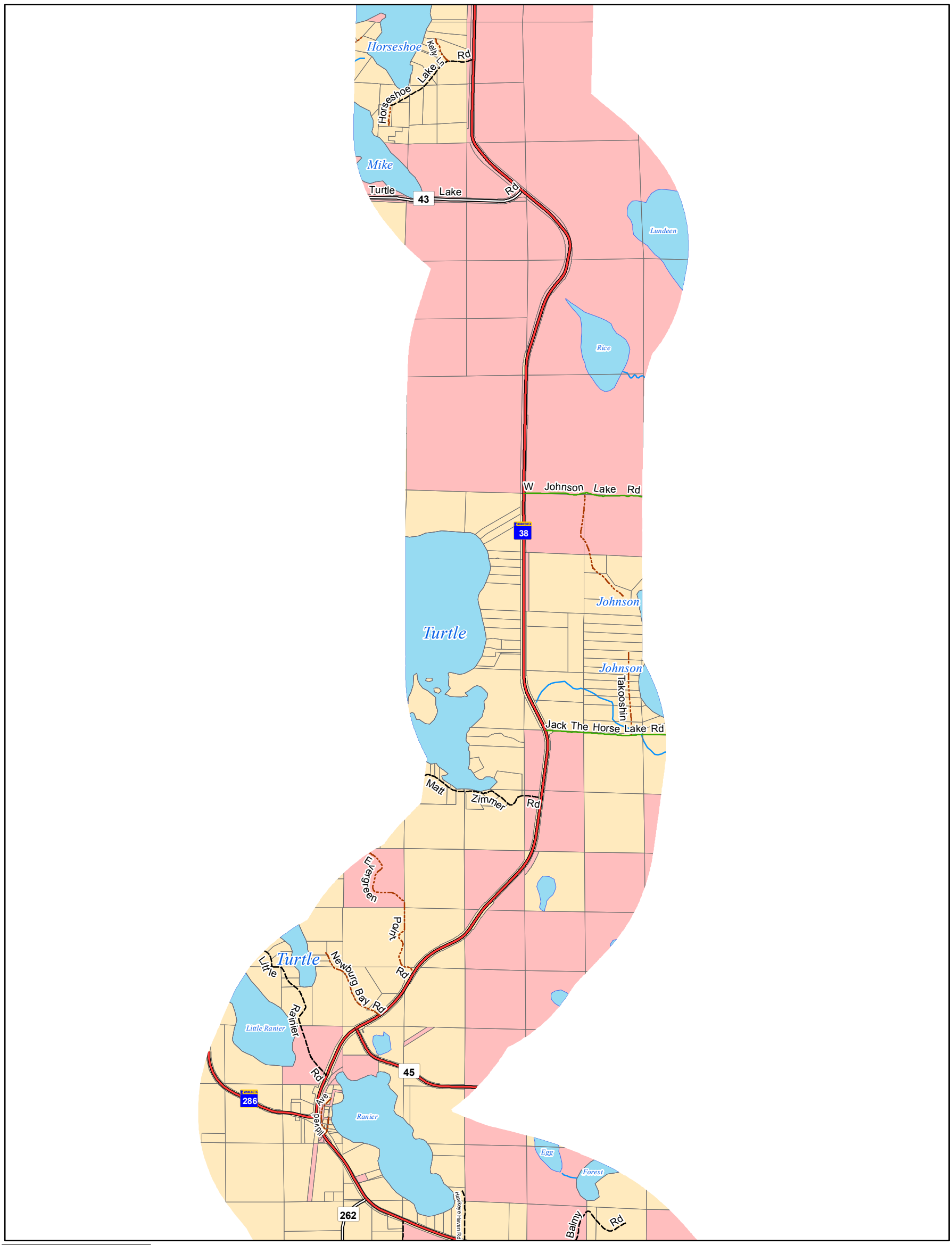


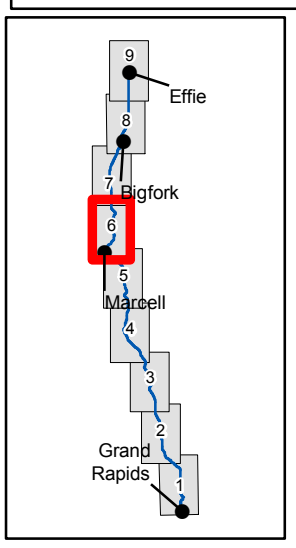


***Land Ownership Along The MN Highway 38 Corridor: Grand Rapids To Effie***

Map Number 6


0 0.125 0.25 0.5 0.75 1 Miles

**Legend**

- Highways - Paved
- Highways - Gravel
- Township Roads
- Municipal
- Forest Trails
- Private or Unkown Jurisdiction
- Lakes
- Rivers

**Parcel Ownership**

- Private
- Public

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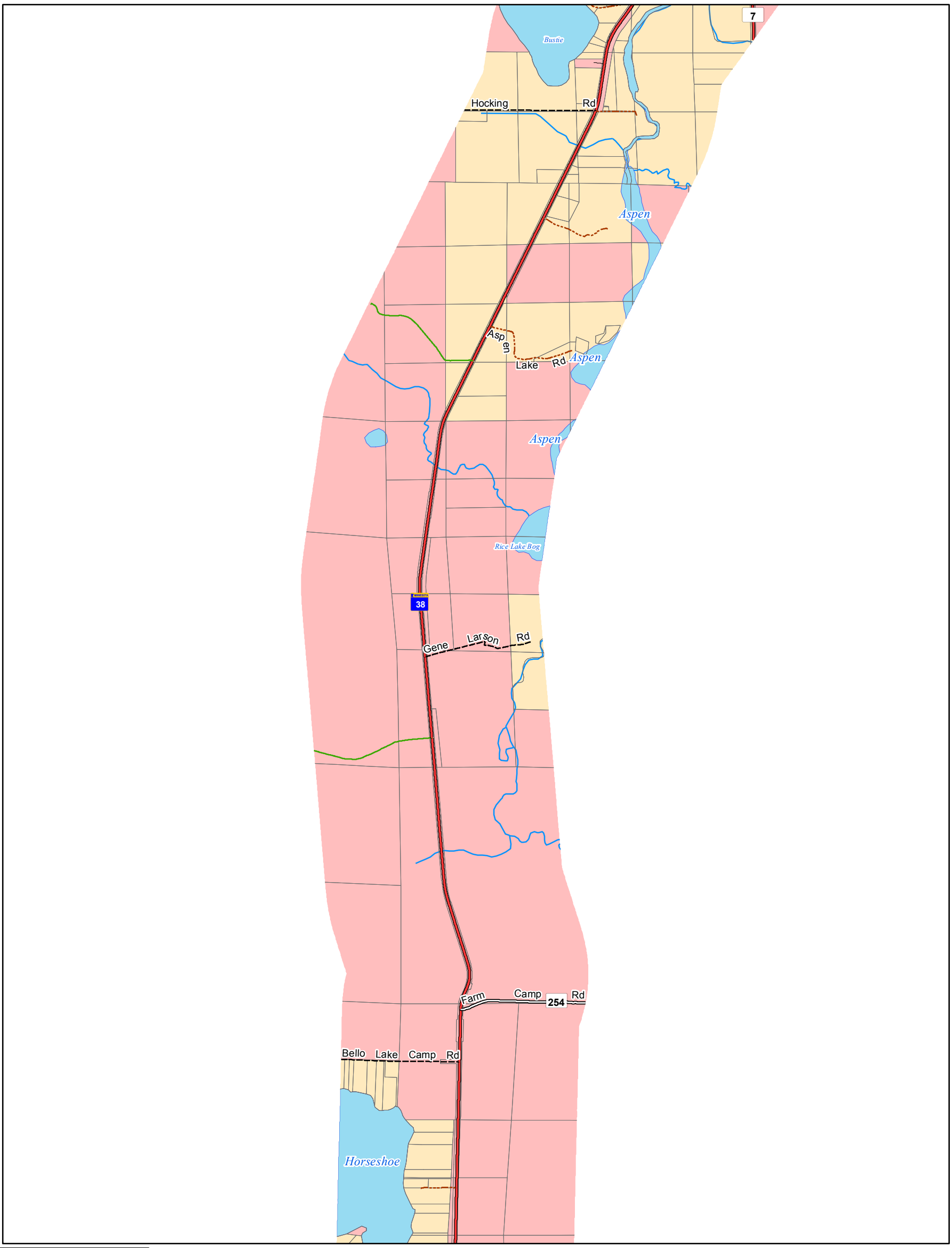
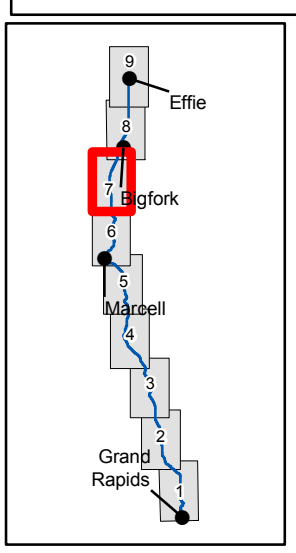
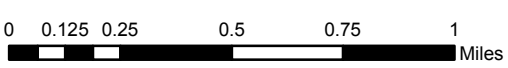
IGIS




***Land Ownership Along The MN Highway 38 Corridor: Grand Rapids To Effie***

Map Number 7


**Legend**

- Highways - Paved
- Highways - Gravel
- Township Roads
- Municipal
- Forest Trails
- Private or Unkown Jurisdiction
- Lakes
- Rivers

**Parcel Ownership**

- Private
- Public

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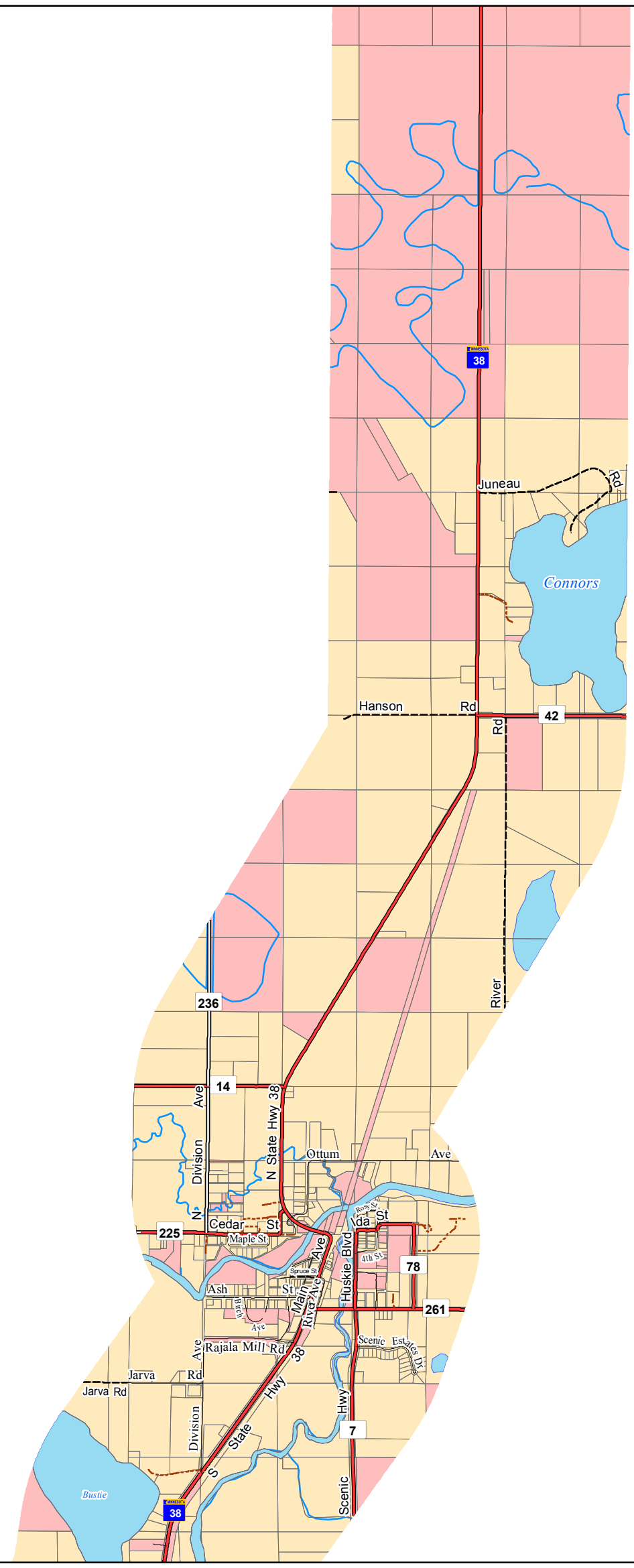
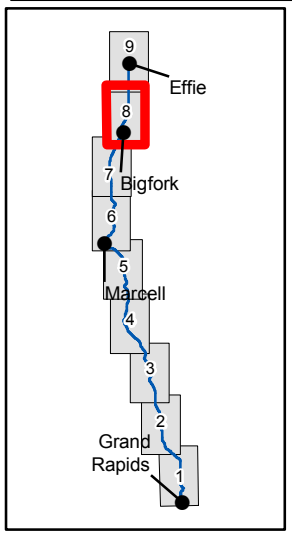
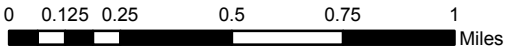



***Land Ownership Along The MN Highway 38 Corridor: Grand Rapids To Effie***

Map Number 8


**Legend**

- Highways - Paved
- Highways - Gravel
- Township Roads
- Municipal
- Forest Trails
- Private or Unkown Jurisdiction
- Lakes
- Rivers

**Parcel Ownership**

- Private
- Public

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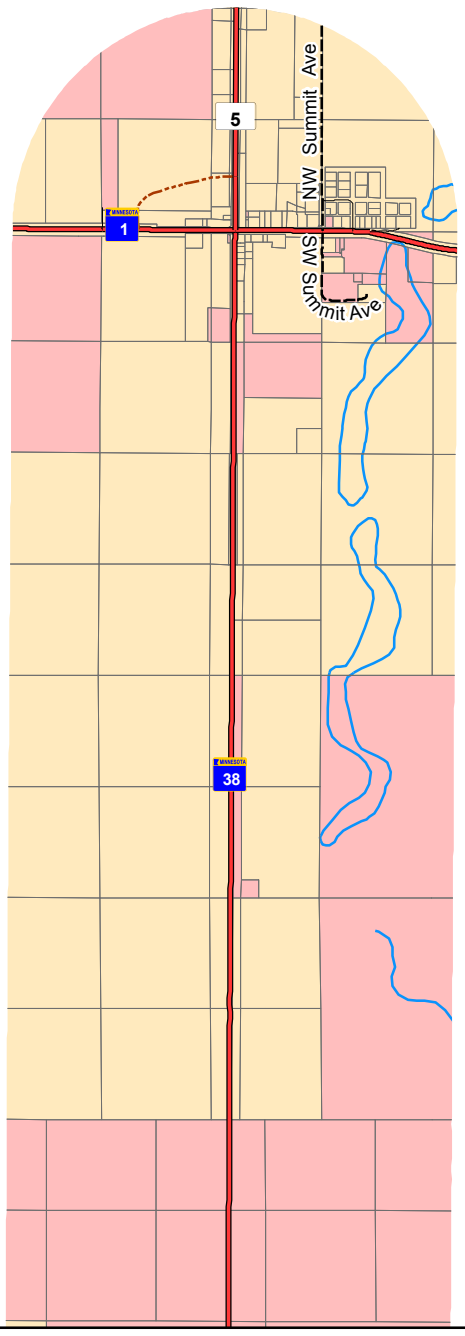
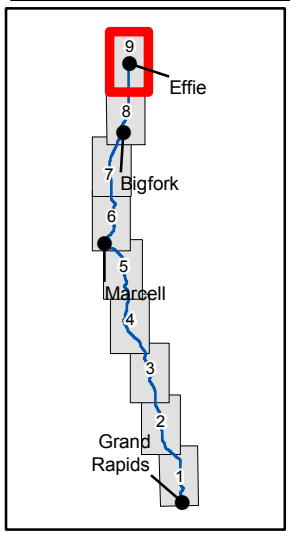
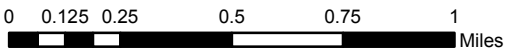



## *Land Ownership Along The MN Highway 38 Corridor: Grand Rapids To Effie*

Map Number 9


**Legend**

- Highways - Paved
- Highways - Gravel
- Township Roads
- Municipal
- Forest Trails
- Private or Unkown Jurisdiction
- Lakes
- Rivers

**Parcel Ownership**

- Private
- Public

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IGIS

# d. Edge of the Wilderness
# National Scenic Byway Interpretive Map


A National Scenic Byway

AMERICA'S BYWAYS


47.0
Effie
Byway Entrance
40.0
Bigfork
Byway Entrance
30.5
Gut and Liver Line
28.7
Edge of the Wilderness Discovery Center
Chippewa National Forest Information
27.7
Marcell
Byway Entrance
24.5
Scenic Overlook at North Star Lake
23.5
White Cedar Stand
20.9
Laurentian Divide
19.0
Day Lake CCC Camp
Chippewa National Forest Boundary
13.4
Birch Stand at Pughole Lake
12.6
Trout Lake and Joyce Estate
8.5
Black Spruce/ Tamarack Bog Habitat
3.4
Lind-Greenway Mine
Byway Entrance
0.0
Grand Rapids
Byway Entrance
Minnesota 1
Minnesota 38
14
Connors Lake
Big Fork River
Chippewa National Forest Boundary
7
CHIPPEWA NATIONAL FOREST
43
Turtle Lake
286
45
North Star Lake
49
Caribou Lake
48
Grave Lake
Spider Lake
Wolf Lake
Johnson Lake
Trout Lake
Pughole Lake
Blue Water Lake Road
60
19
Deer Lake
49
Minnesota 38
Prairie Lake
Shoal Lake
61
McKinney Lake
Mississippi River
2
2
169

# B. MN DNR Minnesota Natural Heritage Information System Index Report

Minnesota Department of Natural Resources
Division of Ecological and Water Resources, Box 25
500 Lafayette Road
St. Paul, Minnesota 55155-4025
Phone: (651) 259-5109 E-mail: lisa.joyal@state.mn.us

May 29, 2014 **Correspondence # ERDB 20140354**

Mr. Tim Johnson
Minnesota Highway 38 Leadership Board, Inc.
PO Box 93
Marcell, MN 56657

RE: Natural Heritage Review of the proposed Minnesota Highway 38 Corridor Management Plan Update, Itasca County

Dear Mr. Johnson,

The Minnesota Natural Heritage Information System has been queried to determine if any rare species or other significant natural features are known to occur within an approximate one-mile radius of the proposed project. For the results of this query, please refer to the database reports. Please visit the Rare Species Guide at http://www.dnr.state.mn.us/rsg/index.html for more information on the biology, habitat use, and conservation measures of these rare species. The Minnesota Biological Survey (MBS) has also identified several preliminary Sites of Biodiversity Significance adjacent to Highway 38 (see enclosed map). Sites of Biodiversity Significance have varying levels of native biodiversity and are ranked based on the relative significance of this biodiversity at a statewide level. Factors taken into account during the ranking process include the number of rare species documented within the site, the quality of the native plant communities in the site, the size of the site, and the context of the site within the landscape. For more information on MBS Sites of Biodiversity Significance, please visit http://www.dnr.state.mn.us/eco/mcbs/biodiversity_guidelines.html.

The Natural Heritage Information System (NHIS), a collection of databases that contains information about Minnesota's rare natural features, is maintained by the Division of Ecological and Water Resources, Department of Natural Resources. The NHIS is continually updated as new information becomes available, and is the most complete source of data on Minnesota's rare or otherwise significant species, native plant communities, and other natural features. However, the NHIS is not an exhaustive inventory and thus does not represent all of the occurrences of rare features within the state. Therefore, ecologically significant features for which we have no records may exist within the project area. **If additional information becomes available regarding rare features in the vicinity of the project, further review may be necessary.**

The enclosed results include an Index Report and a Detailed Report of records in the Rare Features Database, the main database of the NHIS. To control the release of specific location information, which might result in the destruction of a rare feature, both reports are copyrighted.

The Index Report provides rare feature locations only to the nearest section, and may be reprinted, unaltered, in an environmental review document (e.g., EAW or EIS), municipal natural resource plan, or report compiled by your company for the project listed above. If you wish to reproduce the index report for any other purpose, please contact me to request written permission. **The Detailed Report is for your personal use only as it may include specific location information that is considered nonpublic data under *Minnesota Statutes*, section 84.0872, subd. 2. If you wish to reprint or publish the Detailed Report for any purpose, please contact me to request written permission.**

For environmental review purposes, the results of this Natural Heritage Review are valid for one year; the results are only valid for the project location (noted above) and the project description provided on the NHIS Data Request Form. Please contact me if project details change or for an updated review if construction has not occurred within one year.

The Natural Heritage Review does not constitute review or approval by the Department of Natural Resources as a whole. Instead, it identifies issues regarding known occurrences of rare features and potential effects to these rare features. To determine whether there are other natural resource concerns associated with the proposed project, please contact your DNR Regional Environmental Assessment Ecologist (contact information available at http://www.dnr.state.mn.us/eco/ereview/erp_regioncontacts.html). Please be aware that additional site assessments or review may be required.

Thank you for consulting us on this matter, and for your interest in preserving Minnesota's rare natural resources. An invoice will be mailed to you under separate cover.

Sincerely,

Lisa Joyal

Lisa Joyal
Endangered Species Review Coordinator

enc. Rare Features Database: Index Report
Rare Features Database: Detailed Report
Rare Features Database Reports: An Explanation of Fields
Map

Printed May 2014
Data valid for one year

**Minnesota Natural Heritage Information System**
**Index Report of records within 1 mile radius of:**
ERDB# 20140354 - Hwy 38 Corridor Management Plan
Multiple TRS
Itasca County

## Rare Features Database:

| Element Name and Occurrence Number | Federal Status | MN Status | Draft Status | SGCN Status | State Rank | Global Rank | Last Obs Date | EO ID # |
|---|---|---|---|---|---|---|---|---|
| **Vertebrate Animal** | | | | | | | | |
| Botaurus lentiginosus (American Bittern) #35<br>T59N R26W S17, T59N R26W S16; Itasca County | | Watchlist | | SGCN | S4B | G4 | 1991-05-27 | 12173 |
| Cygnus buccinator (Trumpeter Swan) #71<br>T60N R26W S4, T150N R27W S28, T150N R27W S22, T150N R27W S21, T [...]; Itasca County | | SPC | | SGCN | S3B,SNRN | G4 | 2000-08-15 | 33028 |
| Haliaeetus leucocephalus (Bald Eagle) #248<br>T59N R26W S32; Itasca County | | Watchlist | | SGCN | S3B,S3N | G5 | 2005-04-13 | 2209 |
| Haliaeetus leucocephalus (Bald Eagle) #433<br>T60N R26W S33, T60N R26W S32; Itasca County | | Watchlist | | SGCN | S3B,S3N | G5 | 2003 | 2388 |
| Haliaeetus leucocephalus (Bald Eagle) #449<br>T59N R26W S6, T59N R26W S7; Itasca County | | Watchlist | | SGCN | S3B,S3N | G5 | 2004 | 6268 |
| Haliaeetus leucocephalus (Bald Eagle) #681<br>T60N R26W S4, T60N R26W S5; Itasca County | | Watchlist | | SGCN | S3B,S3N | G5 | 2005-04-13 | 9153 |
| Haliaeetus leucocephalus (Bald Eagle) #707<br>T56N R25W S17; Itasca County | | Watchlist | | SGCN | S3B,S3N | G5 | 2005-04-21 | 9526 |
| Haliaeetus leucocephalus (Bald Eagle) #2490<br>T55N R25W S20, T55N R25W S30; Itasca County | | Watchlist | | SGCN | S3B,S3N | G5 | 2009-06-22 | 33133 |
| Hemidactylium scutatum (Four-toed Salamander) #2<br>T58N R26W S33; Itasca County | | SPC | | SGCN | S3 | G5 | 1999-05-03 | 22539 |
| Hemidactylium scutatum (Four-toed Salamander) #5<br>T58N R26W S33, T57N R26W S4; Itasca County | | SPC | | SGCN | S3 | G5 | 1999-05-04 | 25485 |
| Hemidactylium scutatum (Four-toed Salamander) #6<br>T57N R26W S2, T57N R26W S1; Itasca County | | SPC | | SGCN | S3 | G5 | 1999-05-07 | 25486 |
| Hemidactylium scutatum (Four-toed Salamander) #29<br>T60N R26W S33, T60N R26W S28, T60N R26W S32; Itasca County | | SPC | | SGCN | S3 | G5 | 2001-05-31 | 29422 |
| Ichthyomyzon fossor (Northern Brook Lamprey) #15<br>T61N R26W S27; Itasca County | | SPC | | SGCN | S3 | G4 | 1992 | 6371 |

## Rare Features Database:

| Element Name and Occurrence Number | Federal Status | MN Status | Draft Status | SGCN Status | State Rank | Global Rank | Last Obs Date | EO ID # |
|---|---|---|---|---|---|---|---|---|
| **Invertebrate Animal** | | | | | | | | |
| Lasmigona compressa (Creek Heelsplitter) #103<br>T60N R26W S16, T60N R26W S21; Itasca County | | SPC | | SGCN | S3 | G5 | 1999-08-23 | 27978 |
| Lasmigona compressa (Creek Heelsplitter) #330<br>T55N R25W S26, T55N R25W S21; Itasca County | | SPC | | SGCN | S3 | G5 | 2004-08-27 | 33800 |
| Lasmigona compressa (Creek Heelsplitter) #371<br>T61N R26W S27; Itasca County | | SPC | | SGCN | S3 | G5 | 2006-06-PRE | 34219 |
| Lasmigona costata (Fluted-shell) #127<br>T60N R26W S16, T60N R26W S21; Itasca County | | THR | | SGCN | S2 | G5 | 1999-08-23 | 27979 |
| Ligumia recta (Black Sandshell) #287<br>T61N R26W S27; Itasca County | | SPC | | SGCN | S3 | G4G5 | 1997-08-08 | 28695 |
| Ligumia recta (Black Sandshell) #419<br>T55N R25W S14, T55N R25W S26, T55N R25W S21; Itasca County | | SPC | | SGCN | S3 | G4G5 | 2007-09-(10-12) | 33865 |
| Ligumia recta (Black Sandshell) #522<br>T61N R26W S27; Itasca County | | SPC | | SGCN | S3 | G4G5 | 2006-06-PRE | 34249 |
| **Animal Assemblage** | | | | | | | | |
| Colonial Waterbird Nesting Area (Colonial Waterbird Nesting Site) #704<br>T60N R26W S18, T60N R26W S19; Itasca County | | N/A | | | SNR | GNR | 1987 | 8737 |
| **Vascular Plant** | | | | | | | | |
| Arethusa bulbosa (Dragon's-mouth) #76<br>T57N R25W S7, T57N R26W S12; Itasca County | | Watchlist | | | S4 | G4 | 1992 | 6129 |
| Botrychium campestre (Prairie Moonwort) #20<br>T56N R25W S33, T55N R25W S4; Itasca County | | SPC | | | S3 | G3G4 | 1998-06-03 | 23706 |
| Botrychium campestre (Prairie Moonwort) #31<br>T56N R25W S33; Itasca County | | SPC | | | S3 | G3G4 | 1999-05-26 | 28204 |

## Rare Features Database:

| Element Name and Occurrence Number | Federal Status | MN Status | Draft Status | SGCN Status | State Rank | Global Rank | Last Obs Date | EO ID # |
|---|---|---|---|---|---|---|---|---|
| **Vascular Plant** | | | | | | | | |
| Botrychium campestre (Prairie Moonwort) #32<br>T56N R25W S33, T55N R25W S4; Itasca County | | SPC | | | S3 | G3G4 | 1999-05-26 | 28203 |
| Botrychium campestre (Prairie Moonwort) #33<br>T56N R25W S33; Itasca County | | SPC | | | S3 | G3G4 | 1999-05-26 | 22793 |
| Botrychium matricariifolium (Matricary Grapefern) #63<br>T60N R26W S7; Itasca County | | Watchlist | | | SNR | G5 | 1994-06-08 | 19021 |
| Botrychium mormo (Goblin Fern) #88<br>T60N R26W S7; Itasca County | | THR | | | S2 | G3 | 1997-09-03 | 22273 |
| Ceratophyllum echinatum (Spiny Hornwort) #8<br>T59N R26W S34, T59N R26W S33; Itasca County | | Watchlist | | | SNR | G4? | 2001-08-09 | 29332 |
| Ceratophyllum echinatum (Spiny Hornwort) #15<br>T57N R26W S23; Itasca County | | Watchlist | | | SNR | G4? | 2002-07-17 | 30769 |
| Cypripedium arietinum (Ram's-head Lady's-slipper) #15<br>T59N R26W S33; Itasca County | | THR | | | S2 | G3 | 1985-06-12 | 4279 |
| Elatine triandra (Three Stamened Waterwort) #19<br>T57N R26W S24, T57N R26W S13; Itasca County | | SPC | | | S3 | G5 | 2000-08-01 | 29322 |
| Eleocharis flavescens var. olivacea (Olivaceous Spike-rush) #1<br>T56N R26W S1; Itasca County | | THR | | | S2 | G5 | 1977-07-20 | 4585 |
| Fimbristylis autumnalis (Autumn Fimbristylis) #1<br>T57N R26W S24; Itasca County | | SPC | | | S3 | G5 | 1977-07-28 | 14283 |
| Fimbristylis autumnalis (Autumn Fimbristylis) #2<br>T57N R25W S19, T57N R25W S30; Itasca County | | SPC | | | S3 | G5 | 1977-07-24 | 11113 |
| Littorella americana (American Shore-plantain) #47<br>T58N R26W S28; Itasca County | | SPC | | | S3 | G5 | 2002-07-18 | 30811 |
| Malaxis monophyllos var. brachypoda (White Adder's-mouth) #22<br>T58N R26W S4; Itasca County | | SPC | | | S3 | G4Q | 1994-05-20 | 19289 |

## Rare Features Database:

| Element Name and Occurrence Number | Federal Status | MN Status | Draft Status | SGCN Status | State Rank | Global Rank | Last Obs Date | EO ID # |
|---|---|---|---|---|---|---|---|---|
| **Vascular Plant** | | | | | | | | |
| Myriophyllum tenellum (Leafless Water Milfoil) #44<br>T58N R26W S9, T58N R26W S4, T58N R26W S3, T58N R26W S10; Itasca County | | Watchlist | | | SNR | G5 | 1994-05-08 | 18891 |
| Myriophyllum tenellum (Leafless Water Milfoil) #45<br>T57N R26W S13, T57N R26W S12; Itasca County | | Watchlist | | | SNR | G5 | 1994-05-08 | 18895 |
| Myriophyllum tenellum (Leafless Water Milfoil) #46<br>T58N R26W S33, T58N R26W S34; Itasca County | | Watchlist | | | SNR | G5 | 2002-07-18 | 18896 |
| Myriophyllum tenellum (Leafless Water Milfoil) #58<br>T57N R26W S13; Itasca County | | Watchlist | | | SNR | G5 | 1994-09-12 | 13879 |
| Myriophyllum tenellum (Leafless Water Milfoil) #115<br>T57N R26W S24; Itasca County | | Watchlist | | | SNR | G5 | 2000-08-01 | 27764 |
| Myriophyllum tenellum (Leafless Water Milfoil) #116<br>T57N R26W S11, T57N R26W S2, T57N R26W S1, T57N R26W S12; Itasca County | | Watchlist | | | SNR | G5 | 2000-08-01 | 27767 |
| Myriophyllum tenellum (Leafless Water Milfoil) #137<br>T60N R26W S29, T60N R26W S30; Itasca County | | Watchlist | | | SNR | G5 | 2002-07-18 | 10675 |
| Myriophyllum tenellum (Leafless Water Milfoil) #138<br>T58N R26W S26, T58N R26W S35, T58N R26W S34; Itasca County | | Watchlist | | | SNR | G5 | 2010-08-31 | 30848 |
| Myriophyllum tenellum (Leafless Water Milfoil) #145<br>T58N R26W S26; Itasca County | | Watchlist | | | SNR | G5 | 2002-07-23 | 30839 |
| Myriophyllum tenellum (Leafless Water Milfoil) #146<br>T57N R26W S3; Itasca County | | Watchlist | | | SNR | G5 | 2002-07-17 | 30810 |
| Myriophyllum tenellum (Leafless Water Milfoil) #150<br>T57N R25W S18, T57N R25W S7; Itasca County | | Watchlist | | | SNR | G5 | 2002-07-22 | 31037 |
| Najas gracillima (Thread-like Naiad) #30<br>T57N R26W S13; Itasca County | | SPC | | | S3 | G5? | 1994-09-12 | 19325 |
| Najas gracillima (Thread-like Naiad) #31<br>T58N R26W S27, T58N R26W S28; Itasca County | | SPC | | | S3 | G5? | 1994-09-18 | 19326 |

## Rare Features Database:

| Element Name and Occurrence Number | Federal Status | MN Status | Draft Status | SGCN Status | State Rank | Global Rank | Last Obs Date | EO ID # |
|---|---|---|---|---|---|---|---|---|
| **Vascular Plant** | | | | | | | | |
| Najas gracillima (Thread-like Naiad) #75<br>T58N R26W S9, T58N R26W S4, T58N R26W S3, T58N R26W S10; Itasca County | | SPC | | | S3 | G5? | 1997-09-24 | 2839 |
| Najas gracillima (Thread-like Naiad) #137<br>T57N R26W S11, T57N R26W S2; Itasca County | | SPC | | | S3 | G5? | 2000-08-01 | 27766 |
| Najas gracillima (Thread-like Naiad) #138<br>T57N R26W S24, T57N R26W S13; Itasca County | | SPC | | | S3 | G5? | 2000-08-01 | 27762 |
| Najas gracillima (Thread-like Naiad) #141<br>T58N R26W S3, T59N R26W S34, T59N R26W S35, T58N R26W S2; Itasca County | | SPC | | | S3 | G5? | 2001-08-08 | 29330 |
| Najas gracillima (Thread-like Naiad) #151<br>T58N R26W S26; Itasca County | | SPC | | | S3 | G5? | 2002-07-23 | 30837 |
| Najas gracillima (Thread-like Naiad) #152<br>T58N R26W S28; Itasca County | | SPC | | | S3 | G5? | 2002-07-18 | 30813 |
| Najas gracillima (Thread-like Naiad) #153<br>T57N R26W S3; Itasca County | | SPC | | | S3 | G5? | 2002-07-17 | 30808 |
| Najas gracillima (Thread-like Naiad) #154<br>T57N R26W S23; Itasca County | | SPC | | | S3 | G5? | 2002-07-17 | 30765 |
| Najas gracillima (Thread-like Naiad) #155<br>T57N R25W S18, T57N R25W S7; Itasca County | | SPC | | | S3 | G5? | 2002-07-22 | 30835 |
| Nymphaea leibergii (Small White Water-lily) #1<br>T56N R26W S1; Itasca County | | THR | | | S2 | G5 | 1977-07-21 | 5070 |
| Potamogeton vaseyi (Vasey's Pondweed) #105<br>T60N R26W S29, T60N R26W S30; Itasca County | | Watchlist | | | S3 | G4 | 2002-07-18 | 30809 |
| Potamogeton vaseyi (Vasey's Pondweed) #108<br>T58N R26W S28; Itasca County | | Watchlist | | | S3 | G4 | 2002-07-18 | 30832 |
| Potamogeton vaseyi (Vasey's Pondweed) #109<br>T57N R26W S23; Itasca County | | Watchlist | | | S3 | G4 | 2002-07-17 | 30772 |

## Rare Features Database:

| Element Name and Occurrence Number | Federal Status | MN Status | Draft Status | SGCN Status | State Rank | Global Rank | Last Obs Date | EO ID # |
|---|---|---|---|---|---|---|---|---|
| **Vascular Plant** | | | | | | | | |
| Rhynchospora fusca (Sooty-colored Beak-rush) #17<br>T60N R26W S5, T60N R26W S6; Itasca County | | Watchlist | | | S3 | G4G5 | 1994-05-23 | 19290 |
| Scirpus pedicellatus (Woolgrass) #49<br>T58N R26W S34; Itasca County | | Watchlist | | | SNR | G4 | 2010-08-31 | 36209 |
| Sparganium glomeratum (Clustered Bur-reed) #1<br>T57N R25W S19, T57N R25W S18; Itasca County | | Watchlist | | | S3 | G4? | 1988-09-02 | 5630 |
| Sparganium glomeratum (Clustered Bur-reed) #11<br>T57N R26W S14, T57N R26W S23, T57N R26W S24, T57N R26W S13; Itasca County | | Watchlist | | | S3 | G4? | 1994-07-20 | 19304 |
| Sparganium glomeratum (Clustered Bur-reed) #12<br>T57N R26W S14, T57N R26W S13; Itasca County | | Watchlist | | | S3 | G4? | 1994-07-20 | 19305 |
| Sparganium glomeratum (Clustered Bur-reed) #34<br>T60N R26W S29; Itasca County | | Watchlist | | | S3 | G4? | 2001-07-25 | 21651 |
| Sparganium glomeratum (Clustered Bur-reed) #58<br>T60N R26W S31, T60N R26W S29, T60N R26W S32, T60N R26W S30; Itasca County | | Watchlist | | | S3 | G4? | 1996-07-17 | 3576 |
| Sparganium glomeratum (Clustered Bur-reed) #142<br>T57N R26W S1; Itasca County | | Watchlist | | | S3 | G4? | 2006-06-29 | 34029 |
| Subularia aquatica ssp. americana (Awlwort) #14<br>T58N R26W S4, T58N R26W S9; Itasca County | | THR | | | S2 | G5T5 | 1994-09-18 | 19323 |
| Subularia aquatica ssp. americana (Awlwort) #18<br>T57N R26W S2; Itasca County | | THR | | | S2 | G5T5 | 2000-08-01 | 27765 |
| Torreyochloa pallida var. fernaldii (Pale Manna Grass) #33<br>T58N R26W S28; Itasca County | | SHL-SPC | | | S3 | G5T4Q | 2008-07-18 | 35277 |
| Utricularia gibba (Humped Bladderwort) #1<br>T57N R26W S36, T56N R26W S1, T56N R26W S2, T57N R26W S35; Itasca County | | Watchlist | | | S4 | G5 | 1976-07-20 | 5816 |
| Utricularia gibba (Humped Bladderwort) #33<br>T59N R26W S21, T59N R26W S22; Itasca County | | Watchlist | | | S4 | G5 | 2006-07-27 | 19296 |

## Rare Features Database:

| Element Name and Occurrence Number | | Federal Status | MN Status | Draft Status | SGCN Status | State Rank | Global Rank | Last Obs Date | EO ID # |
|---|---|---|---|---|---|---|---|---|---|
| **Vascular Plant** | | | | | | | | | |
| Utricularia gibba (Humped Bladderwort) #56<br>T60N R26W S5, T60N R26W S6; Itasca County | | | Watchlist | | | S4 | G5 | 1994-07-05 | 13877 |
| Utricularia gibba (Humped Bladderwort) #82<br>T59N R26W S26, T59N R26W S27; Itasca County | | | Watchlist | | | S4 | G5 | 2006-07-27 | 6134 |
| Utricularia gibba (Humped Bladderwort) #123<br>T57N R26W S24, T57N R26W S13; Itasca County | | | Watchlist | | | S4 | G5 | 2000-08-01 | 27763 |
| Utricularia gibba (Humped Bladderwort) #127<br>T57N R26W S11, T57N R26W S14; Itasca County | | | Watchlist | | | S4 | G5 | 2002-09-11 | 30877 |
| Utricularia gibba (Humped Bladderwort) #137<br>T59N R26W S34; Itasca County | | | Watchlist | | | S4 | G5 | 2001-08-09 | 29333 |
| Utricularia gibba (Humped Bladderwort) #138<br>T59N R26W S33; Itasca County | | | Watchlist | | | S4 | G5 | 2001-08-14 | 29334 |
| Utricularia gibba (Humped Bladderwort) #151<br>T57N R26W S23; Itasca County | | | Watchlist | | | S4 | G5 | 2002-07-17 | 30767 |
| Xyris montana (Montane Yellow-eyed Grass) #3<br>T57N R26W S36, T56N R26W S1, T56N R26W S2, T57N R26W S35; Itasca County | | | SPC | | | S3 | G4 | 1977-07-20 | 5974 |
| **Native Plant Community (This may not represent a complete list. Also see MCBS Native Plant Communities at http://deli.dnr.state.mn.us.)** | | | | | | | | | |
| Lowland White Cedar Forest (Northern) Type #726<br>T58N R26W S4; Itasca County | (NPC Code: WFn53b) | | N/A | | | S3 | GNR | 1991-05 | 12502 |
| Native Plant Community, Undetermined Class #1696<br>T57N R26W S22, T57N R26W S23; Itasca County | (NPC Code: ) | | N/A | | | SNR | GNR | 1977 | 8564 |
| Native Plant Community, Undetermined Class #1889<br>T59N R26W S9, T59N R26W S4, T59N R26W S3, T59N R26W S10; Itasca County | (NPC Code: ) | | N/A | | | SNR | GNR | 2001-PRE | 8917 |
| Northern Poor Fen Class #16<br>T57N R26W S26, T57N R26W S23, T57N R26W S24, T57N R26W S25; Itasca County | (NPC Code: APn91) | | N/A | | | SNR | GNR | 1949 | 1223 |

Printed May 2014
Data valid for one year

**Minnesota Natural Heritage Information System**
**Index Report of records within 1 mile radius of:**
ERDB# 20140354 - Hwy 38 Corridor Management Plan
Multiple TRS
Itasca County

## Rare Features Database:

| Element Name and Occurrence Number | | Federal Status | MN Status | Draft Status | SGCN Status | State Rank | Global Rank | Last Obs Date | EO ID # |
|---|---|---|---|---|---|---|---|---|---|
| **Native Plant Community (This may not represent a complete list. Also see MCBS Native Plant Communities at http://deli.dnr.state.mn.us.)** | | | | | | | | | |
| Northern Poor Fen Class #20<br>T57N R26W S36, T56N R26W S1, T56N R26W S2; Itasca County | (NPC Code: APn91) | | N/A | | | SNR | GNR | 1978 | 9575 |
| Sugar Maple - Basswood - (Bluebead Lily) Forest Type #1708<br>T57N R26W S26, T57N R26W S23; Itasca County | (NPC Code: MHn47a) | | N/A | | | S3 | GNR | 1977 | 8543 |

**Records Printed** = 90

Minnesota's endangered species law (*Minnesota Statutes*, section 84.0895) and associated rules (*Minnesota Rules*, part 6212.1800 to 6212.2300 and 6134) prohibit the taking of threatened or endangered species without a permit. For plants, taking includes digging or destroying. For animals, taking includes pursuing, capturing, or killing.

## An Explanation of Fields:

**Element Name and Occurrence Number:** The Element is the name of the rare feature. For plant and animal species records, this field holds the scientific name followed by the common name in parentheses; for all other elements it is solely the element name. Native plant community names correspond to Minnesota's Native Plant Community Classification (Version 2.0). The Occurrence Number, in combination with the Element Name, uniquely identifies each record.

**Federal Status:** The status of the species under the U.S. Endangered Species Act: LE = endangered; LT = threatened; LE,LT = listed endangered in part of its range, listed threatened in another part of its range; LT,PDL = listed threatened, proposed for delisting; C = candidate for listing. If null or 'No Status,' the species has no federal status.

**MN Status:** The legal status of the plant or animal species under the Minnesota Endangered Species Law: END = endangered; THR = threatened; SPC = special concern; NON = tracked, but no legal status. Native plant communities, geological features, and colonial waterbird nesting sites do not have any legal status under the Endangered Species Law and are represented by a N/A.

**Draft Status:** Proposed change to the legal status of the plant or animal species under the Minnesota Endangered Species Law: END = endangered; THR = threatened; SPC = special concern; Watchlist = tracked, but no legal status.

**SGCN Status:** SGCN = The species is a Species in Greatest Conservation Need as identified in Minnesota's State Wildlife Action Plan (http://www.dnr.state.mn.us/cwcs/index.html). This designation applies to animals only.

**State Rank:** Rank that best characterizes the relative rarity or endangerment of the taxon or plant community in Minnesota. The ranks do not represent a legal status. They are used by the Minnesota Department of Natural Resources to set priorities for research, inventory and conservation planning. The state ranks are updated as inventory information becomes available. S1 = Critically imperiled in Minnesota because of extreme rarity or because of some factor(s) making it especially vulnerable to extirpation from the state. S2 = Imperiled in Minnesota because of rarity or because of some factor(s) making it very vulnerable to extirpation from the state. S3 = Vulnerable in Minnesota either because rare or uncommon, or found in a restricted range, or because of other factors making it vulnerable to extirpation. S4 = Apparently secure in Minnesota, usually widespread. S5 = Demonstrably secure in Minnesota, essentially ineradicable under present conditions. SH = Of historical occurrence in the state, perhaps having not been verified in the past 20 years, but suspected to be still extant. An element would become SH without the 20-year delay if the only known occurrences in the state were destroyed or if it had been extensively and unsuccessfully looked for. SNR = Rank not yet assessed. SU = Unable to rank. SX = Presumed extinct in Minnesota. SNA = Rank not applicable. S#S# = Range Rank: a numeric range rank (e.g., S2S3) is used to indicate the range of uncertainty about the exact status of the element. S#B, S#N = Used only for migratory animals, whereby B refers to the breeding population of the element in Minnesota and N refers to the non-breeding population of the element in Minnesota.

**Global Rank:** The global (i.e., range-wide) assessment of the relative rarity or imperilment of the species or community. Ranges from G1 (critically imperiled due to extreme rarity on a world-wide basis) to G5 (demonstrably secure, though perhaps rare in parts of its range). Global ranks are determined by NatureServe, an international network of natural heritage programs and conservation data centers.

**Last Observed Date:** Date that the Element Occurrence was last observed to be extant at the site in format YYY-MM-DD.

**EO ID #:** Unique identifier for each Element Occurrence record.

**Element Occurrence**: An area of land and/or water in which an Element (i.e., a rare species or community) is, or was, present, and which has practical conservation value for the Element as evidenced by potential continued (or historical) presence and/or regular recurrence at a given location. Specifications for each species determine whether multiple observations should be considered 1 Element Occurrence or 2, based on minimum separation distance and barriers to movement.

# C. Itasca County Highway 38 Sign Ordinance





Edge of the Wilderness

*A National Scenic Byway*

AMERICA'S BYWAYS

# Minnesota Trunk Highway 38 (Edge of the Wilderness National Scenic Byway) Sign Ordinance

**Effective Date: 7/1/2009**

Dep _____ BY _____

ITASCA COUNTY RECORDER
LINDA NIELSEN

REC FEES $0.00
PAGES 18

FILE #
06/18/2009 01:00:00PM
RECORDED ON
CERTIFIED, FILED, AND

OFFICE OF THE COUNTY RECORDER
ITASCA COUNTY, MINNESOTA





Zoning

18

**Minnesota Trunk Highway 38**
**(Edge of the Wilderness National Scenic Byway)**
**Sign Ordinance**

## SECTION 1. STATEMENT OF PURPOSE

Minnesota State Highway 38 travels 47 miles through some of the most scenic areas in northern Minnesota. Each year thousands of tourists, recreationists, commuters, local residents and commercial truck haulers make use of this highway for their diverse needs.

The 22-mile segment that is within the Chippewa National Forest is a designated National Forest Scenic Byway. The entire 47 miles from Grand Rapids to Effie was designated as one of the first Minnesota State Scenic Byways in September 1994. In 1996 this same 47-mile segment became one of the first National Scenic Byways designated in the United States. It qualified for this status by demonstrating five of the six intrinsic qualities needed—Cultural, Historic, Natural, Recreational and Scenic. The Corridor offers an abundance of scenic, recreational, historic and economic opportunities for residents and visitors alike.

This Ordinance is established to protect and ensure the scenic and natural qualities and character of the Corridor for future generations of residents and visitors of the Corridor and to enhance the goals of the Corridor Management Plan dated June 1995, namely (1) Enhancement of transportation safety and efficiency; (2) Enhancement of the scenic and recreational experience of all users of the Corridor; (3) Promote economic development and tourism; (4) Provide for marketing, promotion and interpretation of the unique attributes and opportunities of the Corridor; and (5) To conserve these resources of the scenic Corridor as a sustainable balance of economic development and tourism.

## SECTION 2. JURISDICTION

A. Itasca County. This Ordinance shall apply to the Corridor's 47 miles along Trunk Highway 38 from Grand Rapids to Effie, excluding the municipalities of Grand Rapids, Bigfork and Effie. No lands owned or leased by the federal or state government shall be subject to the official controls of this Ordinance.
B. State of Minnesota. Pursuant to Minn. Stat. 160.292 – 160.297, the Minnesota Department of Transportation may also require a sign permit. The regional contact is the District Traffic Engineer in Duluth.

## SECTION 3. REGULATORY PROVISION

This Ordinance is hereby established in accordance with Minnesota Statute Chapter 173 - Advertising Devices, Minnesota Statute Chapter 394.21 etc. seq. - Planning, Development & Zoning, and Minnesota Statute 375.51 – Ordinances; Enactment, Publication.

## SECTION 4. DEFINITIONS: As used in the Edge of the Wilderness National Scenic Byway Sign Ordinance, the following terms shall have the meanings given them:

### A. ABANDONED SIGN

A sign which no longer identifies a bona fide business, lessor, service, owner, product or activity, time of event passed, and/or for which no legal owner can be found. The definition shall also include any sign structure which no longer supports the sign for which it was designed.

**B. CORRIDOR**

Except as provided otherwise in this Ordinance, "corridor" refers to all land adjacent to each side of Minnesota Trunk Highway 38, and which land extends a horizontal distance of 600 feet from each side of the centerline of Trunk Highway 38 from beginning to end, Grand Rapids to Effie, a distance of 47 miles.

**C. DESIGN REVIEW COMMITTEE**

The Design Review Committee shall consist of: Itasca County, Environmental Services Administrator or his/her authorized designee; County Planning Commission member; Edge of the Wilderness Community Coordinator; Highway 38 Leadership Board Director.

**D. DIRECTIONAL SIGN**

A sign erected and maintained by the Minnesota Department of Transportation within the public right-of-way, to indicate to the traveling public the route and distance to public accommodations, facilities, commercial services and points of scenic, historical, cultural, recreational, educational or religious interest. Such signs shall conform to all applicable state regulations regarding the placement of signs in public rights-of-way.

**E. EARTH TONE**

Colors that are made as compatible as practicable with the natural area at the site of the proposed sign as design limitations allow with regard to materials used and color.

**F. ERECT**

"Erect" means to construct, build, raise, assemble, place, affix, attach, create, paint, draw or in any other way to bring into being or establish but it shall not include any of the foregoing activities when performed as an incident to the change of advertising message or customary maintenance of an outdoor advertising structure or device (Minn. Stat. 173.02, Sub. 11).

**G. FLAG**

Any fabric, banner or bunting containing distinctive colors, patterns or symbols, used as a symbol of a government, political subdivision or other entity.

**H. FREE-STANDING SIGN**

A sign self supported by a pole or post and not attached to any building, wall or fence, but in a fixed location. Types of freestanding signs include: post and arm; monument; and pole signs.

**I. MONUMENT SIGN**

An outside sign identifying a development, businesses, services or homes made of a solid base of brick, masonry or stone, the bottom of which is attached directly and permanently to the ground and physically separated from any other structure. A monument sign is lower in height than in length.

**J. NON-COMMERCIAL OPINION SIGN**

A sign which does not advertise products, goods, businesses or services and expresses an opinion or other point of view.

**K. NON-CONFORMING SIGN**

Any legal sign already in existence or authorized within the Corridor before the adoption of official controls or amendments thereto that would not have been permitted to become established under the terms of the official controls as now written if the official controls had been in effect prior to the date it was established or authorized.

**L. OFF-PREMISE LOCATIONAL SIGN**

A sign that advertises a tourist-oriented business that provides scenic, historic, cultural, educational, religious and or recreational interest and direction to that business that is not on the same premises as the said sign

**M. OFF-PREMISE SIGN**

A sign that advertises a business, goods, person, activity or service not sold or conducted on the same premises that the sign occupies or is proposed to occupy.

**N. ON-PREMISE SIGN**

A sign advertising a business, goods, person, activity or service sold or conducted on the premises where the sign is located.

**O. PARCEL**

"Parcel" means the area of land necessary for a use to be in compliance with the applicable zoning district set forth in the Itasca County Zoning Ordinance. The terms 'lot' or 'tract' may also be referring to a parcel.

**P. POLE SIGN**

A freestanding sign with the base of the actual sign area at least five (5) feet above the ground supported by vertical pole(s).

**Q. POLITICAL SIGN**

Any sign that advertises a candidate or an issue that is to be voted on in a local, state or federal election process.

**R. PORTABLE SIGN**

A sign not designed or intended to be permanently affixed into the ground or to a structure.

**S. POST AND ARM SIGN**

A freestanding sign comprised of a vertical post to which a perpendicular arm is attached and from which a sign hangs.

**T. PREMISES**

The contiguous land in the same ownership or control that is not divided by a street.

**U. PROJECTING SIGN**

A sign attached to a building wall or structure that projects horizontally more than twelve (12) inches from the face of the wall.

**V. REAL ESTATE SIGN**

A sign advertising the real estate upon which the sign is located as being for rent, lease or sale.

**W. SAFETY CONTROL SIGN**

Warning signs, notices or markers which are customarily erected and maintained by publicly or privately owned public utilities, as essential to their operations.

**X. SIGN**

A sign is an object, device, display, structure or part thereof, displayed outdoors or visible from a public way, which is used to advertise, identify, display, direct or attract attention to an object, person, institution, organization, business, product, service, event or location; or to express a point of view, by any means including words, letters, figures, design, symbols, advertising flags, fixtures, colors, illuminations or projected images.

**Y. SIGN AREA**

The facing of a sign, including copy, insignia, background, structural supports, border and trim. The measurement shall be determined by the smallest rectangle inclusive of all letters and images. The structural supports shall be excluded if they do not constitute a major part of the sign or if the structure is not used to identify or attract attention to the business or product.

**Z. SEASONAL SIGN**

A sole sign for a business, such as a farm or produce stand sign, displayed at least sixty (60) days but no more than one hundred and twenty (120) days each year. Such a sign shall be governed by the same regulations as all other permitted, non-temporary signs.

**AA. SPECIFIC SERVICE SIGN**

A sign erected and maintained by the Minnesota Department of Transportation for restaurants, rural agricultural or tourist-oriented businesses, and places of worship, gasoline service stations or other retail motor fuel businesses, motels, resorts and recreational camping areas located within ten (10) miles of the signed intersection or interchange.

**BB. SPOTLIGHT OR FLOODLIGHT**

Any lamp, over 150 watts, that incorporates a reflector or a refractor to concentrate the light output into a directed beam in a particular direction.

**CC. TEMPORARY SIGN**

A promotional sale sign, fund-raising sign, garage sale sign, or similar sign displayed no more than fourteen (14) days in any six (6) month period.

**DD. TRAFFIC CONTROL SIGN**

Signs and notices erected and maintained by public officers or public agencies within their territorial jurisdiction and pursuant to and in accordance with direction or authorization contained in federal or state law for the purposes of carrying out an official duty or responsibility.

**EE. WALL SIGN**

A sign mounted parallel to the exterior surface of a building advertising a service, goods or activity conducted within the said building. A free standing canopy would be considered a building.

**FF. WINDOW SIGN**

Any sign, picture, symbol or combination thereof, designed to communicate information about an activity, business, commodity, event, sale or service, which is inside a window or upon the windowpanes or glass and is visible from the exterior of the window.

**SECTION 5. GENERAL - VIOLATION IS A CRIME**

A. No person shall erect, construct, paint, alter, relocate, reconstruct, display or maintain or cause to be erected, constructed, displayed or maintained within the Corridor any sign except in compliance with the terms and provisions of this Ordinance.

B. VIOLATIONS: It is declared unlawful for any person, firm, corporation or contractor of such to violate any of the terms and provisions of Minnesota State Statutes 394.21 to 394.27 or any of the provisions of this Ordinance. Violation thereof shall be a misdemeanor. Each day that a violation continues to exist shall constitute a separate offense. All fines for violations shall be paid to the County and shall be credited to the general revenue fund.

**SECTION 6. PERMIT REQUIRED**

A. SIGNS REQUIRING PERMIT: On-premise signs may be erected within the Corridor provided that a permit is obtained prior to erection, and provided further that the specific and general design and construction standards are complied with, and provided that the proposed sign complies with any applicable state law or rule and the necessary state permit for the sign is obtained.

B. There shall be a maximum of two signs, excluding wall signs, allowed on one parcel. All applicable standards and requirements in this Ordinance shall be adhered to.

C. SPECIFIC STANDARDS: No on-premise sign shall be erected in the Corridor except as follows.

a. MONUMENT SIGNS shall not exceed forty (40) square feet in sign area, excluding the base. The height shall not exceed eight (8) feet from the ground which (includes the base) to the top of the sign. The length shall not exceed a maximum of twelve (12) feet from end to end. The sign shall be set back ten (10) feet or more from the nearest highway/road right-of-way and ten (10) feet or more from adjacent property lines.

b. POST AND ARM SIGNS shall not exceed twenty (20) square feet in sign area, with a height maximum of eight (8) feet from the ground to the top of the sign. The sign shall be set back ten (10) feet or more from the nearest highway/road right-of-way and ten (10) feet or more from adjacent property lines.

c. POLE SIGNS shall not exceed forty (40) square feet in sign area with a height maximum of eighteen (18) feet from the ground (including the base) to the top

of the sign. The sign shall be set back ten (10) feet or more from the nearest highway/road right-of-way and ten (10) feet or more from adjacent property lines.

d. PROJECTING SIGNS shall not exceed ten (10) square feet in sign area; maximum projection of three (3) feet from the structure face; minimum clearance from the ground eight (8) feet and maximum clearance ten (10) feet. The sign shall be set back ten (10) feet or more from the nearest highway/road right-of-way and ten (10) feet or more from adjacent property lines.

D. GENERAL DESIGN AND CONSTRUCTION STANDARDS: All signs for which a permit is required shall be designed, constructed and maintained in accordance with the following standards:

1. There shall only be one sign area per set of posts, base or poles.
2. All signs shall be constructed of permanent materials and shall be permanently attached to the ground, a building or another structure by direct attachment to a rigid wall, frame or structure.
3. All signs shall be designed and constructed in accordance with the Edge of the Wilderness National Scenic Byway theme of a natural appearance. Examples of this theme can be seen in the design of the Edge of the Wilderness Community signs in Marcell, Bigfork and Effie.
4. Color: All signs colors shall be consistent with earth tones as defined in this Ordinance.
5. Materials: All sign materials shall consist of exterior grade wood such as cedar, redwood or equivalent and/or a synthetic material that gives the appearance of natural wood or rock. If plywood is to be used, both sides at a minimum must be made of medium-density overlay (MDO) board and have exceptionally smooth and weather resistant surfaces.
6. Base/Posts: All signs with posts shall use natural log or milled (treated) wood timbers and/or a synthetic material that gives the appearance of natural wood or rock. If metal posts are needed the metal shall be entirely encased in natural wood or stone masonry. Stone masonry is also allowed as a base material if used within the maximum height of a sign.
7. Reader Boards/Marquis: Metal and/or high density polyurethane plastic tracks and letters are allowed provided the reader board itself meets the material guidelines. The background, of replaceable letters, must be clear plastic and the colored letters must be approved by the Design Review Committee.
8. Illumination
   a. Only white light may be used to illuminate a sign. Neon signs, floodlights, and spotlights are prohibited.
   b. The lighting sources from any sign shall not cause up-light, spill light, or glare above, below, or alongside the sign.
   e. Exposed lighting sources such as bulbs, tubes, and the like are prohibited. All lighting sources shall be shielded from view from motorists by shrubbery or some other permitted material. Exception: #9 below. All lighting sources shall be designed with sharp cut-off capability so as to minimize up-light, spill light, and glare.
9. Mounted white lighting sources, on top of a sign, shall be allowed if the light fixtures are earth tone color, the light is shielded to minimize spill light and glare, and the maximum wattage shall not exceed 150 watts.

10. All signs shall be maintained in good structural condition.

**SECTION 7. PROHIBITED SIGNS**

Except for signs authorized under Section 6 of this Ordinance or exempt from regulation pursuant to Section 8 of this Ordinance all signs are prohibited within the Corridor. Prohibited signs include, but are not limited to:

A. Any sign attached to any tree, utility pole or painted upon or otherwise directly affixed to any rock, ledge or other natural feature.

B. Any sign:
   1. Erected in the public right-of-way, except for those placed by an authorized governmental agency;
   2. That violates Minnesota State Statute 173.15 as amended, or any other state or federal law or regulation;
   3. Which is an outdoor sign that advertises, identifies or pertains to any activity that has not been in existence for a period of 30 days from the date the activity ceased to exist. This provision does not apply to seasonal activities during the periods in which such businesses are closed;
   4. That employ neon, mercury vapor, low pressure and high-pressure sodium and metal halide lighting;
   5. With visible moving, revolving or rotating parts or visible mechanical movement of any description or other apparent visible movement achieved by electrical, electronic or mechanical means;
   6. With optical illusion of movement by means of a design that presents a pattern capable of giving the illusion of motion or changing of copy;
   7. With illuminations that flash, blink, flicker or vary in intensity or color;
   8. That are commonly referred to as wind signs, consisting of one or more banners, flags, pennants, ribbons, spinners, streamers, captive balloons or other objects or material fastened in such a manner as to move upon being subjected to pressure by wind;
   9. That are erected, painted or displayed on a vehicle not regularly used in the conduct of the business advertised on the vehicle;
   10. With plastic panel rear lighting;
   11. Posted or painted on roofs, dormers and balconies;
   12. Portable or fixed search lights and laser / fiber optic projection systems;
   13. Other portable signs;
   14. Off-premise signs;
   15. Off –premise locational signs, and
   16. Abandoned signs.

## SECTION 8. EXEMPT SIGNS

The following signs do not require permits or fee payment but must meet other requirements of the Ordinance and Minnesota Department of Transportation regulations as required:

A. Traffic control signs;
B. House addresses, family name signs, decorative flags, no trespassing and similar signs;
C. Signs on operable vehicles regularly and customarily used to transport persons or property for the business;
D. Specific service signs;
E. Political signs;
F. The flags of any nation, state, town, military or service organization;
G. Temporary signs;
H. Safety control signs;
I. Wall signs;
J. Window signs;
K. Non-commercial opinion signs; and
L. Real Estate signs.

## SECTION 9. NON-CONFORMING SIGNS

A. Damage or Destruction of Sign: A non-conforming sign shall be removed if the structure or use to which it is accessory is damaged or destroyed to the extent of 50 percent or more of the principal structure's appraised value.
B. Change of Use: Whenever a land use changes, any previously conforming sign or signs which become non-conforming because of the change in land use must be modified so as to be in full compliance with these sign regulations.
C. Maintenance: Signs shall be maintained in a safe and secure condition. If the Environmental Services Administrator is of the opinion that a sign is not secure, safe or in good state of repair, written notice of this fact shall be given to the person responsible for the maintenance of the sign. If the defect in the sign is not corrected within thirty (30) days, the Administrator may revoke the sign permit, thus placing the sign owner in violation of the Ordinance.
D. Lighting: Only white light may be used to illuminate a sign. Neon signs, floodlights and spot lights are prohibited. The lighting sources from any non-conforming sign shall not cause up-light, spill light or glare above, below or alongside the sign. Exposed lighting sources such as bulbs, tubes and the like are prohibited. All lighting sources shall be shielded from view from motorists by shrubbery or some other permitted material. All lighting sources shall be designed with sharp cut-off capability so as to minimize up-light, spill light and glare.
E. Any lawfully existing nonconforming sign cannot be enlarged, redesigned or altered in any way including the repainting in a different color, except to conform to the requirements of this bylaw.
F. Replacement: Any sign replacing a non-conforming sign shall conform to the provisions of this Ordinance, and the non-conforming signs shall no longer be displayed.
G. A nonconforming sign shall be removed if it is discontinued for a period of more than one year. Any subsequent use or occupancy of the land shall be a conforming use or occupancy.

**SECTION 10. SEVERABILITY**

Should any Section or provision of this Ordinance be declared by the courts to be unconstitutional or invalid, such decision shall not affect the validity of the Ordinance as a whole or any part thereof other than the part so declared to be unconstitutional or invalid.

**SECTION 11. ADMINISTRATION AND ENFORCEMENT**

A. Enforcement Officer: All administration and enforcement of this Ordinance shall be primarily implemented by the Itasca County Environmental Services Administrator or his/her authorized agent. Anyone who wishes to report a sign that may be in violation of this Ordinance should do so to the Environmental Services Administrator.

B. Permit Procedure: All signs requiring a permit shall require a sign permit prior to being erected, constructed, reconstructed, moved, altered, placed or repaired. Sign permits shall be issued by the Itasca County Environmental Services Department.

C. Permit Application: Application for a sign permit shall be made to the Itasca County Environmental Services Administrator on a form prescribed by that officer and shall be accompanied with a legal description of the sign location and a detailed design (including a proportional sketch including labeled dimensions) of the proposed sign including; the shape, size, materials, and color of the sign. The permit application will be reviewed by the Design Review Committee using the general design and construction standards to evaluate the appropriateness of the sign and its design to the character and theme of the Edge of the Wilderness National Scenic Byway. The Design Review Committee and the Highway 38 Leadership Board shall make recommendations on the permit application to the Environmental Services Administrator.

D. Permit Fees: Each application for a sign permit shall be accompanied by a thirty dollar ($30.00) fee.

E. Permit Issuance/Denial Action: Within thirty (30) working days of the submission of a complete application for a sign permit, the Environmental Services Administrator shall either:

   1. Issue the sign permit, if the sign(s) that is the subject of the application conforms in every respect with the requirement of this Ordinance; or
   2. Deny the sign permit if the sign(s) that is subject of the application fails in any way to conform to the requirements of this Ordinance. In case of a rejection, the Environmental Services Administrator shall specify in the rejection the section or sections of the Ordinance or applicable plan with which the sign(s) is inconsistent.

F. Inspection Upon Completion: Any person installing, structurally altering or relocating a sign for which a permit has been issued shall notify the Environmental Services Administrator upon completion of the work. The Environmental Services Administrator shall then conduct an inspection within seven (7) working days. If the construction is complete and in full compliance with this Ordinance, the Environmental Services Administrator shall affix to the premises a permanent symbol identifying the sign(s) and the applicable permit by number or other reference. If the construction is substantially complete but not in full compliance with this Ordinance, the Environmental Services Administrator shall give the owner or applicant notice of the deficiencies and shall allow an additional thirty (30) days from the date of inspection for the deficiencies to be corrected. If the deficiencies are not corrected by such date, the permit shall lapse. If the construction is then complete, the Environmental Services Administrator shall affix to the premises the permanent symbol described above.

G. Lapses of Sign Permit: A sign permit shall lapse if the business license for the premises lapses, is revoked, or is not renewed. A sign permit shall lapse if the business activity on the premises is discontinued for a period of one hundred eighty (180) days or more. A sign that was constructed or maintained in conformance with a permit under this Ordinance, but for which the permit has lapsed, shall be in violation of the Ordinance.

H. Assignment of the Sign Permit: A current and valid sign permit shall be freely assignable to a successor as owner of the property or holder of a business license for the same premises, subject of to filing such application as the Environmental Services Administrator may require and paying any applicable fee. The assignment shall be accomplished by filing and shall not require approval.

I. Appeal Procedure: Any person applying for a sign permit who is denied a permit or disagrees with any ruling by the Environmental Services Administrator may appeal to the Itasca County Planning Commission / Board of Adjustment. The notice of appeal shall be filed with the Itasca County Environmental Services Department, Itasca County Courthouse, 123 NE Fourth Street, Grand Rapids, MN 55744 not later than thirty (30) days from the date of the denial or other adverse determination. The appeal, if timely, shall be governed by the procedures and standards set forth in Minnesota State Statute 394.27 Subd. 6. In the absence of a timely appeal, the Environmental Services Administrator's determination shall be final.

J. The Planning Commission / Board of Adjustment shall have the authority to order the issuance of variances, hear and decide appeals from and review any order, requirement, decision, or determination made by any administrative official charged with enforcing this Ordinance. Such appeal may be taken by any person aggrieved or by any officer, department, board or bureau of a town, municipality, county or state. (Minnesota State Statues 394.27 Subd. 6). Applications for variances and other appeals shall be made, filed, heard, and determined in accordance with the standards and procedures set forth in Article 19 as amended, of the Itasca County Zoning Ordinance.

K. All decisions by the board of adjustment in granting variances or in hearing appeals from any administrative order, requirement, decision or determination shall be final except that any aggrieved person or persons, or any department, board or commission of the jurisdiction or of the state shall have the right to appeal within 30 days, after receipt of notice of the decision, to the district court in the county in which the land is located on questions of law and fact. (Minnesota State Statues 394.27 Subd. 9)

**SECTION 12. EFFECTIVE DATE OF ORIGINAL MN.TH#38 SIGN ORDINANCE:**

A public hearing was held by the Itasca County Board of Commissioners on July 9, 2002, relative to adopting this Sign Ordinance. Notice of the public hearing was duly published in the official newspaper of the County on May 22, 2002. After said hearing, the County Board adopted the ordinance effective upon the publication of the ordinance. Publication of the adopted ordinance was made in the official newspaper of the County on July 28, 2002. Filed September 5, 2002 as Document #544978.

**AMENDMENTS**

Effective – July 15, 2006

Updating the official titles and department (Environmental Services Administrator/Department); modifying the definitions, requirements, illumination and materials for a Monument Sign, Off Premise Location Sign, and Wall Sign; adding a definition of parcel and spotlight or floodlight; limiting the number of signs on a parcel and per business; amending the construction standard to have one sign per set of posts/poles; use of synthetic materials; mounted white lighting sources; and exempt the real estate sign from being a temporary sign.

Effective – July 1, 2009

Deletion of the off premise locational signs in Sections: 4L, 6A,Cl and 2 a, b; 7B as Federal regulations prohibit new billboards along the state scenic byways. Added Section 2B. that references State of Minnesota jurisdiction.

## SIGNATURE PAGE

## EFFECTIVE DATE OF CURRENT AMENDMENTS: July 1, 2009

A public hearing was held by the Itasca County Board of Commissioners on May 26, 2009 relative to amending this Sign Ordinance. Notice of the public hearing was duly published in the official newspaper of the County on May 4, 2009. After said hearing, the County Board through Resolution #05-09-03 adopted and ordained the amendments to the Ordinance that pertained to deletion of the reference/s to Off-premise locational signs in Sections 4L, 6A,Cl and C2a,b and 7B as Federal regulations prohibit new billboards along the state scenic byways; Added Section 2B. that references the State of Minnesota jurisdiction. The effective date shall be July 1, 2009. Publication of the summary was made in the official newspaper of the County on June 10, 2009.

Attested: Karen Burthwick

Karen Burthwick, Chairperson, Itasca County Board

Irene C. Koski, Clerk to Itasca County Board of Commissioners

Certified as a complete and accurate copy of the Minnesota Trunk Highway 38 Sign Ordinance of Itasca County, Minnesota.

Jeffrey Walker, Itasca County Auditor/Treasurer

I hereby certify that the within instrument was filed in this office for record as Document Number A0006343O5 on this 18th day of June 2009 at 1 o'clock PM.

Linda Nielsen, Itasca County Recorder

RESOLUTION
OF THE
COUNTY BOARD OF COMMISSIONERS
ITASCA COUNTY, MINNESOTA

Adopted May 26, 2009

Commissioner Eichorn moved the adoption of the following resolution:

Resolution No. 05-09-03 (Page 1 of 2)

RE: ADOPTION OF THE AMENDMENTS TO THE EDGE OF THE WILDERNESS NATIONAL SCENIC BYWAY TRUNK HIGHWAY #38 SIGN ORDINANCE - DRAFT DATED 4/8/09

**WHEREAS**, Minnesota State Highway 38 travels 47 miles through some of the most scenic areas in Itasca County and northern Minnesota including a 22-mile segment within the Chippewa National Forest that is a designated National Forest Scenic Byway, and

**WHEREAS**, this segment qualified for National Scenic Byway status by demonstrating five of the six intrinsic qualities needed, Cultural, Historic, Natural, Recreational and Scenic; and

**WHEREAS**, a Corridor Management Plan was developed and adopted by the Minnesota Department of Transportation, Minnesota Department of Natural Resource, United States Forest Service and the Highway 38 Leadership Board, and

**WHEREAS**, the Edge of the Wilderness National Scenic Byway Trunk Highway #38 Sign Ordinance was developed to restrict and regulate the use of signs within the corridor to advance and maintain the goals of the Corridor Management Plan, and to further maintain the purpose and objectives of the Itasca County Comprehensive Plan and parts thereof, and

**WHEREAS**, the Edge of the Wilderness National Scenic Byway Trunk Highway #38 Sign Ordinance was originally adopted by the County Board on 7/9/02, with the effective date of 7/28/02, and

**WHEREAS**, the proposed amendments to this Ordinance pertain to: Deletion of the off premise locational signs in Sections: 4L, 6A, C1 and 2 a, b; 7B as Federal regulations prohibit new billboards along the state scenic byways; added Section 2B that references State of Minnesota jurisdiction, and

**WHEREAS**, the Transportation Goal set forth in the Comprehensive Management Plan supports improvements and recommendations in the Highway 38 Corridor Plan, and

**WHEREAS**, Minn. Stat. 173.185 Subd. 1 and 2 authorizes the Commissioner of Transportation to comply with federal laws and regulations relating to billboard control on state scenic byways, and

**WHEREAS,** notice was sent to the applicable Townships, Municipalities, Minnesota Department of Transportation, TH#38 Leadership Board and Department Managers on March 2, 2009 and April 30, 2009, and

**WHEREAS,** notice of the Planning Commission/BoA and County Board public hearings were published in the official newspapers in accordance with Minn. Stat. 375.51 and Minn. Stat. 394.21, and

**WHEREAS,** the Itasca County Planning Commission/BoA held their public hearing on April 8, 2009 and unanimously recommended approval to the County Board, and

**WHEREAS,** the Itasca County Board of Commissioner held their public hearing on May 26, 2009, and

**NOW, THEREFORE, BE IT RESOLVED** that the Itasca County Board of Commissioners, through this resolution, adopts and ordains the amendments to the Edge of the Wilderness National Scenic Byway Trunk Highway 38 Sign Ordinance set forth in the Draft dated 4/8/09 as recommended by the Planning Commission/BoA; and

**NOW, THEREFORE, BE IT FURTHER RESOLVED** that the summary be published in the official newspaper in the manner prescribed by law, and that these amendments shall take effect on 7/1/09.

**Commissioner Mandich seconded the motion for the adoption of the resolution and it was declared adopted upon the following vote:**

| | | | |
|---|---|---|---|
| **Yeas __5__** | **Nays __0__** | **District #1 __Y__** | **District #2 __Y__** |
| **Other __N/A__** | | **District #3 __Y__** | **District #4 __Y__** |
| | | **District #5 __Y__** | |

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**STATE OF MINNESOTA**
**Office of County Coordinator**
**ss. County of Itasca**

**I, IRENE C. KOSKI, Coordinator of County of Itasca, do hereby certify that I have compared the foregoing with the original resolution filed in my office on the 26th day of May A.D. 2009, and that the same is a true and correct copy of the whole thereof.**

**WITNESS MY HAND AND SEAL OF OFFICE at Grand Rapids, Minnesota, this 26th day of May, A.D. 2009.**

Irene C. Koski
**Coordinator**

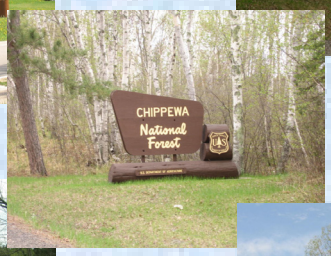
**By** _____ **Deputy**

# D. Minnesota TH 38 Edge of the Wilderness National Scenic Byway Vegetation Management Resource Guide

Karen Oothoudt Photography

A National Scenic Byway

AMERICA'S BYWAYS





# Minnesota TH 38
# Edge of the Wilderness National Scenic Byway
# Vegetation Management Resource Guide

## July, 2009




**Prepared by:**
**Arrowhead Regional Development Commission**
**Regional Planning Division**

# Minnesota TH 38 Edge of the Wilderness National Scenic Byway
# Vegetation Management Resource Guide

Prepared for the
Hwy. 38 Leadership Board and
Edge of the Wilderness National Scenic Byway

Prepared by the
Arrowhead Regional Development Commission
July, 2009


**The TH 38 Vegetation Management Resource Guide was developed with the assistance of the following organizations and agencies, which contributed information and commented on the final draft. Each supports the on-going conservation and balanced management of the TH 38—Edge of the Wilderness National Scenic Byway.**

Bud Sage, President, TH 38 Leadership Board

Tim Johnson, TH 38 Leadership Board

Greg Morris Acting District Ranger, USFS Chippewa National Forest

Jeff Jackson, MN DNR Forestry – Deer River

Andrew Arends, MN DNR Cooperative Forest Management Unit

Tom Jacobson, Mn/DOT Roadside Vegetation Manager, District One

Garrett Ous, Itasca County Land Commissioner

Dave Marshall, Itasca County Assistant Land Commissioner

Julie Miedtke, University of Minnesota – Itasca County Extension

# Table of Contents

# Table of Contents

## List of Figures



## Maps

Following are reference maps for the existing land management / ownership and tree stand vegetation along the TH 38 byway corridor. In areas where data is incomplete, information was not obtainable.

# INTRODUCTION

## BYWAY BACKGROUND

### *Welcome to "The Edge"*

Minnesota State Trunk Highway 38 (TH 38) travels 47-miles through some of the most scenic areas in northern Minnesota. The communities of Grand Rapids, Marcell, Bigfork, and Effie are linked together by this transportation corridor. The entire 47-miles from Grand Rapids to Effie was designated as one of the first Minnesota State Scenic Byways in September, 1994, and named the "Edge of the Wilderness Scenic Byway." The 22-mile segment that is within the Chippewa National Forest is also designated as a National Forest Scenic Byway.


Figure 1.1 Overview map of the Edge of the Wilderness National Scenic Byway. Source: www.byways.org.

In September, 1996, the "Edge of the Wilderness" Scenic Byway was recognized nationally by the Federal Highway Administration for the scenic, natural, recreational, historical, and cultural intrinsic qualities and resources that make this road unique. With this designation, MN TH Hwy. 38 is recognized in a national collection of special roads in the country, marketed collectively as "America's Byways."

***Byways and the "Visitor's Experience"***

The Merriam-Webster dictionary defines "Byway" as "a little traveled side road." Byways offer the types of driving experiences we hope to find when we want to get off the beaten path to explore and experience the scenery, culture, history and special features of an area, providing us with opportunities we might otherwise miss. You might think of byways as roads with the opportunity to tell a story; gateways to unique adventures and paths to better understand America's landscapes, history, and cultures. Connecting a traveler to these experiences in a continuous, un-fragmented manner provides a "visitor experience" that is rewarding, memorable, and meets the expectations of the traveler.

The TH 38 – Edge of the Wilderness Scenic Byway offers the traveler an experience that is framed by its landscape and natural resources. As the byway winds from Grand Rapids to Effie, the traveler is introduced to the beauty and seclusion of mixed northern hardwood forests, towering pines, rolling hills, wetlands, and sparkling lakes. The vegetation along the byway corridor is what dominates the visitor's experience. It is this "view from the road" that connects the traveler to an understanding of the biology and character of northern Minnesota, and underscores the importance of managing the visual landscape of this unique and valued road corridor.

Although designated as a scenic byway, it is important to remember that the TH 38 byway corridor runs through a working forest being managed with sound silvicultural objectives, keeping visual impacts in mind. Visitors traveling on TH 38 have an outstanding opportunity to visit this working forest, and many of the locals and guests appreciate the harvesting activity in the fall as it provides access roads to utilize getting off the beaten path for fall colors, new openings for a broader view corridor as well as hunting opportunities.

## PURPOSE AND SCOPE

The purpose of the *TH 38 - Vegetation Management Resource Guide* is to provide a centralized resource of information on the types and locations of existing vegetation in the byway corridor and a summary of management guidelines from the agencies that manage the land along the byway corridor. The Minnesota Department of Transportation (MN/DOT), U.S. Forest Service (USFS), Minnesota Department of Natural Resources (MNDNR), and Itasca County each look to the TH 38 corridor management plan as the leading resource to reference when managing the byway corridor, supplemented as necessary by their own more stringent or broad vegetation management policies for the land they manage.

The focus of the *TH 38 - Vegetation Management Resource Guide* is on the "byway corridor", or the visual landscape one experiences while traveling the road. The vegetation discussed refers to land along the right-of-way of the road as well as in close proximity to it. Each of the agencies that own and manage land along the byway has extensive vegetation management policies for land within their jurisdictions. However, the application of information in this resource guide is to primarily address the visual integrity, continuity, and character of the byway corridor for the byway traveler. The end goal of the *TH 38 - Vegetation Management Resource Guide* is to help public and private landowners who own and manage property along the road to preserve and maintain the visual character of the scenic byway for which it has been designated.

## TH 38 –CORRIDOR MANAGEMENT PLAN

### *What is a Corridor Management Plan?*

A corridor management plan (CMP) is a written document that outlines how a byway organization plans to protect, promote, enhance, and manage the intrinsic qualities and resources of the byway. A byway's CMP acts as the guiding document for all the efforts of the byway organization and is a key element in all planning. A CMP is required by the Federal Highway Administration for designation as a National Scenic Byway.

### *The Edge of the Wilderness CMP*

In June, 1995 the TH 38 – Edge of the Wilderness National Scenic Byway approved a Corridor Management Plan written for the byway. The CMP includes the issues and strategies that will guide highway engineers, designers, and planners during all current and future project work within the corridor of MN TH 38. The CMP was developed with the input and review from an Advisory Committee and Resource Teams, which included expertise from the Minnesota Department of Transportation, U.S. Forest Service, Minnesota Department of Natural Resources, and local communities.

Specific issues, concerns and management guidelines were identified in the CMP for Vegetation/Timber Management and Visual Quality, and attention to the visual integrity and continuity of the vegetative character of the byway was given a strong emphasis. Implementation of the Corridor Management Plan identifies the category of "Visual Quality/ Vegetative Management" to be one of the top priorities in the planning of projects for byway improvement. In response to the goals and objectives of the CMP, the development of a comprehensive vegetation management resource guide for the byway corridor involving the agencies and private land owners managing forests along the byway was identified.

Through implementation of the existing CMP and development of an additional vegetation management resource guide, the byway organization continues to seek to bring about the management of their designated route through local action that is consistent with its existing character.

### *Byway Websites*

To learn more about the TH 38 - Edge of the Wilderness Scenic Byway, visit the following websites: www.edgeofthewilderness.org or www.byways.org/explore/states/MN/



# TH 38 - VEGETATION ASSESSMENT

## OVERVIEW

The TH 38 Edge of the Wilderness Scenic Byway winds its way through a pristine north woods landscape, offering seclusion and a sense of connection to wilderness. In the fall, the byway transforms into a rolling pallet of vibrant yellows, reds, and oranges, complementing the black and white tree trunks of pines, aspens and birch. The experience is so spectacular that the road has been rated one of "Minnesota's Ten Best Autumn Road Trips" by a state tourist magazine.

Managing the vegetation along TH 38 is central to preserving the character and healthy habitats that make the byway corridor special. This section of the *TH 38 - Vegetation Management Resource Guide* aims to provide public and private land managers with knowledge of the most common native and nonnative plant species that currently exist along TH 38, as well as the vegetative highlights that help to make the byway corridor unique.

### *Native Species of TH 38*

"Native" (also known as "indigenous") plant species are those that occur naturally in a particular region, ecosystem, or habitat without direct or indirect human intervention. They are the species that were found naturally on the land at the time of European settlement in North America. Minnesota's landscape consists of four distinct biomes, or "Ecological Provinces" which are major ecological community types. Each biome / province is home to specific native species that thrive in the particular range of climate and soil conditions of the region. TH 38 runs through the heart of the "coniferous forest" biome, also referred to as the Laurentian Mixed Forest Province.

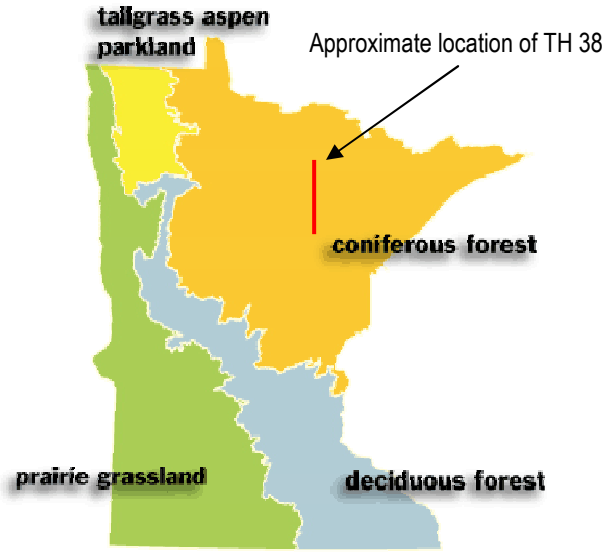



Figure 1.2 Overview of Minnesota Ecological Biomes. Source: Minnesota DNR

The Minnesota Department of Natural Resources defines the Laurentian Mixed Forest (LMF) Province as traversing northern Minnesota, Wisconsin, and Michigan, southern Ontario, and the less mountainous portions of New England. In Minnesota, the LMF Province covers a little more than 23 million acres (9.3 million hectares) of the northeastern part of the state. In Minnesota, the Province is characterized by broad areas of conifer forest, mixed hardwood and conifer forests, and conifer bogs and swamps. The landscape ranges from rugged lake-dotted terrain with thin

glacial deposits over bedrock, to hummocky or undulating plains with deep glacial drift, to large, flat, poorly drained peatlands. Precipitation ranges from about 21 inches (53 cm) annually along the western border of the Province to about 32 inches (81 cm) at its eastern edge in Minnesota. Normal annual temperatures are about 34˚F (1˚C) along the northern part of the Province in Minnesota, rising to 40˚F (4˚C) at its southern extreme. Under influence of climate, the overall pattern of vegetation change across the Province in Minnesota is from warm and dry habitats in the southwest to cooler and moister ones in the northeast. Linked to climate are several other factors with southwest to northeast gradients that have important influence on vegetation and species ranges. Most notable are growing-degree days, evapotranspiration, and the depth and duration of snow cover.

Following is a list of the primary native tree and shrub species that are found within the TH 38 scenic byway road corridor, in relation to the habitats of either upland or lowland forest / wetlands..

Figure 1.3 Native Species Trees and Shrubs.

**NATIVE SPECIES - UPLAND FOREST**

| Upland Coniferous | Upland Deciduous (Hardwoods) | Deciduous Shrubs |
|---|---|---|
| Jack pine | Burr oak | Dwarf bush honeysuckle |
| Red (Norway) pine | Northern red oak | Highbush cranberry |
| Eastern white pine | Quaking aspen | Alternate-leaved dogwood |
| White spruce | Paper birch | Round-leaved dogwood |
| Balsam fir | Red maple | Leatherwood |
| | Sugar naple | Juneberry |
| | Green ash | Chokecherry |
| | Ironwood | Mountain maple |
| | American elm | Wild plum |
| | | Pin cherry |
| | | Gooseberry |
| | | Currant (Ribes spp.) |
| | | Red-berried elder |
| | | Blueberry |
| | | Poison ivy |

**NATIVE SPECIES - LOWLAND FORESTS AND WETLANDS**

| Lowland Coniferous | Lowland Deciduous | Deciduous Shrubs |
|---|---|---|
| Black spruce | Quaking aspen | Red Osier dogwood |
| Tamarack | American basswood | Leatherleaf |
| Northern white cedar | Black ash | Speckled alder |
| | Showy mountain ash | Labrador tea |
| | Balsam poplar | Willow |
| | Bigtooth aspen | Bog laurel |
| | | Bog rosemary |

## VEGETATION OVERVIEW OF TH 38

© Photo by Dennis Adams.

The TH 38 Edge of the Wilderness Scenic Byway introduces a traveler to an ever-changing landscape, defined by different habitats and the plant communities that are found there. The byway connects the four communities of Grand Rapids, Marcell, Bigfork, and Effie, which provide a reference for different sections of the byway. Following is a summary of the plant communities as they help to define the character of each section of TH 38, as well as some of the vegetation highlights found along the way.

### *Section 1 Grand Rapids to Marcell (Mile 0.0 to Mile 27.7)*

From Grand Rapids to Marcell, the vegetative character of the byway corridor changes rapidly and often, ranging from upland forest to wetlands to the high elevation of the Laurentian Divide. This stretch of the byway introduces the traveler to a mix of upland and lowland boreal forests. The forest composition throughout this section consists of a varied composition of the following emphasis tree species: aspen, birch, hardwoods, white and red pine, balsam fir, and white spruce.

Following are vegetation highlights from this section of TH 38:

◊ *TH 38 Vegetation Landscaping Plan (Mile 0.0 to Mile 29.3)*

In 2006, MN/DOT approved a Landscaping Plan for TH 38 in an effort to enrich and preserve the vegetative character of the byway corridor, based on the planting of native tree and shrub species. Landscaping was done in the right-of-way from TH 2 in Grand Rapids to County Road 45 in Marcell (29.3 miles) and was designed to randomly inter-mix sizes of coniferous trees specified to achieve a natural appearance along the byway corridor. Implementation of the landscaping plan resulted in a total of 521 native trees and shrubs planted along the byway corridor.

◊ *Gunn Park – Red (Norway) Pine Plantation (5/8 mile north of Grand Rapids)*

Managed by Itasca County, Gunn Park has a Norway Pine plantation which was thinned about 10 years ago and is slated for a second thin during the winter of 2009. In the Gunn Park area and along the entire corridor, there are pockets of old-growth red pine, white pine, and spruce.

◊ *Black Spruce / Tamarack Bog Habitat (Mile 8.5)*

This bog is one of largest and more mature bogs along TH 38, which began forming here 16,000 years ago when the last four glaciers that covered this part of Minnesota receded. A bog is wet, spongy ground, often located near a lake. Bogs are poorly drained areas where water naturally filters back into the earth. This purifies the ground water supply. Also in bogs, moss and acid-tolerant plants thrive, such as the two types of needle-bearing trees found here, the black spruce and the tamarack. In the autumn, the tamarack turns a brilliant yellow against the dark green of the spruce. It is the only conifer to shed its leaves in the fall. Both spruce and tamarack provide valuable wood products.

◊ *Birch Stand at Pughole Lake (Mile 13.4)*

© 2001 MN Highway 38 Leadership Board. Photo by Richard Faulkner—Autumn birches at Pughole Lake.

Paper birch is a strikingly beautiful tree at all times of the year, its bright white and black speckled bark creating a visual contrast against the forest. Paper birch has excellent cold tolerance, making it well suited to this portion of northern Minnesota. Although hardy to the climate, paper birch is often susceptible to insect disease. Birch leaf miner is a common insect pest of birch. A small white worm eats out the middle of the leaf which then turns brown. Severe attacks of birch leaf miner predispose trees to bronze birch borer infestation, which is the most serious pest of landscape birches. The insect bores in the sapwood, beginning in the top third of the tree, causing death of the tree crown.

◊ *White Cedar Stand (Mile 23.5)*

A common tree here, the Northern White Cedar is found in swampy areas. The tree grows slowly and can reach an age of 400 years old. The northern white cedar was probably the first North American tree introduced into Europe. French explorers brought it to Paris in 1536. The previous year, tea prepared from the foliage and bark, now known to be high in Vitamin C, saved voyageurs from scurvy. The tree was named *arborvitae*, Latin for tree of life. Indians used the shredded outer bark and soft wood to start fires. Cedar wood was used for canoe ribs and thwarts and for added strength around the top of the canoe. Indian wigwams were made of sheets of cedar bark and held up by cedar poles. Today, the wood is harvested for decks, fences and cedar chests. It's an important habitat and wind cover for whitetail deer.




## *Section 2 Marcell to Bigfork (Mile 27.7 to Mile 40.0)*

From Marcell to Bigfork, the vegetative character of the byway corridor is defined by a mix of upland and lowland forests, as well as interspersed wetlands. Aspen is dominate in the forest composition, accompanied by a mixing of hardwoods, birch, white and red pine, balsam fir, and white spruce. Following are vegetation highlights from this section of TH 38.

◊ *Chippewa National Forest*

This section of TH 38 runs entirely through the Chippewa National Forest. In 1908 this area was established as the Minnesota National Forest. It was the first national forest established east of the Mississippi River. At 666,000 acres, its size is similar to the entire state of Rhode Island. In honor of the original inhabitants, the forest was renamed in 1928 to Chippewa National Forest. As a National Forest with a multiple-use management policy, the forest here is managed for recreation and forestry, forest products, wildlife habitat, water quality protection, and many other benefits.


*Just north of Pughole Lake (Mile 13.4) TH 38 enters into the Chippewa National Forest and continues through the National Forest for approximately 23-miles, beginning and ending just south of Bigfork (Mile 40.0).*

As TH 38 winds through the Chippewa National Forest, it predominantly runs through or is adjacent to two management areas. For about the first seven to ten miles, the byway parallels the east side of the Soumi Hills Management Area, which is a semi-primitive non-motorized area, and for much of the rest of its length it runs through the General Forest—Longer Rotation Management Area. Below is a summary of the vegetation management for each.

- Semi-primitive Non-motorized Management Area (Soumi Hills)

  Forests are predominantly natural appearing, emphasizing large trees and older forests with a continuous canopy (most treatments will not create large openings in the forest—clearcutting is de-emphasized). Scenic integrity and recreation objectives guide the design and implementation of timber harvest activities. Evidence of management activities is relatively low, consisting of occasional stands that have been harvested.

- General Forest—Longer Rotation Management Area

  Forests are largely a mosaic of different ages and heights (indicating that some clearcutting will take place here) but many recently cut areas still have a partial canopy of older trees. A mosaic of young to old (1 to 250 years old) trees dominates these areas. Compared to the General Forest Management Area, this area will generally have longer rotations and more uneven-aged and partial cut harvests. In the most frequently visited and most scenically valued areas, large-scale openings have a natural appearance.

◊ *Bald Eagle and Osprey Habitat*

In this section of the byway, as well as other sections, there are old growth red and white pine trees that provide excellent nesting locations for the bald eagle. Additionally, osprey nests can be found in snags located in proximity to lakes, where fishing is abundant.

## *Section 3 Bigfork to Effie (Mile 40.0 to Mile 47.0)*

From Bigfork to Effie, the vegetative character of the byway corridor changes to a more open and flat landscape, dominated by aspen and white and red pine and punctuated by occasional low wet grassland areas. Following are vegetation highlights from this section of TH 38.

◊ *Aspen Groves (dispersed)*

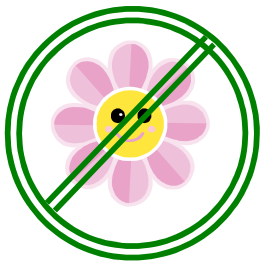
Aspen trees grow fairly straight and become clear of lower limbs over time. Sometimes called trembling aspen because their leaves tremble in a light breeze due to their flattened petioles, quaking aspens have the most extensive native range of any tree in North America. The aspen rapidly re-colonizes disturbed sites after events such as wildfire or logging. In areas where logging or clearcuts have occurred on this section of TH 38, thick groves of aspen trees have re-established themselves by growing from the roots of the harvested trees.

Stand of Aspen regeneration

### NONNATIVE SPECIES OF TH 38

"Nonnative" (also known as "exotic", "invasive", "alien" or "non-indigenous") plant species are those that have been introduced, or moved, by human activities to a location where they do not naturally occur. When nonnative species are introduced to an area and disrupt the balance of the ecosystem, they are termed an "invasive" species.

Non-native plant species commonly grow aggressively and displace other native plants, becoming known as a difficult to control, undesirable, and noxious "weed pest". The invasive, opportunistic plants tend to appear on disturbed ground and can dominate whole areas. Nonnative species can easily spread within an area or ecosystem without the necessary steps to contain or eradicate them, resulting in harm to the environment and a high cost for control measures.



Along the TH 38 scenic byway corridor, land management agencies work to monitor and document the location and spread of invasive plant species. Following are profiles of some of the primary, problematic nonnative species that may be found along TH 38, their associated issues and opportunities for their management.

**Invasive Species Profile: Wild parsnip (*Pastinaca sativa*)**

Wild parsnip is most commonly identified by broad, flat-topped flower clusters that contain hundreds of yellow flowers, blooming from June to late summer. A native of Europe and Asia, this plant escaped from cultivation as root vegetable and is common throughout the United States. Wild Parsnip is an aggressive weed and readily moves into disturbed habitats, along edges and or in disturbed patches. It is shade intolerant and prefers sunny conditions, and seeds are viable in the soil for 4 years. It invades slowly, but once the population builds it spreads rapidly and can severely modify open dry, moist, and wet-moist habitats. Mechanical control is best approached through early detection and eradication, with the best control to prevent the plants from seeding. Care must be taken in managing this noxious weed, for the juice of wild parsnip in contact with skin in the presence of sunlight can cause a rash and blistering and discoloration of the skin (phytophotodermatitis). It is essential to remember to wear protective clothing when working to remove Wild Parsnip. Hand pulling of plants and cutting the plant before it goes to seed are both recommended, however, control methods such as burning and mowing can actually favor the spread of wild parsnip, depending on the treatment and timing. Mowing plants that have gone to seed will lead to a worse infestation. Use caution to mow or cut the base of the flowering stem prior to seeding and remove.

Wild Parsnip
© Ohio State Weed Lab Archive, The Ohio State University, Bugwood.org.

**Invasive Species Profile: Spotted knapweed (*Centaurea maculosa*)**

The Spotted knapweed is most commonly identified by its thistle-like pink to purple flowers that bloom from July through September. Its name is derived from the black margins of the flower tips which give the flower heads a spotted look. A native of Europe and Asia, it has become a serious problem in pastures and rangeland of the western states. Growing 2-3' high, this invasive plant is spread through rodents, livestock, and commercial hay. The seeds of this plant are viable in the soil for up to seven years. It spreads rapidly in artificial corridors, gravel pits, agricultural field margins and overgrazed pastures. Additionally, Spotted knapweed is poisonous to other plants (phytotoxic). Mechanical methods to control Spotted knapweed can include early detection and pulling of the plants and mowing the plants before they go to seed. When physically controlling through pulling or mowing preventative clothing should be used (long sleeves and gloves), as this plant may be a skin irritant to some people. Prescribed burning may also be used, however, only hot burns are effective which may also damage native plants.

Spotted Knapweed
© John Cardina, The Ohio State University, Bugwood.org.

**Invasive Species Profile: Canada thistle (*Cirsium arvense*)**

Canada Thistle
© Mary Ellen (Mel) Harte, , Bugwood.org.

Canada thistle is most commonly identified by the numerous small purple flowers that appear on top of the upper branched stems between June and September. Canada thistle has been declared a noxious weed in 43 states as one of the most tenacious agricultural weeds. Growing 2-5' high, this plant is spread by its small light brown seeds, which are tufted for dispersal by the wind. The seeds of this plant are viable in the soil for over 20 years. The successful reproduction of this plant is also attributed to its ability to spread via its taproot. Each small section of root can form a new plant, enabling the plant to spread vegetatively 10 -12' in one season. Canada thistle invades natural areas such as prairies, savannas, glades and dunes if some degree of disturbance already exists. It also invades wet areas with fluctuating water levels such as streambanks, sedge meadows and wet prairies. Once it has established itself it spreads quickly replacing native plants, diminishing diversity. Mechanical methods to control Canada thistle can include repeated pulling and mowing, which will weaken the roots. Mowing should be done when the flower buds are just to open. Prescribed burns are most detrimental in late spring (May/June), but also stimulate seed germination. To be most effective, turning of patches should be done consecutively for 3 years.

**Invasive Species Profile: Perennial sow thistle (*Sonchus arvensis*)**


Perennial Sow Thistle
© Tom Heutte, USDA Forest Service, Bugwood.org.

Perennial sow thistle is most commonly identified by the bright yellow flowers up to 2" wide, blooming from June through August. Growing 2 - 5' tall, the tufted seeds of this invasive plant are dispersed by the wind. It also spreads underground via its root system, producing new plants from small root pieces. Broken stems of this plant emit a sticky milky bitter juice with a sour odor. It is common throughout the U.S. and is considered a noxious weed in Minnesota, colonizing in cultivated fields, pastures, woodlands, roadsides and gardens. It is not a serious threat to intact native plant communities; however mechanical methods of cutting and pulling can be used to help control this invasive plant.

**Invasive Species Profile: Common tansy** (Tanecetum vulgare)

Common tansy is commonly identified by the flat-topped cluster of numerous yellow button-like flower heads, blooming from July through October. Leaves are strongly aromatic when crushed. Growing 3' tall and up to 5' in shaded areas, this plant is spread by its tufted seeds by wind and water, as well as vegetatively via its root system. The Common tansy was introduced to the United States from Europe for medicinal and horticultural purposes and is now wide spread across most northern United States and the Canadian provinces. It is still cultivated in gardens and is common along roadsides and abandoned farmyards. South sloping open areas are most vulnerable to the spread of this plant. Mechanical control methods can include pulling and mowing prior to blooming to help stop its spread via seed.

Common Tansy
© Michael Shephard, USDA Forest Service, Bugwood.org.

**Invasive Species Profile: Birdsfoot trefoil (*Lotus corniculatus*)**

Birdsfoot trefoil is most commonly identified by its clover-like appearance, with yellow pea-like flowers that bloom for most of the summer. It has a sprawling growth pattern and can reach 12-24" tall. Its name comes from its production of one-inch long brown seed pods clusters that resemble a bird's foot. This European species was introduced to the U.S. and Canada for livestock forage and erosion control along roadsides. It grows best in the Midwest and is most problematic in prairies and disturbed open areas, such as roadsides. Birdsfoot trefoil is problematic to native plants, forming dense mats that choke and shade out most other vegetation. Mechanical control methods can include frequent mowing to keep the plants below 2" high. Prescribed burns can be difficult as fire will increase seed germination.


Birdsfoot Trefoil
© Robert H. Mohlenbrock @ USDA-NRCS PLANTS Database.

**Invasive Species Profile: White and yellow sweet clover (*Melitotus alba*, *M. officinalis*)**

White and yellow sweet clover is most commonly identified by its fragrant, densely crowded yellow or white flowers that grow together along a central stem. Flowers bloom June through August on second year plants, and each flower produces one or two hard small seeds that can stay viable in the soil for up to 30 years. Plants are bush-like and second year plants will grow 3-5'. Native to Europe it was brought to the U.S. in the late 1600s and still used today as a forage crop and soil enhancer predominantly in the Great Plains and Upper Midwest. Sweet clover grows abundantly on disturbed lands, roadsides and abandoned fields, invading and degrading native sun-loving plants by shading them out. Mechanical control methods should focus on halting the flowering stage through cutting the plant before flowers emerge and hand pulling on small infestations in moist areas before they can spread. Fire may stimulate germination of seeds, so an effective prescribed burning should include a hot early complete first year burn followed by a hot late spring second year burn, repeating after two years.

White Sweet Clover
© John M. Randall / The Nature Conservancy.

**Invasive Species Profile: Oxeye daisy (*Chrysanthemum leucanthemum*)**

Oxeye daisy is most commonly identified by its large white daisies with a yellow central disc that bloom all summer and smell like sage. It is thought that this plant was introduced as an ornamental from Europe and escaped to become one of the most common roadside weeds. It successfully spreads by tufted seeds on the wind, as well as underground by its rhizomes root system. It frequently invades disturbed fields and meadows, competing with native plants. Mechanical control methods include repeated pulling of small infestations to help prevent its spread.

**Invasive Species Profile: Orange Hawkweed (*Hieracium aurantiacum*)**

Source: University of Alaska - Fairbanks, Bugwood.org

Orange hawkweed is most commonly identified by its dandelion-like, orange or yellow flowerheads. Hawkweeds colonize and can rapidly dominate a site. They grow well on disturbed, dry low productivity soils. Orange hawkweed invades northern moist pastures, forest openings, abandoned fields, clearcuts and roadsides. Its greatest density occurs on newly disturbed sites, as it is an early succession plant. Each flower bears 12-30 tiny, columnar seeds with a light-brown tuft of bristles for wind dispersal. Seeds and are viable in the soil for up to 7 years. It spreads primarily vegetatively through runners, (4-12 per flowering plant), rhizomes, (underground stems producing new plants) and sporadic root buds. Orange hawkweed colonizes rapidly forming a solid mat of rosettes, which can result in a loss of native plant diversity in infested areas. Mechanical methods to control orange hawkweed include pulling or digging up plants, and removing all of the roots to prevent the underground spread of this plant and mowing before the plant goes to seed.

**Invasive Species Profile: Tall Buttercup (*Ranunculus acris)***


Source: Montana State University, Bugwood.org

Tall buttercup is most commonly identified by the yellow, small flower heads that stand two to three feet high. Tall buttercup spreads only by seed and is a short-lived perennial. It blooms from late May to September and is pollinated by a variety of insects. Seeds are dispersed by wind, birds, farm animals, small rodents, clothes and tires. Seed germination is usually in spring and generally requires open soil. Tall buttercup can be found in a variety of habitats, including wet lowlands and rich woodlands and is a common weed in pastures, meadows, and along roadsides. It usually does not persist in cultivated fields. Tall buttercup prefers heavy, moist soils but can grow in sandy or gravelly soil is there is sufficient moisture available. Tall buttercup can dominate a pasture or meadow given the opportunity, especially with acid soils and/or over-grazing. It could hinder colonization by native species in a prairie or grassland habitat if it were allowed to invade and spread. If this plant occurs in fields with livestock, it is important to note that if eaten the plant produces an acrid juice that makes the lips swell and is very painful. Mechanical methods to control Tall Buttercup include pulling or digging up plants, and removing all of the roots. Digging is most effective in the spring and early summer while the soil is moist and roots won't break off as much.

# TH 38 - VEGETATION MANAGEMENT

## OVERVIEW

Land along the TH 38 road corridor right-of-way is owned and managed by four state/ federal agencies, including: Minnesota Department of Transportation (Mn/DOT), U.S. Forest Service (USFS), Minnesota Department of Natural Resources (MN DNR) and Itasca County. All public roads are located within land which is referred to as road "right-of-way". Within a typical road right-of-way, the following public facilities can be found: the driving surface, roadside shoulders and ditch, public utilities, sidewalks, and traffic signs to name a few.

Outside of the right-of-way there are parcels of land owned by private property owners and municipalities. Many of these properties are also within the "view from the road" and management practices can either benefit or detract from the visual character and ecological balance of the byway corridor.

Following is an overview of the agencies that own land along TH 38 right-of-way and a summary of the respective policies or guidelines that each draws from as they relate to land/vegetation management. Each agency references the TH 38 Corridor Management Plan as a primary resource document, however, each has larger scope management polices or guidelines that apply as individual management cases deem necessary.

### MINNESOTA DEPARTMENT OF TRANSPORTATION (Mn/DOT)

*Overview*

Mn/DOT is divided into eight regional areas – seven Greater Minnesota district offices and the Minneapolis - St. Paul Metropolitan Area. Most of Mn/DOT day-to-day operations are managed at the district level, including highway construction projects, maintenance and highway right-of-way issues. TH 38 is located within Transportation District 1, which includes the counties of Aitkin, Carlton, Cook, Itasca, Koochiching, Lake, Pine and St. Louis in northeastern Minnesota.

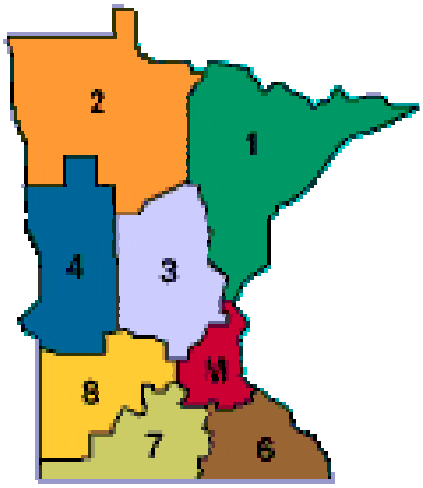


Figure 1.4 Location of Mn/DOT Districts. Source: Mn/DOT.

*Mn/DOT Vegetation Management*

In the vegetation management along roads in District 1, Mn/ DOT draws its policies from two main resources: the Mn/DOT Office of Maintenance Operations "*Maintenance Manual*" and the "*District 1 - Integrated Roadside Vegetation Management Plan*" (IRVM).

Following is a summary of each policy resource.

*Mn/DOT Office of Maintenance - "Maintenance Manual"*

Mn/DOT vegetation control guidelines are established in the Mn/DOT Maintenance Manual. The manual is located at the following web address: http://www.dot.state.mn.us/maint/operations-practices.html. Chapter 5 is titled "Roadsides", and covers all aspects of vegetation control and maintenance. Mn/DOT follows the policies and practices for mowing, weed control, and brush and tree removal as specified in the Mn/DOT Maintenance Manual.

*Mn/DOT Region 1 - Integrated Roadside Vegetation Management Plan (IRVM)*

The Region 1- IRVM is designed to be a supplement to the Mn/DOT Maintenance Manual. The plan provides guidelines for maintaining roadside vegetation on a consistent district-wide basis. The plan addresses the management of roadside vegetation through an integrated approach, including mechanical, chemical, biological, and cultural methods to manage roadsides effectively.

The objectives in the IRVM system are broken down into six categories: Safety, System Integrity, Noxious Weed Control, Woody Vegetation Control, Tree Management, and Urban Corridor Management. Integrated vegetation management approaches include the following:

- **Mechanical** – use of motorized and non-motorized equipment. Examples include grass mowers, brush mowers, chainsaws, weed whips, brush axes, hoes, hand pulling, etc.
- **Chemical** – use of herbicides to control undesirable vegetation.
- **Biological** – utilizing natural or introduced pests that feed on or otherwise reduce the health and viability of the target plant.
- **Cultural** – utilizing desirable plant species to outcompete undesirable plant species.

Because TH 38 is designated as a scenic byway, Mn/DOT acknowledges additional consideration must be given to the unique and scenic nature of the drive when tree clearing and brushing operations are undertaken. Using the Maintenance Manual and the IRVM guidelines, District 1 applies additional special attention to environmental concerns on TH 38 including but not limited to: runoff, erosion, visibility, clear zone, and rare, threatened and endangered species, and the control of invasive plant species. *(See Section 2: Nonnative Species).*

## U.S. FOREST SERVICE (USFS) – CHIPPEWA NATIONAL FOREST


Figure 1.5 Location of Chippewa National Forest. Source: USFS.

*Overview*

The Chippewa National Forest is located in north-central Minnesota and was the first national forest established east of the Mississippi in 1908. The forest boundary encompasses 1.6 million acres and the USDA Forest Service manages over 666,000 acres of forest. Also designated as a Forest Service scenic byway, TH 38 runs approximately 23 miles of its 47-mile route within the bounds of the Chippewa National Forest from just north of Pughole Lake to just south of Bigfork. With roughly half of the byway corridor under their jurisdiction, the U.S. Forest Service plays a central role in the vegetation management of the byway corridor.

*Chippewa National Forest - Vegetation Management*

In the vegetation management along roads in the Chippewa National Forest, USFS draws its policies from two main resources: the *Chippewa National Forest Land and Resource Management Plan* and the Minnesota Forest Resources Council – "Voluntary Site-level Guidelines".

Following is a summary of each policy resource.

*Chippewa National Forest Land and Resource Management Plan*

The Chippewa National Forest Land And Resource Management Plan (Forest Plan) (Figure 1-6) is the primary policy resource guiding vegetation management within the forest boundary. The Forest Plan is located at the following web address: http://www.fs.fed.us/r9/forests/chippewa/projects/forest_plan/index.php.

The U.S. Forest Service is responsible to manage national forests "for outdoor recreation, range, timber, watershed, and wildlife and fish purposes." The Forest Plan guides all natural resource management activities for the Chippewa National Forest, with specific attention to managing for multiple-use. It describes desired resource conditions, resource management practices, levels of resource production and management, and the availability of suitable land for resource management. The Forest Plan presents management direction for the Forest *as a whole*.

*Chapter 2 of the Forest Plan addresses three key areas:*

- ◊ "*Forest-wide Management Direction*" - establishes the goals, desired conditions, objectives standards, and guidelines for Vegetation Management for the Chippewa National Forest as a whole.

- ◊ "*Landscape Ecosystem Objectives*" - addresses vegetation management for the Boreal Hardwood / Conifer Landscape Ecosystem, outlining objectives for helping forest composition be representative of native vegetation communities

- ◊ *"Scenic Resources"* - addresses vegetation management for protecting or enhancing scenic quality in landscapes with outstanding scenic value and in high public use recreation areas and corridors.

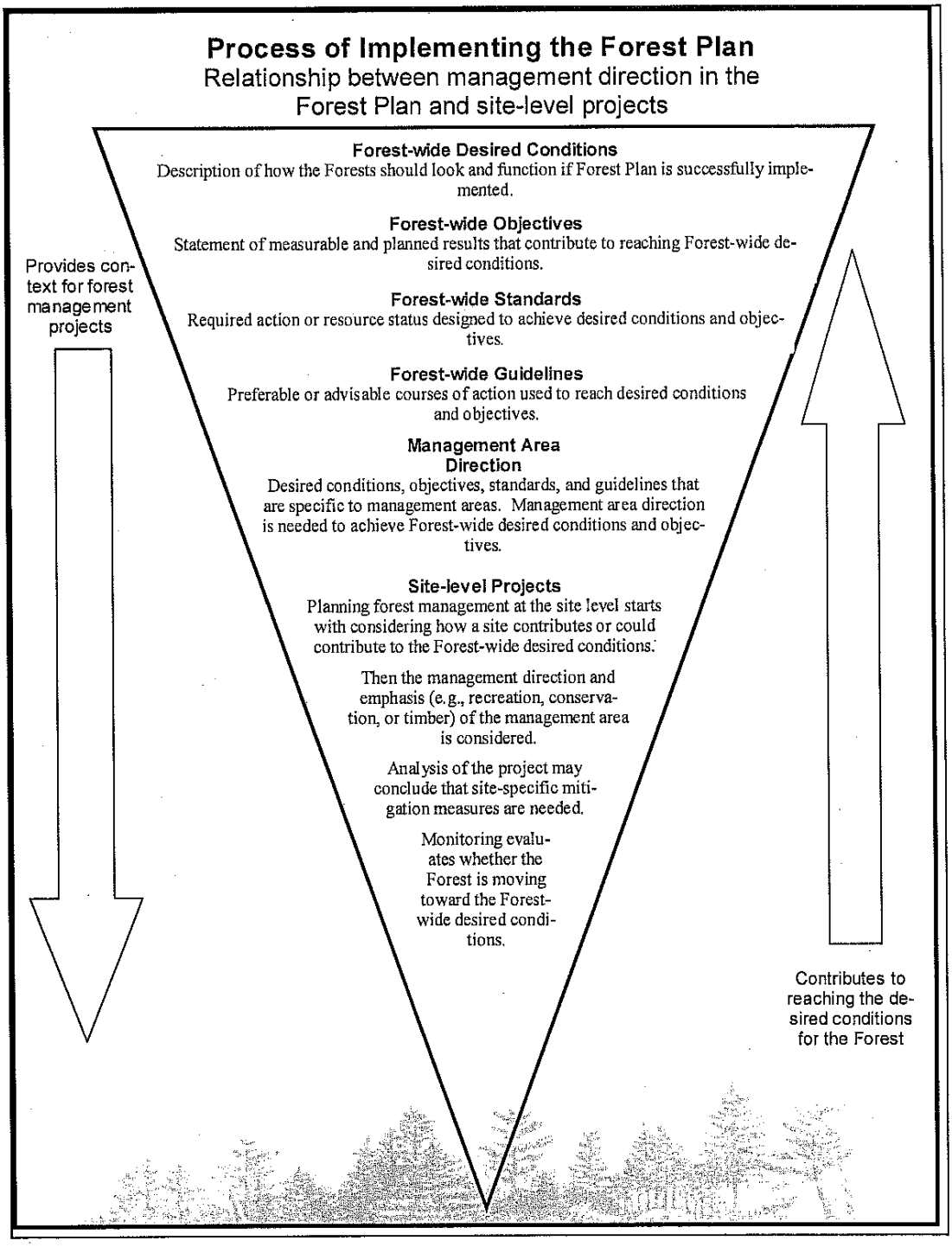
*Minnesota Forest Resources Council (MFRC) – "Voluntary Site-level Guidelines"*

In addition to the Forest Plan, the USFS implements the Minnesota Forest Resources Council "Voluntary Site-level Guidelines" (Guidelines) when managing forest resources on the National Forest. Standards and guidelines in the Forest Plan are intended to provide equal or greater protection to the resources addressed by the MFRC guidelines. Forest Plan standards and guidelines take precedence over the MFRC guidelines in any situation where management direction from these two sources appears to conflict.

The MRFC Guidelines are a menu of valuable decision-making tools for landowners, resource managers, and loggers seeking to maintain forest sustainability. Guidelines balance social, economic, and environmental objectives for forest resources. They take into account resource needs, landowner objectives, forest characteristics, existing regulations, economics, and the best information about forest resources available at any given time.

The guidelines are available online at the following address: http://www.frc.state.mn.us/FMgdline/Guidelines.html.

Figure 1.6 USFS Forest Plan Implementation Flow Chart. Source: USFS Forest Plan.



## ITASCA COUNTY

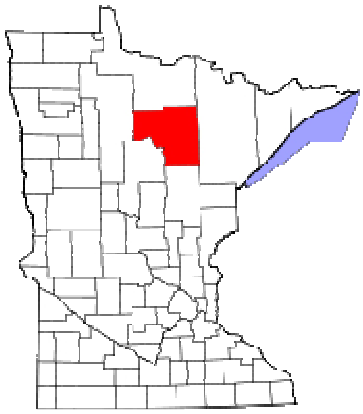


Figure 1.7 Location of Itasca County. Source: Itasca County, Minnesota

*Overview*

The Itasca County Land Department is responsible for land management of 300,000 acres of Itasca County tax-forfeited lands. The Department is responsible for the management and maintenance of county parks, recreation areas, public water accesses, and trails located on direct county owned and tax-forfeited lands. The Department also reviews and comments on state and federal natural resource policy issues. The Land Commissioner is also the County Agricultural Inspector, who is responsible for administering the MN Noxious Weed Law in Itasca County.

Along TH 38, the tax-forfeited lands administered by Itasca County are located 1/2 mile north of Bigfork, another 1/2 mile near the County Road 19 intersection, and Gunn Park, which is 5/8 mile north of Grand Rapids.

*Land Management*

The Land Department recognizes the value of protecting the visual quality of road corridors in the course of managing forest land by incorporating those values in the development of prescriptions for forest management. Prescriptions are prepared by each forester based on their understanding of the land. Foresters primarily rely on the Itasca County Land Management Planning Documents found online at the following address: http:// www.co.itasca.mn.us/ then click on county offices; land. At this site, interested individuals can learn more about local forest land from the many useful products of the Itasca County Biophysical Forestland System.

In the vegetation management along roads in Itasca County, the Land Department generally draws from two additional resources: The Minnesota Forest Resource Council's "*Voluntary Site-Level Forest Management Guidelines*" (reference USFS section) and the "*Itasca County Comprehensive Land Use Plan*." The Land Department exercises extra sensitivity in management cases for roads designated as scenic byways.

Following is a summary of each policy resource.

*Minnesota Forest Resource Council's "Voluntary Site-Level Forest Management Guidelines."*

The Land Department recognizes the value of protecting the visual quality of roads in Itasca County, and applies additional sensitivity to the management of scenic byways. To address the management needs for protecting visual quality, the Land Department places emphasis on implementing the recommendations in the "Visual Quality" chapter

of the Guidelines. The Visual Quality chapter of the guidelines can be found online at the following address: http://www.frc.state.mn.us/FMgdline/2005guidelinesbook/VISUAL%20QUALITY.pdf.

This chapter of the Guidelines provides "Visual Sensitivity Classifications" for recognizing different levels of visual sensitivity of roads, recreation trails, lakes and rivers into one of three categories. The visual sensitivity classifications reflect the different levels of concern on the part of typical users (i.e., the byway traveler).

According to the Guidelines, the "Most Sensitive" Category"

*"Applies to travel routes and areas where significant public use occurs and where visual quality is of high concern to typical users. Examples of such routes may include public highways, local roads, recreational lakes and rivers, and designated recreational trails and areas that provide a high level of scenic quality."*

Itasca County and the MN DNR have rated State Highway 38 in the "Most Sensitive" category for its entire length from Grand Rapids to Effie. As a result, the Land Department incorporates those visual quality recommendations in the development of its prescriptions for forest management.

*Itasca County Comprehensive Land Use Plan*

The Itasca County Comprehensive Land Use Plan (adopted May 23, 2000) is the policy framework Itasca County will use to guide its land use activities over the next 20 years. The plan describes the priorities and choices made by Itasca County citizens during the 18 month participatory process 1998-1999. The plan establishes broad goals, objectives, and implementation tools for land use activity in Itasca County. The plan can be found online at the following address: http://www.co.itasca.mn.us/Zoning/CompLandUsePlan.pdf.

Following are excerpts of goals and objectives in the plan as they specifically relate to preserving the vegetative character of TH 38.

*Natural Resources Goal*

"Promote land and water uses that result in the sustainable use of natural resources, balancing development and environmental commitment to conserve and enhance the natural beauty and resources of the County for this and the next one-thousand years."

*As related to vegetation management along TH 38, objectives under this goal include:*

- ◊ Adopt landscape design standards for lakeshore area and along scenic roadways. (Big tree program)

- ◊ Participate in developing a program for the establishment of tree-lined buffers along transportation corridors with the Izaak Walton League, Mn/DOT, and other organizations.

- ◊ Create and distribute materials that educate lakeshore owners on methods for screening accessory buildings from the lakeshore and on ways to reduce the visual impact of docks, boat-lifts, canopies and other shoreline structures.

- ◊ Support the existing Highway 38 Corridor Management Plan for vegetative management.

*Recreation Goal*

"Develop an integrated green space and recreation system within Itasca County that provides diverse, developed and primitive recreational opportunities for all residents and visitors while protecting unique scenic and natural areas."

*As related to vegetation management along TH 38, objectives under this goal include:*

- ◊ Support existing management and investment plans for the Edge of the Wilderness Scenic Byway.

**MINNESOTA DEPARTMENT OF NATURAL RESOURCES**

*Overview*

The Minnesota Department of Natural Resources (MNDNR) Division of Forestry manages 4.5 million acres of land, nearly four million of which is forested. Along TH 38, the land owned and managed by MNDNR consists of roughly two miles of the byway corridor, including the Big Fork State Forest to the west of TH 38 and George Washington State Forest to the east. This portion of TH 38 has been recognized by MNDNR as having a visual sensitivity classification of "Most Sensitive", as per the MRFC Guidelines for Visual Sensitivity Classifications.

*Land Management*

In the vegetation management along roads on State land, the primary policy resource used by the MNDNR Division of Forestry is the Minnesota Forest Resources Council's *Site-Level Timber Harvesting and Forest Management Guidelines*. These guidelines are used as the guiding resource used to direct harvest and other practices on all state land throughout the state. MNDNR Forestry manages state forest land for multiple-use such as timber harvesting and recreation, and works to make sure multiple benefits are sustained on state forest land.

In addition to the Guidelines, the MNDNR has developed a series of *Subsection Forest Management Plans* for different regions of the state. A subsection forest resource management plan is a DNR plan for vegetation management on forest lands administered by the Division of Forestry and Section of Wildlife. Ecological classification systems (ECS) subsections, not administrative boundaries, are the basic units of delineation. The focus of the first round of subsection plans is to:

- Identify long-term desired future forest composition goals for DNR lands within a subsection; and
- Identify DNR forest stands to be treated over the 10-year planning horizon.

*MN DNR "North 4" Subsection Management Plan area*

The area for TH 38 is within the "*North 4" Subsection Management Plan*, which addresses four subsections in northern Minnesota: the St. Louis Moraines, Tamarack Lowlands, Nashwauk Uplands, and Littlefork-Vermilion Uplands Subsections. TH 38 is within the St. Louis Moraines area addressed by the plan. The plan can be found online at the following address: http://www.dnr.state.mn.us/forestry/subsection/north4/index.html.

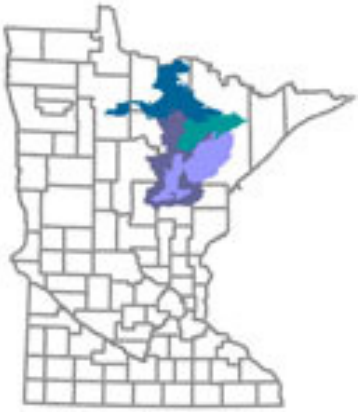


Figure 1.8 Location of MN DNR "North 4" Subsection Management Plan Area.
Source: MN DNR.

As noted in the "North 4" plan, in the St. Louis Moraines subsection the most important land uses are forestry and recreation. This area is heavily forested and timber harvesting is extensive; quaking aspen is the primary species harvested.

# TH 38 VEGETATION MANAGEMENT RECOMMENDATIONS AND RESOURCES

## OVERVIEW

The vegetation management of the TH 38 – Edge of the Wilderness Scenic Byway is a collaborative effort between the state and government agencies that own property along the road corridor. Each agency (MN/DOT, USFS, Itasca County, and MNDNR) works to preserve, protect, and enhance the visual character of the byway and manage for ecosystem health and multiple-use. In addition, successful vegetation management of the road is dependant upon others who own and manage land along the road corridor, including private property owners and the municipalities of Grand Rapids, Marcell, Bigfork, and Effie.

Preserving, enhancing, and sustaining the natural character and vegetation of the byway corridor is important for several reasons.

*Ecosystem Health*

TH 38 runs through the heart of one of the four unique biomes of Minnesota, the Laurentian Mixed Forest. The native plant species that comprise the many habitats of the byway corridor are what make it ecologically unique and significant as part of this biome. Planting native trees and shrubs and working to eradicate invasive plants will help to preserve the natural landscape and keep it in balance.

*Economic Benefit*

TH 38 is designated as a special road by both the National Forest Service and the Federal Highway Administration's – National Scenic Byway Program (Edge of the Wilderness Scenic Byway). This dual-recognition as a unique travel experience and tourist destination provides important economic leverage to the communities of Grand Rapids, Marcell, Bigfork, and Effie. Tourists come to travel TH 38 to experience the magic of being "on the edge of the wilderness", and in doing so leave important dollars within the communities that depend upon this economic niche. Managing the vegetation of TH 38 to conserve the unspoiled beauty and natural continuity of the byway corridor is what will enrich the byway traveler's experience and encourage them to come back again.

*Social Well-Being*

Where we choose to live and how we define our values is often tied to the intangible elements that connect us to the place we call "home" - the subtle and grand parts of the landscape that support a spiritual part of who we are. For those that live, work, and play along TH 38, it might be things such as the sway of tall pines, the soar of a bald

eagle, the shimmer of quaking aspen leaves, the brilliant red and golden hues of autumn, or the eerie call of a loon on a quiet lake. Intangibles such as these things are what ground residents in a deep appreciation for living in northern MN and on the Edge of the Wilderness Scenic Byway. Preserving the natural character of the byway not only helps the environment, helps preserve our own social well being, too.

This section of the *TH 38 - Vegetation Management Resource Guide* aims to provide public and private landowners who manage property along the TH 38 road corridor with broad recommendations that support preservation of the natural character of the scenic byway. Additionally, this section seeks to direct landowners to helpful resources that will assist in their vegetation management efforts.

## THE VALUE OF VISUAL QUALITY

As emphasized in the Minnesota Forest Resource Council's "Guidelines", managing for the aesthetic visual quality of a road corridor is an important component of an integrated vegetation management plan. In Itasca County, visual sensitivity classification maps were completed, and TH 38 rated in the "Most Sensitive" category. The visual sensitivity categories of "Most Sensitive", "Moderately Sensitive" and "Less Sensitive" reflect different levels of concern on the part of typical users. The "**Most Sensitive**" category:

> *"Applies to travel routes and areas were **significant public use occurs** and where **visual quality is of high concern** to typical users. Examples of such routes may include public highways, local roads, recreational lakes and rivers, designated recreational trails and areas that provide a high level of scenic quality."*

As a result of this sensitivity classification for TH 38, agencies that manage land in the right-of-way (MN/DOT, USFS, MNDNR, and Itasca County) each strive to apply extra sensitivity to management practices and place emphasis on preserving the visual character of the byway corridor.

## RECOMMENDATIONS

Business owners, homeowners, and landowners along the TH 38 corridor all have a role to play in helping to enhance the visual character of the byway through thoughtful vegetation management.

Following are broad recommendations for general vegetation management along TH 38, keeping in mind the "view from the road" and high level of visual sensitivity for this scenic byway. Preserving the native vegetative composition of TH 38 will help to maintain the wilderness character of the byway and help fulfill the expectations of travelers who come to experience this special road.

These recommendations focus on basic vegetation management for preserving visual quality, which property owners can do to improve the health and visual integrity of their property. The recommendations do not provide advice on whether to manage or which management activities are needed. Landowners seeking further information and professional advice should consult the following "Resources" section.

*1. Know Your Property*

Identify, record, and map out as many different tree, shrub, and plant species as you can on your land. Also consider managing vegetation on your property for wildlife. For example, leaving snags may be a benefit to nesting bald eagles, while particular shrubs may attract spring migrants. To understand what wildlife species are present in your landscape and what you can do to attract those species to your land, contact the Minnesota DNR.

Example of mature trees left for natural regeneration.

*2. Manage for Native Species*

Planting native species helps to protect the local, indigenous biodiversity of an area. Native plants are best adapted to the local climate and once established seldom need watering, mulching, protection from frost or continuous mowing. When landscaping for native species, use a mix of tree and shrub species. For a natural effect, avoid planting in straight rows.

*3. Manage for Natural Regeneration*

Planning for regeneration should begin before planting trees or harvesting a site. Harvests can be used to selectively seed certain tree species by leaving enough mature trees to produce seeds for the next generation. Talk to a local professional forester about species selection, spacing, season and method of regeneration.

An example of industry property screening in Marcell.

*4. Screen Your Property*

Roadside vegetation on private properties can either add to or detract from the character of a road corridor. Planting native tree and shrub species can not only add to the visual continuity of the surrounding area, but also help create a visual or sound block for the properties along the road. Planting in an interspersed fashion will help to promote a more natural-appearing landscape.

*5. Minimize Visual Impact of Tree Harvest*

These standing white pines will act as a large seed source.

Avoid clear cutting adjacent to the highway. When harvesting trees within the viewshed of the road, minimize visibility of harvest areas by limiting apparent size of harvest and reducing left over slash within sight of the road corridor. Provide buffer areas adjacent to the road, and preserve larger "character" trees within these buffer zones. Use caution in leaving large, old age trees within reach of the highway as there can be safety issue. Talk to a local professional forester when preparing to harvest lands adjacent to the right-of-way.

Managing for hazardous trees will improve driver safety.

*6. Manage for Roadside Safety*

Trim roadside trees to help create adequate sight distances, and remove leaning dead trees or snags that might be a hazard to falling into the road. Regularly inspect trees that are adjacent to the road after ice or snow storms that may bend or break trees and create a driving hazard.

*7. Manage for Fall Colors and Wildflowers*

Planting to enhance the visual quality of forested lands on your property for fall colors can help result in a healthy tourism economy. Manage for fall colors by planting a selection of native trees and shrubs that vary in autumn hues adjacent to the road. In addition, manage for native wildflowers that enhance roadside properties or entrances to communities.

*8. Control Invasive Species*

Familiarize with the location, appearance and seeding cycles of invasive plant species on your property. Apply mechanical control methods as possible, and seek professional advice from a land management agency for assistance if planning to use chemical control.

*9. Apply Responsible Rehab*

Maintain large seed source trees as part of the sale layout and design for clear cuts. Prepare to plant a balance of native species to replenish forest re-growth, and avoid mono-culture re-growth from opportunistic species such as aspen. In addition, reduce soil loss through erosion control by planting herbaceous groundcovers, shrubs, and young trees. Contact your local forestry professional for advice when preparing to do a private forest harvest.

*10. Consider Conservation Easements*

Landowners who wish to retain private ownership of their property while providing conservation benefits through land preservation can establish a conservation easement. Conservation easements are voluntary land protection agreements that restrict development while ensuring biological diversity, sustainable timber management, and public access. The land stays in private ownership. A permanent easement ensures that land will remain intact and undeveloped for years to come. Often conservation easements can be financially beneficial. When development rights are donated, the landowner can claim the donation against her/his taxes.

*11. Reduce the Risk of Wildfire*

Regulation of open burning and the use of burning permits are important for preventing wildfires. Before doing any burning, check with the MN DNR office to check on fire level sensitivity and obtain any necessary burning permits. In addition, applying fire mitigation efforts around your property will help to reduce the dangers of wildfire devastation to vegetation and property structures. Firewise, is a national fire-risk mitigation program instituted in 2001 that supports local efforts to assess fire danger and help property owners reduce dangerous fuel accumulations and possible wildfire damage. Homeowners and communities that use Firewise principles and practices greatly increase the chance their property will survive a wildfire. To order a Firewise homeowners kit, see www.dnr.state.mn.us/firewise or call the MN DNR Information Center at 651-296-6157 or 888-646-6367.

*12. Work Together*

Share this TH 38 Vegetation Management Resource Guide with fellow residential or business owners, and seek ways to work collaboratively on land management issues or projects. Working together to landscape for native species and to eradiate invasive species can be both cost and time effective.

## RESOURCES

Following are recommended education and technical assistance resources available to private landowners who wish to learn more about vegetation management of their property. Agencies & Programs are listed in alphabetical order:

*Itasca County Land Department*

Itasca County Land Commissioner: Garrett Ous
Phone: (218) 327-2855
Email: garrett.ous@co.itasca.mn.us
Web: http://www.co.itasca.mn.us/Land/Gov_lnd.htm

Below are key planning documents for land management and land use activity in Itasca County.

*Itasca County – Land Management Planning Documents*
http://www.co.itasca.mn.us/Land/LandMgtDocs.htm

*Itasca County – Comprehensive Land Use Plan*
http://www.co.itasca.mn.us/Land/LMPDocs/III.%20G.%20Itasca%20County%20Comprehensive%20Land%20Use%20Plan.pdf

*Itasca County Soil and Water Conservation District (SWCD)*

District Manager - Jim Gustafson
*1889 East Highway 2*
*Grand Rapids, MN 55744*
*Phone: 218-326-0017*
Web: http://www.itascaswcd.org/

The Itasca SWCD is a local agency which provides access to conservation and resource management services. In cooperation with federal, state and local agencies, the District provides technical assistance, cost-sharing and natural resource management information and education. Urban and rural landowners, businesses, industry and agencies may request these services. The mission of the Itasca County Soil and Water Conservation District (SWCD) is to provide a local organization through which landowners and operators, local units of government and state and federal agencies can cooperate to improve, develop and conserve soil, water, wildlife and recreational resources. Website includes downloads of the Itasca Woodlands newsletter, information on native tree and shrub planting for wildlife, Itasca County interactive maps and more.

Following are several key resources and programs offered by the Itasca County SWCD for private landowners.

*"Northwoods Guide for Property Owners in Itasca County"*

Published in August, 2008, this publication provides guidance to property owners on land use regulations in Itasca County Zoning Districts and answers questions on the rights and concerns of property owners. It is available online as a PDF document for download: http://www.itascaswcd.org/Home_Page_Documents/Itasca%20POG%20Final.pdf

*Woodland Stewardship Plans*

The Itasca SWCD has a forester on staff who is available to write Woodland Stewardship Management Plans tailored specifically to your property and your management goals. Stewardship plans help landowners with land management decisions that will help keep their woodlot healthy and productive for many generations. Itasca County landowners who own at least 20 contiguous acres of undeveloped and non-agricultural land are eligible to take advantage of this service.

Landowners who agree to follow a stewardship plan on their property are eligible for incentive payments from programs such as the "Sustainable Forestry Incentive Act (SFIA) or "2c Managed Forest Land.". A stewardship plan is also one of the primary requirements for landowners who are considering enrolling their land in conservation easement programs.

*Annual Native Tree and Plant Sale*

Every fall the Itasca County SWCD begins taking orders for their annual native tree and plant sale. They begin taking orders in September and continue to take orders until early spring. The objectives of the sale are to provide landowners with information about planting natives, to promote landowners to plant native species, and provide a means for landowners to order small or large quantities of native species depending on the size of their planting project. A large variety of native trees (evergreen and deciduous), shrubs, wildflowers, grasses and sedges are available for a wide variety of site conditions and applications.

*Land Management Assistance Publications*

The Itasca SWCD office has two land management assistance publications available free of charge:

- "Minnesota SWCD Forestry Association Tree Handbook": This fifty page handbook was developed by the MN SWCD Forestry Association and includes planting and care information for both trees and shrubs. This book is available for pick up in the SWCD office.

- "Backyard Woods": These packets were developed by the U.S. Forest Service and The National Arbor Day Foundation. The packets include a forty page informational booklet covering twelve management topics common to woodland owners with technical information and a paper handout for each topic. The topics include Making a Master Plan, Chainsaw Safety, Protection from Wildfire, Managing Hazardous Defects in Trees, Disease and Insects, Attracting Wildlife, Protecting Water Quality, Improving Timber Value, Tree Pruning, Tree Planting, Special Forest Products, and Wood Products. This book is available for pick up in the SWCD office.

*Minnesota Department of Natural Resources (MN DNR)*

Northeast Region Forestry Headquarters
1201 E. Highway 2
Grand Rapids, MN 55744-3296
Phone: 218-327-4418
Web: http://www.dnr.state.mn.us/areas/forestry/northeastregion.html

*MN DNR Forestry Website:* www.dnr.state.mn.us/forestry

*"A Citizens' Guide to DNR Forestry" :* http://www.dnr.state.mn.us/forestry/citizensguide.html

*MN DNR Cooperative Forest Management Unit :* www.dnr.state.mn.us/forestry/forest_management

In addition to managing state lands directly, the MN DNR strives to assist nonindustrial private landowners with tree planting, timber stand improvement, harvesting, and preparing management plans. It also provides Minnesota communities with technical advice and assistance in urban forest management. Unit responsibilities include administering two state forest nurseries that annually produce 10 million native tree and shrub seedlings for sale to Minnesota landowners. Following are some of the key programs offered to private land managers and community members who wish to learn about private forestry management:

- The Forest Stewardship Program provides voluntary, long-range conservation planning assistance for individual landowners. Any private landowner with between 20 and 5,000 acres of land, at least 10 acres of which has (or will have) trees, is eligible to participate.

- The Urban and Community Forest Program assists municipalities with tree planting, tree care and maintenance, management planning, wood utilization, and urban development.

- Minnesota landowners can order tree seedlings in quantity from the State Forest Nurseries for reforestation, windbreaks and shelterbelts, erosion control, and wildlife habitat.

- The Forest Legacy Program protects forests throughout the state threatened by conversion to non-forest uses.

*Minnesota Department of Transportation (MN/DOT) - District One*

Tom Jacobson, Mn/DOT D1 Vegetation Manager
1123 Mesaba Ave.
Duluth, MN 55811
Phone: (218) 725 2778
Email: tom.jacobson@dot.state.mn.us
Web: http://www.dot.state.mn.us/d1.html

*Mn/DOT Office of Environmental Services - Division of Forestry / Vegetation Management*

http://www.dot.state.mn.us/environment/forestry/veg_mgmt/index.html
This website provides policy information on integrated roadside vegetation management, herbicide policy, brush control, mowing, hazard tree management, biological control of noxious weeds, roadside vegetation and more.

*"Best Practices on Roadside Management Vegetation Management"*

This study, sponsored by the University of Minnesota – Center for Transportation Studies, was completed in September 2000 and addresses maintaining roadsides for safety and aesthetics as an important issue for all levels of government throughout Minnesota. Vegetation is one important element of roadside maintenance. This handbook provides guidelines for effective management of roadside vegetation for local agencies, and highlights seven best management practices that were identified through research, surveys, and discussion with industry experts. The main conclusion from the handbook is that successful roadside vegetation management depends on an integrated approach. Available as a PDF download: http://www.lrrb.org/PDF/200019.pdf

*Minnesota Forest Resources Council (MRFC)*

2003 Upper Buford Circle
St. Paul, MN 55108-6146
Phone: (651) 603-0109
Web: http://www.frc.state.mn.us/

*"Sustaining Minnesota Forest Resources: Voluntary Site-Level Forest Management Guidelines for Landowners, Loggers and Resource Managers" ("Guidelines")*

The MFRC "Guidelines" are recognized as the leading resource for state and federal land management agencies as well as private landowners in Minnesota for integrated forest management. The purpose of integrated forest management guidelines is to "provide

consistent, coordinated guidance in sustaining many of the functions and values of our forest resources, including cultural resources, forest soil productivity, riparian areas, visual quality, water quality and wetlands, and wildlife habitat." These voluntary site-level forest management guidelines provide valuable decision-making tools for landowners, resource managers and loggers throughout Minnesota, who share an ongoing responsibility to make balanced, informed decisions about forest use, forest management and forest sustainability. A copy of the guidelines can be found online at the following web address: http://www.frc.state.mn.us/FMgdline/Guidebook.html.

*The "Visual Quality" chapter of the Guidelines may be downloaded as a separate chapter: http://www.frc.state.mn.us/FMgdline/2005guidelinesbook/VISUAL%20QUALITY.pdf*

*University of Minnesota - Itasca County Extension Service*

Julie Miedtke, Extension Educator, Natural Resource Management
Phone: (218)327-7365
Email: miedt001@umn.edu
Web: http://www.extension.umn.edu/county/Itasca

*Website: My Minnesota Woods: http://www.myminnesotawoods.umn.edu/*

This site was created to help private woodland owners make sound, well informed woodland stewardship decisions. The purpose of the site is to help woodland owners learn how their forests work, how sustainable forest management works, and how they can achieve their forest stewardship goals with confidence and trust in the professionals with whom they work. An online discussion board provides a great forum to ask questions.

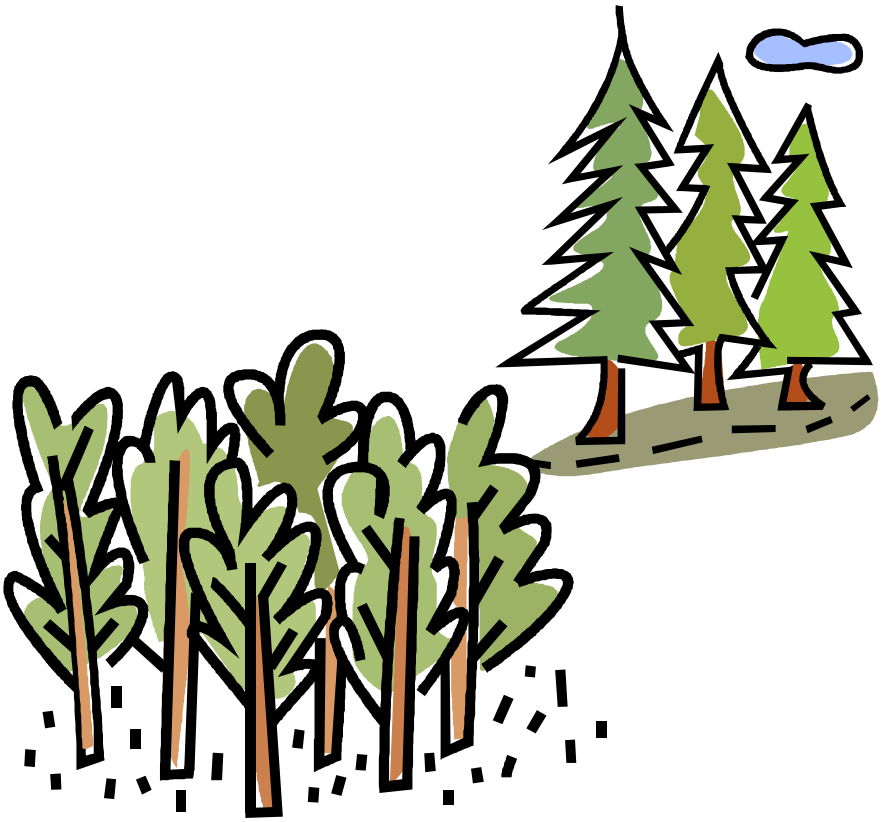
*U.S. Forest Service - Chippewa National Forest*

200 Ash Avenue NW
Cass Lake, MN 56633
Phone: (218)335-8600
Email: r9_chippewa_public@fs.fed.us
Web: http://www.fs.fed.us/r9/forests/chippewa/

*Forest Legacy Program (FLP)*

The goal of the Forest Legacy Program (FLP) is to protect private forest lands from conversion to non-forest uses. The FLP is a Federal program in partnership with States, supporting State efforts to protect environmentally sensitive forest lands. Designed to encourage the protection of privately owned forest lands, FLP is an entirely voluntary program.

To maximize the public benefits it achieves, the program focuses on the acquisition of partial interests in privately owned forest lands. FLP helps the States develop and carry out their forest conservation plans. It encourages and supports acquisition of conservation easements, legally binding agreements transferring a negotiated set of property rights from one party to another, without removing the property from private ownership. Most FLP conservation easements restrict development, require sustainable forestry practices, and protect other values.



# BYWAY- RELATED VEGETATION MANAGEMENT PLANS

## OVERVIEW

All scenic byways are at their core a visual experience, connecting the traveler to the special places and resources they experience along the road. Managing vegetation along a road corridor is an issue commonly addressed by local, state, and federally designated byways around the country within written Corridor Management Plans.

Following is a summary of several related byway vegetation management plans that have been completed or are in progress. While this is not an exhaustive list, these examples are provided as a resource to draw from for future reference or planning along TH 38.

### COMPLETED PROJECTS

*Jacob's Ladder Trail Scenic Byway Vegetation Management Plan*

The 33-mile Jacobs Ladder Trail Scenic Byway is located in western Massachusetts and follows historic Route 20. This project, completed in 1996, resulted in a written landscape and tree management plan and manual for the Jacobs Ladder Trail Scenic Byway. The plan identifies and maps out the plant communities along the byway and evaluates the health of the vegetation. The plan makes recommendations for highway safety and scenic purposes while maintaining the health and beauty of the trees and vegetation.

For More Information: The byway's website is http://www.jacobsladderscenicbyway.org. To obtain a copy of the publication, contact the America's Byways Resource Center: Phone: (866) 974-6403, Email: center@byways.org

*Old Kings Highway (Rt. 6A) Vegetation Management Program*

The 34-mile Old Kings Highway is located in eastern Massachusetts. It often follows along the coast and passes through 7 Cape towns. The tree canopy and distinctive vegetation patterns along Old King's Highway (Route 6), begun in tree planting campaigns begun in the 1800s, are important to the roadway character and define historic villages along corridor. This completed project resulted in a vegetation management plan, which addressed how to coordinate and implement the replacement, pruning, and planting of trees which would improve sight distance and reduce hazards for vehicular, pedestrian and bicycle traffic.

For More Information: The byway's website is: http://www.gocapecod.org/6Away/home.htm The plan was completed in 1995 and approved by the Cape Cod Commission. A copy of the completed plan is available online at: http://www.gocapecod.org/6Away/Vegetation_MP_1995.pdf

*High Peaks Scenic Byway (NYS Route 73) - Vegetation Demonstration*

The 30-mile High Peaks Scenic Byway (NYS Route 73) is located in the Adirondack Mountains area near Lake Placid, in New York. NYS Route 73 is the main gateway to the Adirondack Park. Four million visitors travel the highway annually, and 9 million people visit the Park annually.

The Adirondack Park Agency had lead responsibility for this project. The project included the following steps: 1] assess of problem sites along NYS Route 73 and select representative candidate sites for testing, 2] develop planting and management plan that address site specific problems and issues, 3] design and develop interpretive materials for educating the public about the value and importance of vegetative plantings in resource management and visual resource improvement, 4] install vegetation, and 5] develop a model byway vegetative management plan and guide for use by Adirondack Park Agency in managing roadside maintenance and scenic beautification throughout the Park and its approaches, as well as by scenic byway organizations throughout New York.

For More Information: The byway's website is: http://www.adirondack.org/byways/bywayhighpeaks.php For more information about the completed plan, contact New York State Byway Coordinator Mark Woods: Phone: (518) 457-6277, Email: scenicbyways@dot.state.ny.us

**PROJECTS IN PROCESS**

*Gunflint Trail Scenic Byway - Vegetation Management Plan*

The 57-mile Gunflint Trail Scenic Byway is a remote wilderness road that winds through a thick, undeveloped boreal forest of pine, aspen, birch and rare maple stands from the North Shore up to the edge of the Boundary Waters Canoe Area Wilderness. This project-in-progress will develop a comprehensive vegetation management plan for the Gunflint Trail Scenic Byway Corridor. Through research and on-the-ground evaluation the plan will identify the pre-European vegetation of the corridor, current vegetative composition, and desired future conditions, with strategies to achieve stated goals. The plan will be used as a guide for the byway committee to achieve cooperative relationships with private and government agencies which have influence over the vegetative composition of the byway.

The plan will also be used to plan for natural resource projects to achieve stated goals and the application of grants to facilitate such projects. This project benefits the byway traveler by maintaining and enhancing the vegetative composition along the byway through the development and implementation of a comprehensive plan. The heavily forested nature of the Gunflint Trail contributes much to the scenic quality of the byway.

Through implementation of the plan's goals, the forested nature of the trail will be better ensured for current and future byway traveler enjoyment. The plan will also be used as a

guide in the future development of interpretive brochures and wayside displays describing the historic and current vegetative composition of the byway. This will add an informative and educational component for the byway traveler.

For More Information: The byway's website is: http://www.gunflint-trail.com/scenicbyway. For more information on the progress of this project, contact: Project Coordinator, Nancy Seaton: Phone: (218) 388-9492, Email: hjo@boreal.org

*Ladyslipper Scenic Byway – Vegetation Plan & Ladyslipper Transplant Program*

The 28- mile Lady Slipper Scenic Byway, located in north-central Minnesota, runs through the same forest, lake, and river country where the Ojibwe tribe of Native Americans lived at the head of the Mississippi River.

This project-in-progress will create a vegetative management plan that would focus on strategies to conserve and manage vegetation within a 200-foot corridor along the byway including the showy lady's slipper. The lady's slipper is the Minnesota State Flower, adopted in 1902. The Chippewa National Forest and State of Minnesota are concerned with protection and management because lady's slippers grow slowly, taking up to 16 years to produce their first flowers and its habitat is in bogs swamps and damp woods. The flowers are also the brand for the byway and an attraction for travelers.

The completed plan would identify specific measures to maintain the scenic, vegetative and biologic values important to the byway traveler. This project benefits the byway traveler by planning for the management of vegetation along the scenic corridor and preserving sensitive species such as the showy lady's slipper. The byway's intrinsic values include scenic, natural resources including forest and wetland communities and the plants associated with wetlands including orchids. Since the highway will be widened during construction, the orchids will be at risk because they inhabit the road ditches and shoulders. The traveler will be able to enjoy the scenic beauty of the forest adjacent to the byway and orchid lovers will enjoy seeing the lady slippers in bloom once this project is completed and the highway is reconstructed.

For More Information: The byway's website is: http://www.ladyslipperscenicbyway.org . For more information on the progress of this project, contact: Project Coordinator, Nancy Jill Salminen: Phone: (218) 835-3116, Email: nsalminen@fs.fed.us

# Maps

Following are reference maps for the existing land management/ownership and tree stand vegetation along the TH 38 byway corridor. In areas where data is incomplete, information was not obtainable.

Overview Map—Federal, State, County and Private Land Ownership

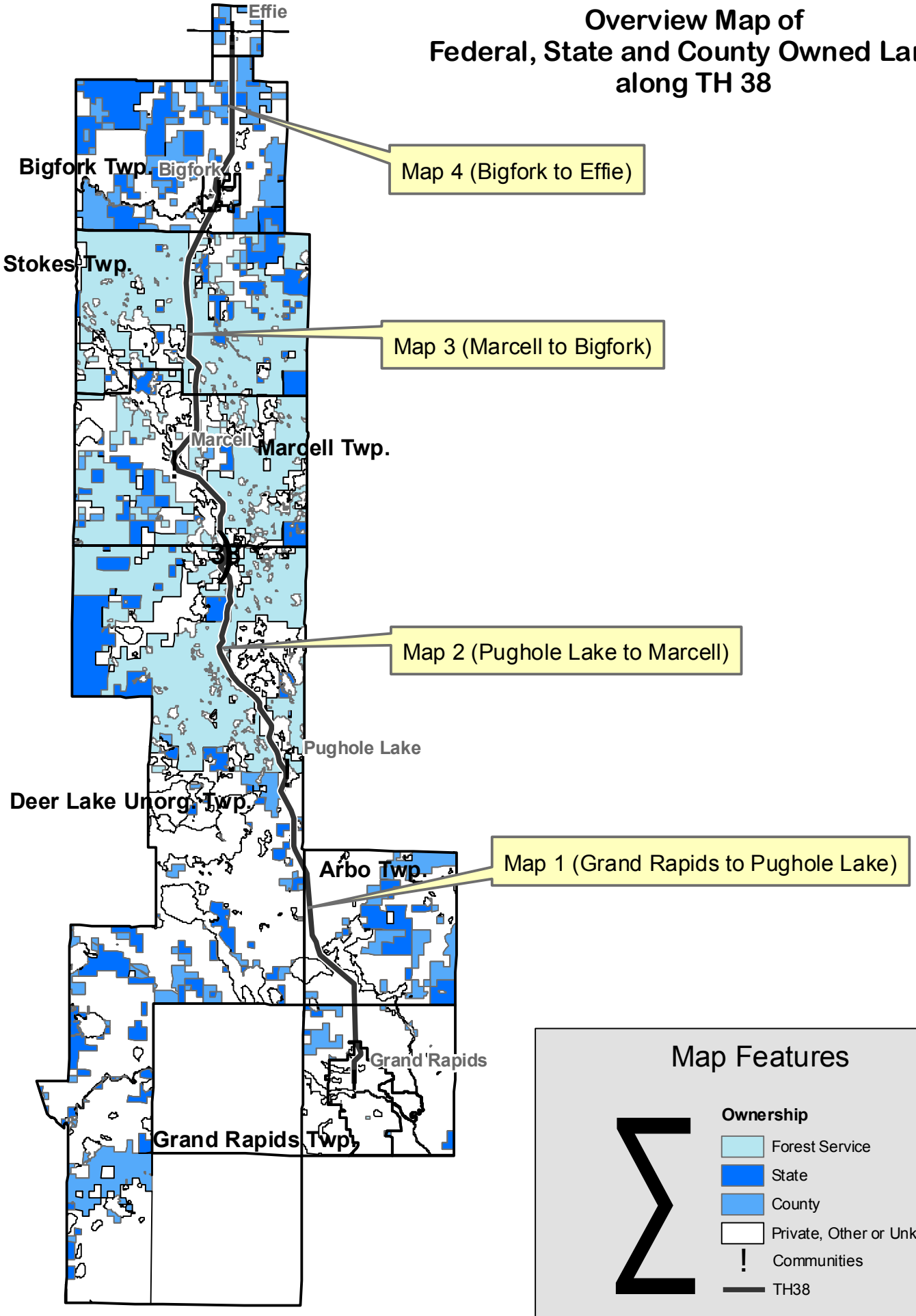
Map 1—Grand Rapids to Pughole Lake (stand Data)

Map 2—Pughole Lake to Marcell (Stand Data)

Map 3—Marcell to Bigfork (Stand Data)

Map 4—Bigfork to Effie (Stand Data)

# Overview Map of Federal, State and County Owned Lands along TH 38

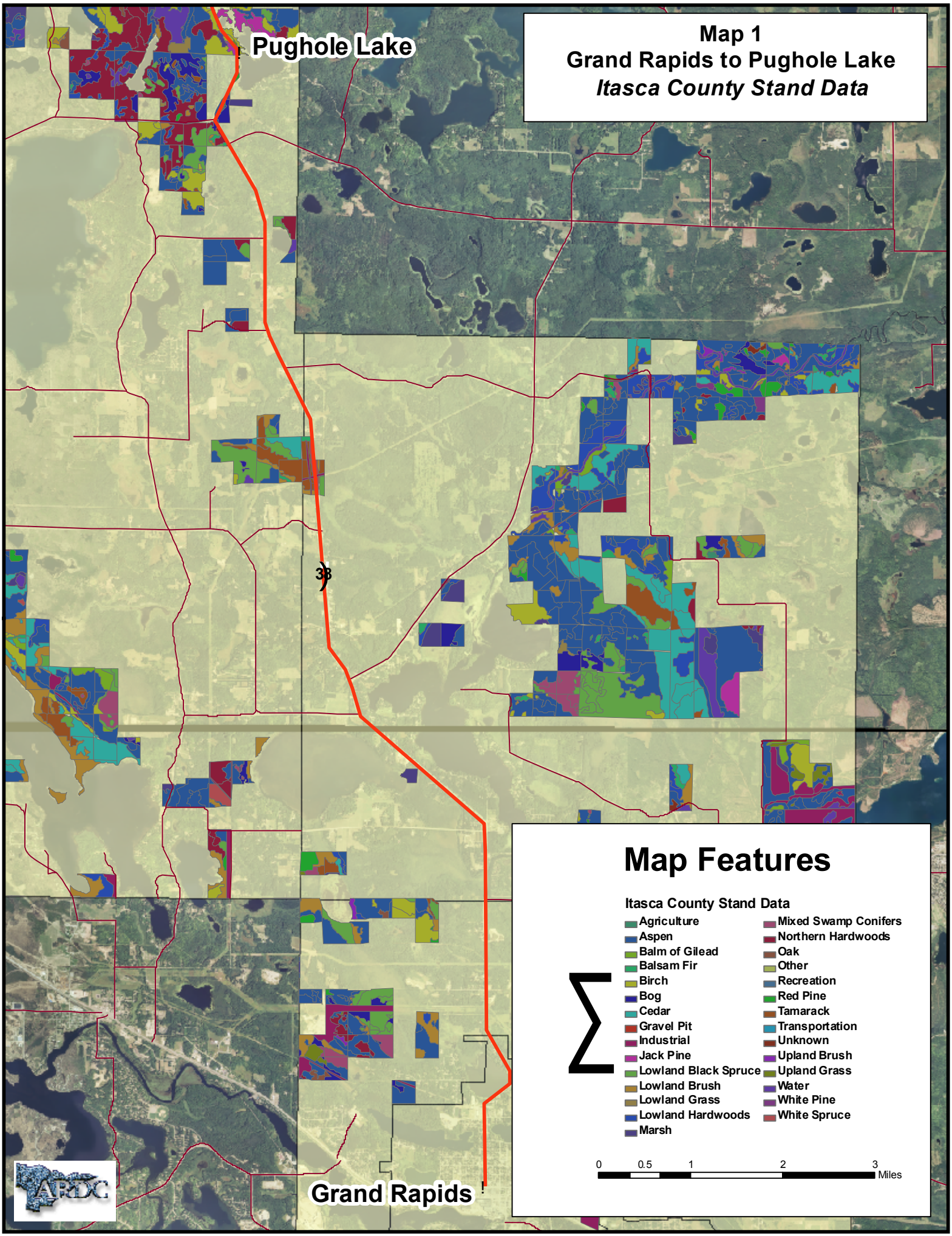


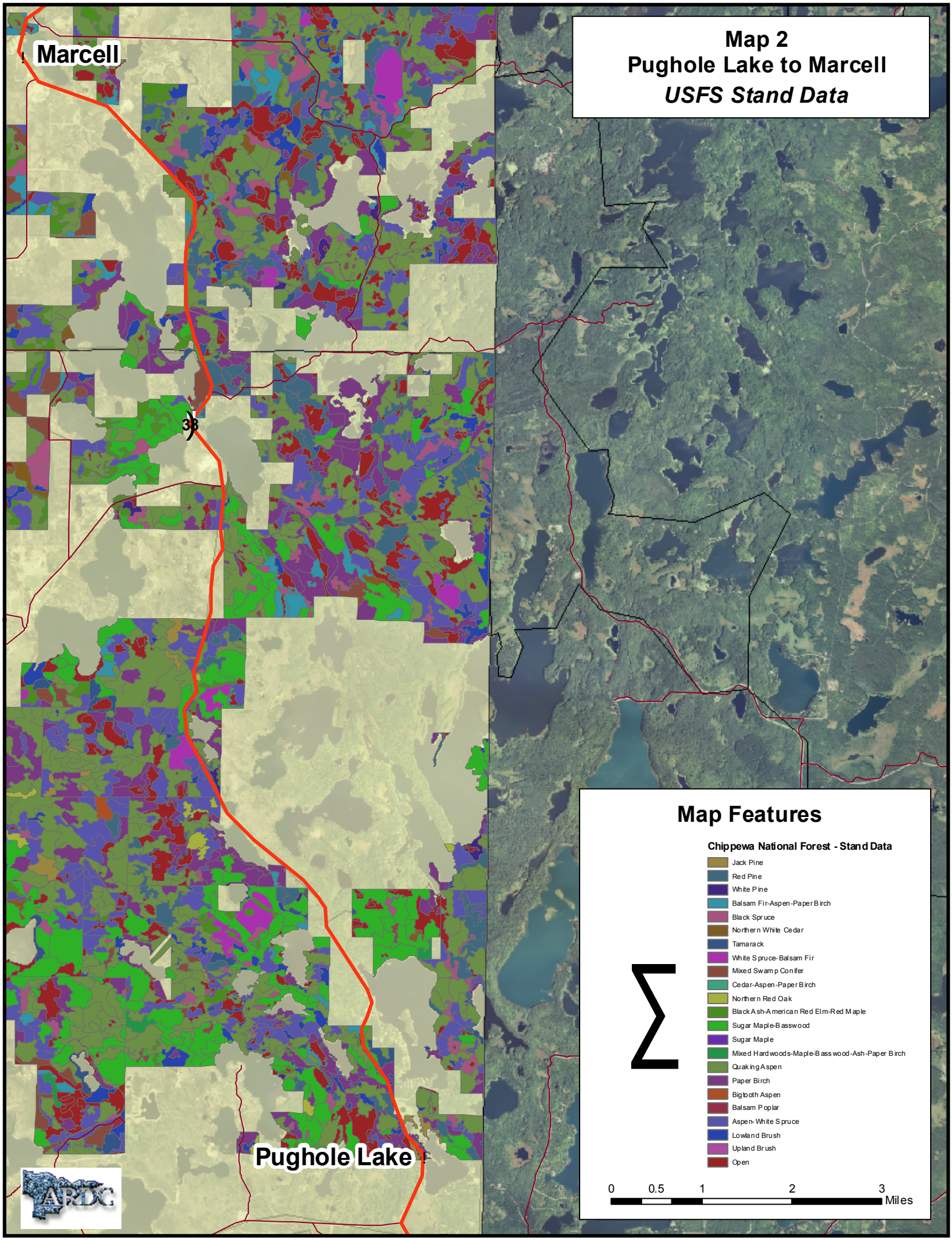

## Map Features

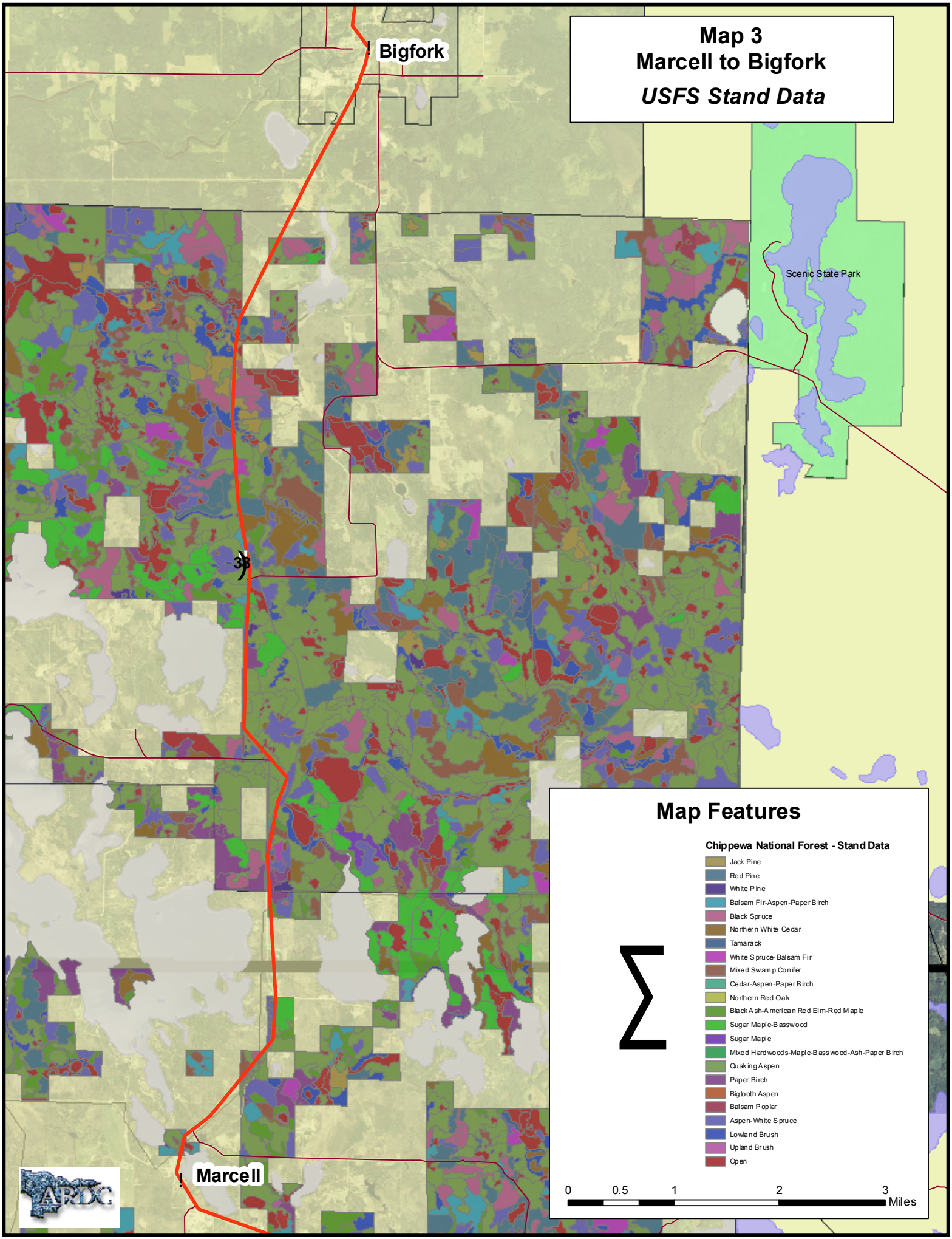
**Ownership**

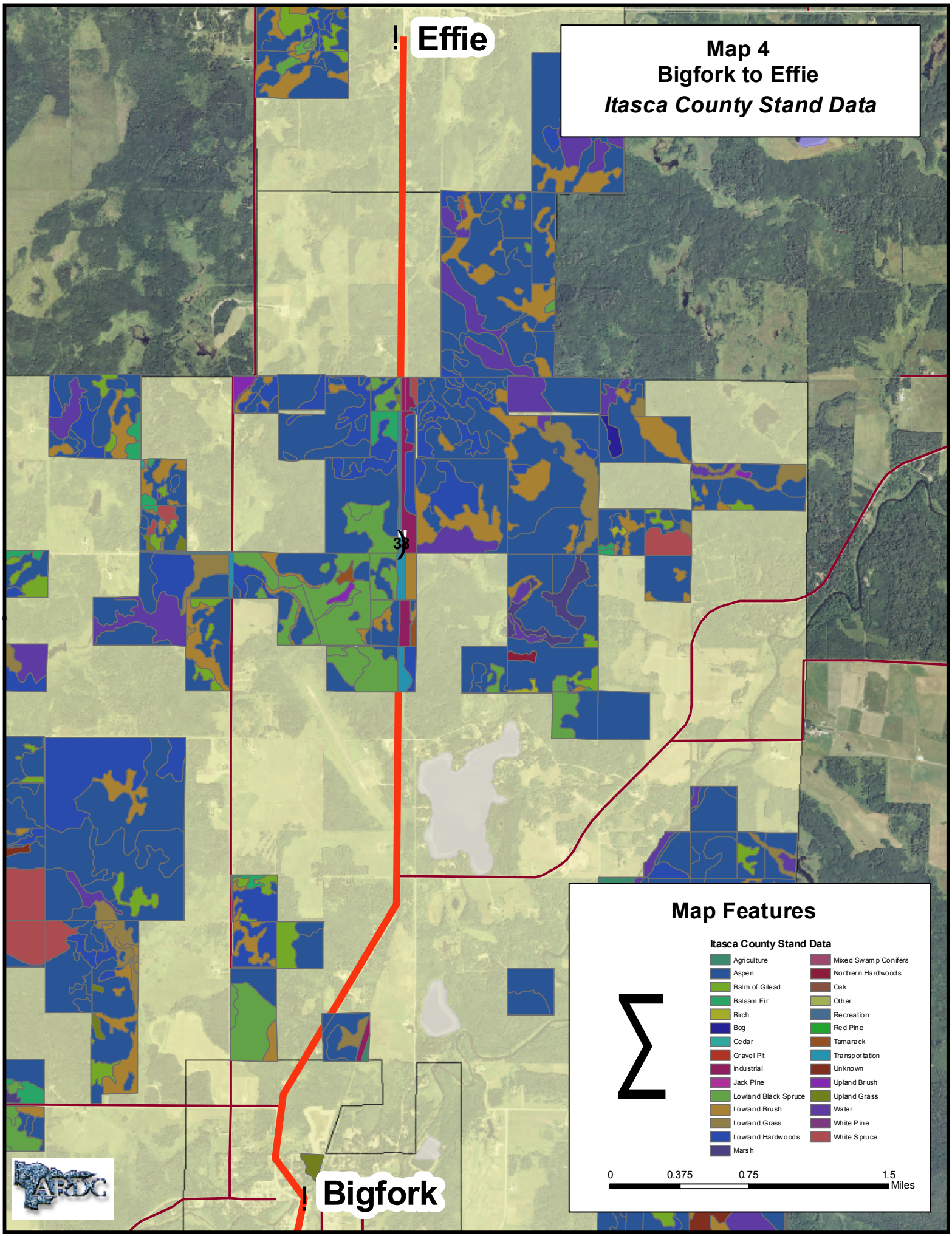
- Forest Service
- State
- County
- Private, Other or Unknown
- Communities
- TH38

0 3.75 7.5 15 Miles


Map 1
Grand Rapids to Pughole Lake
*Itasca County Stand Data*
Pughole Lake
Grand Rapids
38
Map Features
Itasca County Stand Data
Agriculture
Aspen
Balm of Gilead
Balsam Fir
Birch
Bog
Cedar
Gravel Pit
Industrial
Jack Pine
Lowland Black Spruce
Lowland Brush
Lowland Grass
Lowland Hardwoods
Marsh
Mixed Swamp Conifers
Northern Hardwoods
Oak
Other
Recreation
Red Pine
Tamarack
Transportation
Unknown
Upland Brush
Upland Grass
Water
White Pine
White Spruce
0 0.5 1 2 3
Miles
ARDC


Map 2
Pughole Lake to Marcell
USFS Stand Data
Marcell
33
Pughole Lake
Map Features
Chippewa National Forest - Stand Data
Jack Pine
Red Pine
White Pine
Balsam Fir-Aspen-Paper Birch
Black Spruce
Northern White Cedar
Tamarack
White Spruce-Balsam Fir
Mixed Swamp Conifer
Cedar-Aspen-Paper Birch
Northern Red Oak
Black Ash-American Red Elm-Red Maple
Sugar Maple-Basswood
Sugar Maple
Mixed Hardwoods-Maple-Basswood-Ash-Paper Birch
Quaking Aspen
Paper Birch
Bigtooth Aspen
Balsam Poplar
Aspen-White Spruce
Lowland Brush
Upland Brush
Open
0 0.5 1 2 3
Miles
ARDC


Map 3
Marcell to Bigfork
USFS Stand Data
Bigfork
Marcell
Scenic State Park
38
Map Features
Chippewa National Forest - Stand Data
Jack Pine
Red Pine
White Pine
Balsam Fir-Aspen-Paper Birch
Black Spruce
Northern White Cedar
Tamarack
White Spruce-Balsam Fir
Mixed Swamp Conifer
Cedar-Aspen-Paper Birch
Northern Red Oak
Black Ash-American Red Elm-Red Maple
Sugar Maple-Basswood
Sugar Maple
Mixed Hardwoods-Maple-Basswood-Ash-Paper Birch
Quaking Aspen
Paper Birch
Bigtooth Aspen
Balsam Poplar
Aspen-White Spruce
Lowland Brush
Upland Brush
Open
0 0.5 1 2 3
Miles


Effie
Map 4
Bigfork to Effie
Itasca County Stand Data
33
Bigfork
Map Features
Itasca County Stand Data
Agriculture
Aspen
Balm of Gilead
Balsam Fir
Birch
Bog
Cedar
Gravel Pit
Industrial
Jack Pine
Lowland Black Spruce
Lowland Brush
Lowland Grass
Lowland Hardwoods
Marsh
Mixed Swamp Conifers
Northern Hardwoods
Oak
Other
Recreation
Red Pine
Tamarack
Transportation
Unknown
Upland Brush
Upland Grass
Water
White Pine
White Spruce
0
0.375
0.75
1.5
Miles

# Minnesota TH 38 Edge of the Wilderness National Scenic Byway Vegetation Management Resource Guide

*A Guide to the Existing Vegetation, Agency Policies and Management Recommendations for Public and Private Landowners Along the TH 38 Scenic Byway Corridor*

**Prepared for the**
**Hwy. 38 Leadership Board and**
**Edge of the Wilderness National Scenic Byway**

**Prepared by the**
**Arrowhead Regional Development Commission**
**July, 2009**

**ARDC's Mission**

**"To serve the people of the Arrowhead Region by providing local units of government and citizens groups a means to work cooperatively in identifying needs, solving problems, and fostering local leadership."**

**If you have questions regarding ARDC or the Minnesota TH 38 Edge of the Wilderness National Scenic Byway Vegetation Management Resource Guide, please contact:**

**Bonnie Hundrieser**
**Regional Planning Division**
**Arrowhead Regional Development Commission**
**221 West First Street**
**Duluth, MN 55802**
**218-529-7527**
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**Web Address: www.ardc.org**
**E-mail: bhundrieser@ardc.org**